SYNTHETIC CONCEPTION:
ARTIFICIAL INSEMINATION AND THE TRANSFORMATION OF
REPRODUCTION AND FAMILY
IN NINETEENTH AND TWENTIETH CENTURY AMERICA

By

BRIDGET E. GURTLER

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ABSTRACT OF THE DISSERTATION

Synthetic Conception:
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By
BRIDGET E. GURTLER

Dissertation Director: Professor Keith Wailoo

The dissertation examines the development of assisted reproduction in American medicine and culture between the first reported use of artificial insemination in the late eighteenth century and the birth of the modern cryobanking industry at the end of the twentieth century. It focuses on artificial insemination, the first “assisted reproductive” technology, in a wide range of historical contexts—eighteenth century gynecological practices, nineteenth century clinics, early twentieth century eugenics movements, post World War II veterans hospitals, and the first fertility clinics to offer cryopreservation services in the late twentieth century. Tracing the evolution of technology in such varied medical and social arenas reveals that its research and practice expanded in moments of moral, sexual, and family panic – in the wake of wars, demographic upheaval, and national uncertainty. It also establishes that concerns about marriage, hereditary health, patient privacy, and the connection between social and biological relatedness were concerns for actors across eras as they intervened in reproductive sex as was the perception that medical science offered new technological solutions to infertility. Finally, in contrast to contemporary scholarly arguments that privilege in vitro fertilization and the birth control pill the project shows that by transferring intimate acts
of conception into physician’s offices artificial insemination made critical contributions to the medicalization and consumerization of reproduction.

Using the history of artificial insemination as a lens this project speaks to scholarship on reproduction by offering an analysis of how gender, race, and sexuality influenced the growth of a medical market in fertility and the ability to regulate it. Following the gendered politics of science and reproduction as they manifest in this unique, albeit low-tech, technology this dissertation contributes to the history of reproductive science by tracing the developing contours of the scientific study of sperm. Doing so not only enables the insertion of men’s reproductive bodies into the history of reproduction and its technologies but also provides a window into the collaborations between industrial chemistry, experimental biology, and reproductive medicine as they sought to safely freeze, store, and thaw human and animal sperm. Finally, the dissertation provides critical insights into the changing understandings and technological transformations of modern families. Analyzing controversies over AI in popular, biomedical, and political spheres demonstrates that the control of conception was an important locus by which authorities and individuals understood what made a family, while also revealing the remarkable fluidity of the concept of “family” throughout the nineteenth and twentieth centuries.
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DEDICATION

To the families, past and present that chose to create life and love in new ways and to the physicians and scientists who helped them. To my family Ann Isenberg, Mary Lee Sargent, Miles Gurtler, Robert Gurtler and Jody Gurtler, for their love, support and dinner table conversations about parenthood, medicine, and persistence. And to Anita Kurimay for being there every step of the way.


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Introduction

In 1941, Mrs. P.L.W. wrote into *The Washington Post’s* popular advice column Mary Haworth’s Mail about her desire for a baby.¹ “Three years ago when I was 25,” wrote Mrs. P. L. W., I found myself almost at the end of the rope…I did so want a normal life—with a husband, a home and a baby…” Her husband had determined that their relationship would merely be “platonic,” but she desperately wanted a child. “He definitely vetoes any suggestion of going to see a doctor or psychiatrist… So there is the problem. I can go on living an unmarried life with my husband. And I could adopt a child—but it would not be my flesh and blood...Or I can have a child by another man...Which course shall I choose?” To satisfy Mrs. P. L. W’s ardent desire, Mary Haworth suggested artificial insemination (a method of achieving conception in which sperm, from a husband or a donor, is injected by a “reputable physician” via a syringe into the vagina, cervix, or uterus). “Such an approach to parenthood,” she wrote, “would give you children of your own flesh and blood, without violating the spiritual sanctity or social integrity of your marital bond—since such children would be, in a sense, "test tube babies," fathered through the impersonal intermediacy of science.” Would this child be truly one her husband would claim as his own? Would it produce the family Mrs. P.L.W. desired? Haworth was certain that “if brought up under your husband's devoted guardianship, they would be his children in spirit, quite as much as they would be your children—since they would be the objects of his fatherly concern from the very hour of their begetting.”²

As this dissertation will argue, many of the anxieties and desires expressed by

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¹ Mary Elizabeth Young authored the column, under the pseudonym Mary Haworth, which was syndicated in hundreds of newspapers throughout the United States from the 1930s through the 1960s.
Mrs. P.L.W. have persisted in shaping both the discourse and practice of artificial insemination during its more than two hundred years as a medical therapeutic; yet, the meanings attached to AI had evolved considerably before her plea in the early 1940s, and would continue to be transformed in the following decades. Poised at the moment of deciding whether or not to pursue artificial insemination Mrs. P.L.W. and Haworth’s concerns about marriage, hereditary health, patient privacy, and the connection between social and biological relatedness resonate almost three quarters of a century later. One of the few instances prior to the 1970s in which patients (rather than physicians or politicians) published their thoughts on artificial insemination, their anonymous conversation in the style section of one of America’s leading newspapers reflects the crucial role artificial insemination was to play in American society and culture as the intense need to become a parent intersected with an increasingly widely held perception that medical science offered new technological solutions to infertility.

People turned to artificial insemination despite their deep about the separation of sex and reproduction. They worried about the relationship between non-biological parents and their children and about the significance of intercourse to the institution of marriage. And yet, these fears were weighed against the desire to become a parent. Concerns about legality, relatedness, artificiality, and masculinity have shadowed AI over the decades point to the role of secrecy in managing the new social and legal forms of kinship that came about when donor sperm was used. Secrecy enabled not only the subsequent historical silencing of the hundreds of thousands of families formed via artificial insemination but also the biomedical innovations and institutional changes the technology engendered.
The aim of this dissertation is to answer how historical, social, economic, and cultural institutions and forces as well as evolving medical theories and scientific research have shaped the development of artificial insemination between its first reported medical use in the late eighteenth century and the birth of the modern cryobanking industry at the end of the twentieth century. It is a study that locates the origins of assisted reproductive technologies in American medicine and family life and investigates their impact. Consequently, the intention of my work is to historicize the first such technology, artificial insemination, and thereby offer new insights into scholarship on reproductive science and medicine and the history of gender, sexuality and the family.

But the history AI offers cannot be merely a history of technology—it offers (in microcosm) new insight into the history of reproduction in America. Historians of reproduction have, by and large, focused on reproduction and women’s bodies – concentrating their inquires on abortion, the birth control pill, pregnancy, and childbirth. In contrast, this study focuses on a reproductive technology fundamentally concerned with the control and manipulation of sperm, a new approach to reproductive technology at the interface of man and woman. Following the gendered politics of science and reproduction as they manifest in this unique, albeit low-tech, technology I trace the developing contours of the scientific study of sperm. Doing so enables the insertion of men’s reproductive bodies into the history of reproduction and its technologies and shows how moments in which the fragility of men’s rather than women’s reproductive health (i.e. after war or social unrest) became entangled in medical and public health initiatives.

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3 When I use the term “assisted reproduction” I mean a disruption of sex for reproduction in order to facilitate a pregnancy, especially as a form of therapy for infertility. I use a broad interpretation of the term which encompasses the most basic use of the syringe or hand to help sperm meet egg by placing sperm near the cervix to more elaborate and interventionist intrauterine procedures and gamete manipulations.
The study of sperm was an arena of scientific inquiry that crossed the boundaries between specialties. It would captivate urologists, gynecologists, eugenicists, experimental biologists, and endocrinologists throughout the nineteenth and twentieth century. Microscopy first enabled its study but broader concerns about masculinity and the status of gender in marriage after World War I were the catalyst for the development of a classification system for spermatic health (numbers, motility, etc.). Eugenicists throughout the twentieth century would also look to sperm, and artificial insemination more broadly, as the key to social and human biological transformation. Scientific interest in sperm would expand to encompass not only contraceptive research but also experimental biology, leading to key innovations in the freezing of cells (cryobiology). Cryopreservation led to new ways of disrupting biological time and pioneering means of conquering men’s reproductive failure. 4 “Future fertility sperm cryopreservation” for the first time enabled men undergoing chemotherapy or vasectomy to bank their sperm.

Reinserting the history of artificial insemination into the history of reproduction provides the opportunity to reconsider now-familiar arguments in the history of reproduction – about how the birth control pill and IVF were catalysts for new medical and social understandings of sex and reproduction. In particular, by examining how AI laid the groundwork for subsequent high-profile developments such as the pill and IVF, this project offers a new perspective on the historical separation of sex from reproduction and the historical development of fertility institutions (infertility clinics and cryobanks). The commodification and scientific study of sperm was a crucial

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development in understanding how conception occurred (and could be prevented) and was tied to technologies like the pill through basic research in biology and through popular understandings of “artificially” controlling reproduction. *Synthetic Conception* argues that by removing sex from reproduction and transferring intimate acts of conception into physician’s offices, artificial insemination made critical contributions to the medicalization and consumerization of reproduction. In contrast to scholarship that attributes medicalization and consumerization to subsequent reproductive technologies including; the birth control pill, abortion post-Roe v. Wade, and most predominantly, in vitro fertilization (IVF) I will demonstrate that the acquisition and commodification of sperm used in artificial insemination was pivotal to the evolution of medical markets for conception.\(^5\) Moreover, the history of artificial insemination provides a more nuanced understanding of the development and impact of successive reproductive technologies. Much of the biomedical knowledge (about the menstrual cycle and the physiology of conception) that led to IVF and the pill was accomplished using artificial insemination as a research tool. By attending to these entangled research developments and to popular conversations about reproductive technologies I confront the assumption that the social history of contraception and assisted reproduction follow radically different trajectories. Instead, I argue that they were intimately bound together in their institutional sites of practice (laboratories and reproductive health clinics like Planned Parenthood), in the hands of gynecologists, in legislative and judicial discourse about the

\(^5\) Generally, scholars have argued that it was only post-IVF when the emergence of commercial sperm banking became tied to more high tech methods of conception that a medical market for conception emerged. In contrast, I show how by fits and starts artificial insemination became part of treating fertility long before cryopreservation, and then how institutions arose to manage the provision of frozen and fresh sperm.
right to privacy in making reproductive choices, and in popular culture as “artificial” interventions into reproduction.

Where many scholars in the history of reproduction, like Judith Walzer Leavitt, Sarah Franklin, Rickie Solinger, Leslie Regan or Debora Spar, might highlight tensions between consumers and physicians, Haworth’s answer to Mrs. P.L.W. highlighted the role played by “reputable physicians” in the history of AI. Accordingly, this study explores how the doctor-patient relationship evolved over the course of the nineteenth and twentieth century against the backdrop of scandals, changing understandings of professional behavior, consumer rights, and the status of reproduction in America. Viewing the history of reproductive technologies from the perspective of artificial insemination offers a different narrative about the relationship between reproductive medicine and sexuality. In contrast to histories that present medical providers as almost sole, and often highly problematic, agents in patient-physician interactions in which women and/or queer patients had little or no power to direct their care; the historical practice of artificial insemination in many ways provides a more positive vision of the patient-physician relationship and a more powerful patient. Across time, highly motivated patients crossed great distances and even conquered physician’s reticence to find ways to access artificial insemination. The examination of how women used AI to avoid invasive surgeries or how men preserved their future fertility in the face of chemotherapy or vasectomy and of how lesbians created queer families in the 1980s,

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demonstrates the great extent to which this technology empowered patients. Nonetheless, the right to choose artificial insemination also attests to the troubling ways in which highly individualistic notions of reproductive autonomy have impacted and continue to impact society and reproduce social inequalities. Whether by the enabling the conception of “eugenic babies” or the purchase of “Ivy League” sperm, notions of class, gender and above all, race have been embedded in decisions about who is a desirable donor and who are appropriate patients. Therefore, the tension between medical authority, regulatory authority, and the power of patients to access, and especially, purchase this voluntary procedure is a persistent theme throughout the dissertation.

What role did men like Mr. P.L.W. play in the historical evolution of AI, aside from their crucial role as donors, and what meanings did they attach to the practice? Although, some men refused to be tested for sterility, this history shows that many husbands were willing partners in attempting to diagnose and solve their infertility as a couple. Within families, examining the perspectives of men and women who chose to use artificial insemination to achieve parenthood, whether biologically within marriage using husbands sperm or outside of marriage using donor sperm, allows the intimate negotiations between partners about sex (and sometimes its failure) and reproductive decision-making to emerge. As it does so across a wide range of historical contexts and in contrast to current scholarship on infertility, would-be fathers materialize holding a much greater role in pursuing control over the reproductive life of the couple. Men tracked their wives menstrual cycles from the frontlines of World War II to be able to write to prominent fertility specialists and correctly time future insemination
appointments. Others, disabled veterans in post-World War II America, petitioned the Veterans Association for insemination to be offered at VA hospitals. While gay men in the late 1970s emerge as ready and willing to help lesbian friends achieve motherhood.

Perhaps the most important contribution of the dissertation is its exploration of how the history of family and its varied meanings in American culture transformed AI and in turn, were transformed by it. Considering AI practices beginning in the 19th century to the post World War II years, and tracking its later evolution, the project focuses on what AI tells us about the history of the family – and how medical and legal definitions of kinship (relatedness) became embroiled in debates about the role of biology, care, love, physical resemblance, sexuality, sex, and society. Following controversies over assisted reproduction in fundamentally different historical contexts ranging from reconstruction era New York to California in the Reagan years, the project reveals how different authorities attempted to control and (re)define the meaning of family in American society and how generations of would-be mothers, fathers, and donors resisted or incorporated such prescriptions into their lives. Therefore, this dissertation attests to the fluidity and porousness of the concept of “family” over the nineteenth and twentieth centuries. The history of the family as it intersects with assisting conception exposes that eugenics fostered the use of donor insemination and formed a secret identity of “social fatherhood” in the 1930s and that debates about infidelity (adultery) implicated mothers using AI in the 1950s. It also shows the broad ranging implications of contractual parenthood (legal understanding of parenthood as a contract) for managing alternative families and families in crisis in the latter half of the twentieth century. Then it unpacks the politics of sexuality and disease that fostered the
revolutionary formation of queer families by the 1980s. Artificial insemination was the means to see the edges of the “natural” family but also to recreate and remodel it. For the most part however, historical actors demonstrated that becoming a parent was even more critical to forming a family than a marriage. Hence, at the same as achieving parenthood was thought to secure the contours of an ideal family it could also expose the fragility of the institution of marriage.

**Controlling Reproduction in America – 1790 to the Present**

Over the past three or four decades, historians have illuminated the long and complex history of the control of reproduction in America – a history providing an important backdrop for my own study. Most important for my own work, they have highlighted the ways in which the definition of family, and the place of sex and reproduction in society have evolved. Women have been seen as bearers of the nations children, educators and nurturers of the nation’s future members, symbols of the nation’s imagined boundaries and active participants in the political process. The battle to control reproduction in America has been fought at the level of the individual, couples, communities, institutions, and the state. Whether to promote population growth or restrict it, broader socio-political interests have impacted the development of reproductive medicine and science and regulated the conditions of reproduction. Generally, historians have focused on how women’s bodies have been thought about and discussed in relation to contraception, abortion, pregnancy, and childbirth. Gender and sexuality have been vital to understanding these reproductive experiences and in painting a picture of women’s health, and the circumstances of reproduction (primarily marriage
and the family) in America. Women have, without question disproportionately borne the burden of reproduction and medical, cultural, and social interventions into its management. Motherhood in particular, has been a crucial part of national projects. Therefore, social arrangements (marriage, households) have often been sites of regulation by states and institutions.7

In the late eighteenth century, reproduction took place within a new kind of family. Unlike its Puritan predecessor, the family that emerged by the time of the American Revolution was characterized by a diminished amount of parental control and a conception of childhood as a time of innocence.8 Parenthood underwent a transformation as the care and proper development of children became the centerpiece of a married couple’s life. Marriage came to be seen less as a business arrangement and more as a sentimental and intimate relationship.9 As historian David Mintz has pointed out, with increasing urbanization and the rise of public institutions (for the destitute, mentally ill, widows, and the aged) “the family lost its earlier position as society’s primary social and economic unit.” In exchange, it came to be seen as a place of peace and morality. In his words, it became “a haven in a heartless world.”10 Following the American Revolution the decline of the patriarchal family structure opened to the door to the “modern” small nuclear companionate family.

The place of medical expertise in family and parenting has also been a source of

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considerable historical study. As the status of marriage, parenting and the family changed the medical profession was undergoing its own quiet revolution. Male physicians accoucheurs began to substitute midwives in the birthing rooms of the elite and eventually, middle-class.\textsuperscript{11} The entrance of physicians changed “the social childbirth” experience, in which women supported one another through birth and delivery, which as Caroll Smith-Rosenberg has argued, was one of the functional bonds of women’s domestic culture.\textsuperscript{12} This significant transition in the practice of American medicine occurred because women believed that these men, and their training in anatomy and physiology and their use of the tools of blood letting, forceps, and drugs (ether and chloroform), offered more safety and security from the dangers of childbirth. Even though male physicians gained power, a woman of the new Republic could control much of her reproductive health as medical information circulated widely in the form of popular home reference books. Using these books as well as potions and curatives that could be easily found in nature or purchased women managed their broader health (gynecological health was thought to affect many other processes in women’s bodies).\textsuperscript{13}

Just as Mrs. P.L.W. worried about the relationship of love, sex, marriage, and reproduction, historians have showed how these ideals evolved. In Victorian America, amidst the backdrop of the second industrial revolution, rising industrialization and urbanization in the Northeast, the Civil War and reconstruction, and the Women’s suffrage movement—companionate marriage became the affectionate site of an

increasing division of labor between the sexes. Marriage was seen as a way to ensure public virtue and as a mutual responsibility of both parties. But with a dramatic change in the economy of the United States in the latter part of the 19th century and early twentieth century, ideas about marriage changed rapidly to complement a newly urban, young, and consumer driven society. Elaine Tyler May in *Great Expectations* explains this shift towards romantic marriage as a product of loosening family ties (as people moved to enter the urban centered economy). Women and men occupied separate spheres (men’s public, women’s in the home) and the family was the hallmark of this separation between public and private life. Thus, “the family” began to be viewed as an isolated nuclear formation—a man, woman and their children. For women, ideologies of domesticity, “true womanhood, and “sacred motherhood” gave them at once more moral power within the home but also more closely bound them to its sphere. Gynecological theories about the pathological nature of menstruation, puberty and menopause led physicians to recommend that women avoid strenuous physical or mental activities during their periods, barring them from many employment and educational opportunities—further restricting them to the home. Nineteenth century gynecologists, like the “father of American gynecology” J. Marion Sims, argued that only careful supervision of the reproductive processes and organs by medical experts and radical and surgical interventions into gynecological problems could keep a woman healthy.

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14 The “spheres” however, were not entirely separate. Women used their status as moral guardians to reform society. They led political crusades (like for temperance), offered welfare services, contributed to religious endeavors. So too have historians like Sharon Marcus shown that even the separation between women and men was flexible. In her study of friendship among women she found that love between women (within their own so called, sphere) was actually a motivator for marriage and changing divorce laws in Victorian England. Sharon Marcus, *Between Women: Friendship, Desire, and Marriage in Victorian England*, (Princeton University Press, 2007).

15 During this era in American gynecology common surgical procedures were dilation and curettage although operations to remove the ovaries and uterus were also performed.
men (especially of the new middle-class) the changing status of the family increasingly meant working outside of the home, controlling their sexual urges, and making a commitment to love and support their wives and children. When couples could not meet these new requirements of companionate marriage an increasing number sought relief in divorce courts.¹⁶

In the 20th century, unquestionably the meaning attributed to AI can only be understood in the context of the changing family ideals – the quest for fit families in the context of 1930s eugenics, the revolutions in sex relations in marriage, and the shifting role of men and women in the family. In the 1910s and 1920s American underwent what many historians describe as “the first sexual revolution.”¹⁷ Young women became more open in their sexuality and petting and necking became more common. For married women, most marriage manual touted sexual satisfaction. To ensure sexual compatibility women increasingly turned to premarital gynecological examinations.¹⁸ Throughout this era amidst increasing immigration there was a rising tide of ethnocentrism and scientific racism in America.¹⁹ While families were moving to the cities the idea of a “fitter

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¹⁹ To see the extent of how immigration changed the demographics of the United States in the early twentieth century see Herbert S. Klein, A Population History of the United States, (Cambridge University Press, 2004), 163-166.
family” emerged under the banner of eugenics. In the name of “fitter families” medical and public health authorities entered into what had been a largely private decision about whether or not to have children. As historian Laura Lovett has described, the state and a new science of genetics invested in “better breeding” (scientific racism) to curtail the falling birthrates among “native-born” Americans. It was in this period that American women were encouraged, and looked to modern science in large numbers for advice about bearing, birthing, and raising children. Thus the politics of reproduction after 1900 ushered in social workers, professionalized obstetrical care, and resulted in the increasing medicalization of childbirth.

In so far as AI was commercialized and institutionalized in the mid-20th century, this followed broader trends in health care in general, and reproductive medicine in particular. By the 1940s the majority of births in America occurred in hospitals. And, although there were improvements in safety, women also lost power over decision making in the birthing process. Now, caught in the routines of the hospital and scientific knowledge of specialists women had little company during the birthing process and little say over being shaved, surgical interventions, or the use of drugs. After World War II


22 Tone, *Devices and Desires*, 52. This has been characterized as an example of medical authority trumping womens experience. For instance, women were only given anesthesia when crowning rather than during
and amidst a huge upsurge in the number of births, “the baby boom,” the process of birth became systematized—women were regularly induced and heavily drugged. More generally, gynecology expanded its scope as a specialty in these years. Worried that endocrinology, general medicine, and pediatrics were encroaching on the fields of menstrual disorders and adolescent gynecological health, the specialty attempted to go beyond what had been its largely surgical focus during the first half of the twentieth century. At this point, as Historians Sumney and Hurst have pointed out the gynecologist became responsible for caring for the woman’s entire reproductive system—including its physical and psychological aspects.23

It would not be possible to understand AI’s post WWII transformation outside of the scientific and cultural transformation of reproduction in that era – a topic to which scholars from Adele Clark to Elaine Tyler May have devoted considerable energy. After World War II, American reproductive medicine would reach the height of its power as men and women entered marriage at an increasingly younger age. Research centers studying reproduction in medicine, biology, and agriculture were widespread by 1940. Sponsors of science, like the Rockefeller Foundation and the National Research Council Committee for Research in Problems of Sex were funding reproductive research across the sciences. As sociologist Adele Clarke has pointed out, by World War II American reproductive scientists had attained global prominence and American reproductive science would retain a leadership role until the end of the twentieth century.24 Whether

the most painful part of delivery, the transition. See Jacqueline H. Wolf, Deliver Me from Pain: Anesthesia and Birth in America, (Johns Hopkins University Press, 2011), 5.


rich or poor, white, black, or Hispanic, educated or not—Americans produced a “baby
boom” after the war reversing a century of decline in birthrates. A desire to return to
peace and prosperity were only partially responsibly for these changes. Cold War politics
with their prescription of the “traditional” American way of life as the bulwark against
Communism gave additional impetus for Americans in the 1940s and 1950s to achieve an
ideal of domestic family life. Children essentially became both and expression of
citizenship as well as the living proof of female sexual fulfillment and masculine sexual
prowess and authority for men. “Containment” of the family from bombs and extra-
marital affairs became a central way to combat against the terrors of modernity. Not
everyone was able to achieve this ideal of domesticity however, and racial discrimination
barred many from buying homes and spurred the civil rights movement. Moving to the
suburbs, purchasing the trappings of middle-class life, and achieving parenthood were
touted as the means to not only fight Communism but to stave off the internal threats of
racial strife, homosexuality, and emancipated Rosie the Riveters. The notorious purges
of government and Hollywood by Senator McCarthy of gay and lesbian “subversives”
(the “lavender” scare) and others suspected of supporting the Communist party (the “red”
scare) were one result. Another was the increasing restriction of abortions. By the
1940s and 1950s hospitals started instituting new policies to repress abortion within their

26 Ironically, during the same repressive period the first homophile societies emerged in America (i.e.
Daughters of Bilitis (first large scale lesbian organization). D’Emilio’s Sexual Politics, Sexual
Communities looks at the impact of WW II on gay and lesbian identity and politics. In a similar way to
historians who locate changes in heterosexual politics with national trends towards urbanization and
capitalism as a liberatory experience from families, so too the building boom of the war and post-war
becomes a site for the formation of sexual communities for D’Emilio. Furthermore, the war offered
women, but primarily men, not only freedom but a singularly homosocial environment (the military) during
the war. Although, Kennedy and Davis’s picture of butch/femme working class sexuality in Buffalo, NY
from about the teens to the 50s shows how women created their own communities and systems of desire.
Elizabeth Lapovsky Kennedy and Madeline D. Davis, Boots of Leather, Slippers of Gold: The History of a
Lesbian Community, (Routledge, 1993). John D’Emilio, Sexual Politics, Sexual Communities: Second
halls and both police and prosecutors issued punishment more readily. These policies emerged in an attempt to control any kind of deviance from the pro-natalist ideology and as historian Leslie Regan has discussed, it was during the post war era that the criminalization of abortion produced its harshest results.27

American medicine became more centralized and bureaucratized during the 1950s and 1960s. Part of this trend, endocrinologists, gynecologists, psychiatrists, and urologists consolidated the treatment of infertility in new joint medical spaces—the infertility clinic. Artificial insemination was one of an array of therapeutic methods offered in this environment. Intensive growth and the increased institutional complexity of the medical field brought the need for control and uniformity. The result, as historian Charles Rosenberg and others have pointed out, was an increasing attention to credentialing as well as to the role of government in managing the sector.28 The widespread adoption of the randomized clinical trial was one clinical innovation symbolic of such standardization. This was the era of the expert, in which modern science and medicine seemed to be conquering formerly insurmountable problems. The status of biomedicine reached unprecedented heights as penicillin conquered infections, the polio vaccine saved youth worldwide, and a new generation of tranquilizers helped solve problems of anxiety for American housewives.29 But the seeds of change were planted in the 1950s, even though it became known as a culture of conformity. The

29 Historian-Psychiatrist Jonathan Metzl has persuasively shown how psychotropic medications are suffused with gender, race, sexuality, desire, and power. Focusing on the so called “biological revolution in American psychiatry, the 1950s, he argues that normative notions of gender and sexuality were unknowingly redeployed in prescription medications during this era—most strikingly, to unhappy American housewives. Jonathan Michel Metzl, *Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs*, (Duke University Press, 2003).
1950s saw the birth of a youth counter culture movement that would blossom in the Vietnam era rallying against war and for “free love.” In 1950 the FDA approved the first drug that suppressed ovulation, a cure for “menstrual irregularity” and hundreds of thousands of women were suddenly diagnosed for the condition.30

As we shall see in the pages ahead, the practice of artificial insemination (along with the birth control pill) became dramatically entangled with the new sexual politics of the 1960s, 1970s, and later decades. By the 1960s the modern American reproductive sciences had emerged as a disciplinary formation that encompassed reproductive physiology, reproductive endocrinology, non-pathological gynecologic and obstetric research, urologic and andrologic research, and reproductive animal and veterinary science. Reproductive science had its own resources, relationships, audiences, funding sources, and consumers—as Adele Clarke has argued, reproductive science had been “disciplined.”31 The fruits of this labor were that scientists would produce and test (although not thoroughly in many cases) major technological and drug products by the 1960s. Diethylstilbestrol (DES) went on the market to prevent premature labor in pregnant women, thalidomide was advanced to control nausea, estrogen replacement therapies were developed for menopausal women, the birth control hit the world stage in 1960, and intrauterine contraceptive device (IUD) research progressed. This led to the infamous Dalkon Shield in the 1950s and the first modern t-shaped copper IUD by the 1960s.

Historians such as David Allyn and Wendy Kline have seen in this era a “second

sexual revolution,” one in which “rights” became a central concern of women. Birth control came to figure prominently as a critically important new right in this era, as historians such as Linda Gordon and Elaine Tyler May have noted. Women’s reproductive health would be transformed in the aftermath of the scandals from DES, thalidomide, the Dalkon Shield, and the birth control pill. Amidst the “second sexual revolution” of the 1960s, a powerful feminist and women’s health movement emerged. Feminists argued that women had a right to knowledge about their bodies and to incorporate their knowledge of a lived experience within their bodies into their reproductive health care. The “personal is political” became the rallying cry of the Women’s Health Movement and women like those of the Boston Women’s Health Collective, who published the veritable bible of the women’s health movement Our Bodies, Ourselves encouraged women to learn about their bodies through self-pelvic exams and de-medicalize childbirth through at-home and “natural” childbirth. As the women’s health movement took off a lay and certified nurse-midwifery movement emerged, so too did activism around abortion. Underground abortion networks like Jane in Chicago helped provide abortions before the passage of Roe v. Wade in 1973. Activist organizations for reproductive rights and Women’s health clinics were established, as

34 New scholarship in the history of sexuality complicates the vision of sexual liberation during this era. In John Howard’s work about queer life in Mississippi from the post-WW II period up until the late 80s the communities he discovers combat narratives of the South as a sexually conservative place (especially during the 50s) and rework the sexual liberation narrative that dominates northern sites during the 60s—one of free love and experimentation. In the lives of the men who drive his narrative, the 60s were a time of backlash to queer life and an end of a time of accommodation that had been felt in the preceding decades. Howards work also provides useful language and tools for thinking about queer communities by showing how they “circulated” between sites (not just congregating statically in cities). Instead, he views urban centers as not only centripetal but also centrifugal. John Howard, Men Like That: A Southern Queer History, (University of Chicago Press, 2001).
were the first clinics specializing in serving the gay and lesbian population. In addition to changing health care, the rising gay and lesbian rights movement also challenged the criminalization of homosexuality and pathologizing of gay, lesbian, and transgendered people. By the 1980s they demanded not only civil rights but also familial rights including child custody, adoption, and domestic partnership, and importantly to our story, access to artificial insemination and cryobanking services.

As many scholars have noted, this was an era in which classic, so-called “traditional” notions of family became challenged in the context of changing gender norms, economic hardships, and racial anxieties. Marriage rates declined in the 1960s and 1970s while the rates of divorce and births outside of marriage increased. A backlash to these changes occurred and in arguments for a return to a “traditional” family commentators like Daniel Moynihan in his infamous Moynihan Report in 1965 demonized single black mothers. By the late 1970s the New Right set out to harden their campaign against feminists and homosexuals under the banner of protecting “the family.” Since the 1980s “family values” have become the platform upon which conservative politicians and social commentators build conservative ideals. The breakdown of the “traditional family” (as embodied by single mothers, LGBTQ families and identities, and working mothers) has become the scapegoat of everything from poverty, crime and violence to the declining American economy and the AIDS epidemic. Reproduction and sexuality are at the heart of these critiques. Historian Rickie Solinger has characterized such portrayals as insubordinate reproduction, where women’s reproductive and sexual “misbehavior” is depicted as the cause of America’s worst problems. With this

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formulation, the gender wage gap, violence against women, the restriction of birth control education to youth, the slashing of support for child care and child support are not even part of the debate. Rather, women working, controlling their reproductive lives, and particularly, having abortions are targeted as the ultimate source of problems in America. 36 Artificial insemination, as a reproductive technology newly available to single women and a much larger swath of the American public was similarly swept into such debates.

Not surprisingly, many scholars in history, health care, sociology, anthropology, and other disciplines have seen technologies as crucially important to the political history of reproduction in these decades. In the last three decades of the twentieth century reproductive medicine and technologies underwent a dramatic transformation. Increasing attention was paid to how reproduction has been a site of oppression for women of color with the help of organizations established in the mid-1980s like the National Black Women’s Health Organization and the National Latina Health Organization as well as a rich academic literature at the intersection of race, ethnicity, reproduction and health. 37 

In these decades the sonogram created new ways to see fetal life and pro-life activists

subsequently embraced the concept of “fetal personhood.” Fertility drugs developed during the 1960s and 1970s became widely available (i.e. Clomid). The proliferation of in vitro fertilization in the 1980s not only solved a previously insurmountable female physiological problem, blocked or absent fallopian tubes, but also opened the door to surrogacy and egg donation. Social changes like queer parenting and the evolving use of assisted reproductive technologies and genetic medicine have led scholars to label the era from 1978 (the year of the first IVF baby) as one of postmodern kinship.

In situating the history of artificial insemination into the long history of reproduction and the family, this dissertation seeks to move this literature in new directions. It aims to show how the scientific study of sperm was integral to controlling reproduction, both for contraceptive and conceptive purposes. Its goal is also to show, from a new perspective, how new kinds of families were formed by and understood the removal of sex from reproduction. Part of relatively newer areas of inquiry in the history of reproduction and the family namely, the history of infertility and assisted reproduction, I build on works that have compelling shown how differently the lived experience of and

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38 For instance Susan Bordo has argued that as the subjectivity of the fetus was elevated the personhood (and power) of the pregnant woman has declined. Rayna Rapp has studied how technological interventions (including the sonogram and amniocentesis) have changed the way that women and science grade, normalize, and control pregnancy. Susan R. Bordo and Leslie Heywood, *Unbearable Weight: Feminism, Western Culture, and the Body*, (University of California Press, 2003), 85. Rayna Rapp, *Testing Women, Testing the Fetus: The Social Impact of Amniocentesis in America*. 1st ed. (Routledge, 2000), 1. Roberts, *Killing the Black Body*, 28.

social meaning attributed to being childless has changed over time. In keeping with this scholarship I believe that the meaning and practice of assisted reproduction is contingent to particular historical times and places. Historians, sociologists, anthropologists, and philosophers have documented how reproductive technologies have created controversies about the role of medicine in society, produced questions about sex and gender, and are embedded in national politics and racial and ethnic identities. Major themes in this body of scholarship have been how markets, bodies, beliefs, practices, and legal regulations have interacted with biomedical interventions to change the meaning of parenthood and family.

Surprisingly, there has been very little scholarly attention given to the history of artificial insemination. When it has been discussed by historians it is usually only

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40 In The Empty Cradle, Margaret Marsh and Wanda Ronner document the how medical and cultural beliefs about infertility emerged over a 300-year time span. By using a wide variety of sources (diaries and letters, patient records, memoirs, medical literature, and popular magazines) they are able to delineate when cultural, scientific and medical dimensions of infertility emerge to put forward a succession of changing narratives about why infertility happened, who was to blame, and where to go for alleviation (or not) for childlessness. Elaine Tyler May takes a similar approach in Barren in the Promised Land. She chronicles how the public interpreted infertility—as a manifestation of sin in colonial times, as produced by the state and medical establishment with the advent of 20th century sterilization campaigns, as implicated in the radical feminist backlash against compulsory motherhood, and as part and parcel of the contested place of technologies of assisted reproduction today. Her work is particularly valuable in exploring shifts about the personal dimension of being childless—in how the changing meaning of personal versus public life refracts within discussions about parenting and reproduction. Scholarship on the history of adoption has also been important in mapping the changing historical status of childlessness in America. Margaret Marsh, The empty cradle: infertility in America from Colonial times to the present (Baltimore: Johns Hopkins University Press, 1996). Elaine Tyler May, Barren in the promised land (Harvard University Press, 1997). Marilyn Irvin Holt. The Orphan Trains: Placing Out in America, (Lincoln: University of Nebraska Press, 1992). Peter Holloran, Boston’s Wayward Children: Social Services for Homeless Children, 1830-1930. Linda Tollett Austin, Babies for Sale: The Tennessee Children’s Home Adoption Scandal, (Connecticut, Praeger, 1993).

incidentally and often obscured within much broader investigations of infertility, organ or blood donation, the life sciences, or eugenics and the medical profession. There is however, a growing body of anthropological and sociological literature about artificial insemination post-1980 and particularly, about queer and lesbian use of the technology to create new family formations. Finally, within the history and philosophy of science there has been recent interest in the history of artificial insemination in agricultural reproduction.

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Note on Sources and Methodology

The reasons for the lack of attention to the long history of artificial insemination have a great deal to do with the availability of primary sources – few women like Mrs. P.L.W. left a record of what was already a dispersed practice and secretive conversation held with their private physician. The difficulties of locating sources for histories of hidden, stigmatized, and illegal social and medical practices has been an issue that historians of abortion, adoption, and miscarriage have noted and explored. Fears about custody, adultery, and medical liability meant that for much of the history of artificial insemination physicians consciously destroyed records of inseminations and sperm donations. In one mother’s words, “From the minute she was born, we never mentioned it to each other [her husband]. We won’t tell her – or our friends and family – because there’s no way she can find that father. It is our secret: It will go with us to the grave.”

One husband whose wife had used AID described his silence in terms of privacy, stating: “I think it’s so private and personal, like conception itself, that really it’s a personal confidence you don’t share with anyone else.”

Psychological theories about harming the ability of sterile men to bond with children produced via donor insemination or damaging the development of a child further contributed to not only the intentional

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erasure of artificial insemination in medical archives but also to generations of secrecy about the use of the practice in families.

The passage of the federal Health Insurance Portability and Accountability Act (HIPAA) in 2003 has affected the ability of historians of health care to access historical medical records, particularly those held at institutions where medical care is currently provided. The protection of patients (and their descendents) right to privacy has made accessing many records, especially on a practice like artificial insemination where the protection of historical actors identities has direct implications on the familial identity of their, often unaware descendants, a particularly difficult task. However, to my knowledge not a single academic monograph exists on the extensive history of artificial insemination – this fact points to the final two factors that have contributed to the lack of attention to its history: a conspicuous lack of attention by women’s and gender historians to the history of men’s reproductive health (as opposed to women’s) and the continuing shame and silence around men’s reproductive failure (impotence, sterility, etc.).


49 Feminist scholarship on assisted reproduction has tended to speak back against narratives of technological development within the lab and instead focuses on how gender-based inequality and discrimination can emerge from scientific practices and how women shape scientific discourse. Women’s bodies have often been the object of scientific knowledge and experimentation as patriarchy is reproduced through, by and on them. Feminist scholarship locates its questions around women, their bodies, and the users and objects of scientific and technological acts. The central themes that emerge from this scholarship tend to center around how agency and resistance to power can be understood when using the lens of gender as a primary analytical tool. Yet, growing from roots in second wave feminism, the study of gender and reproduction has tended to focus on women’s bodies and experiences of reproduction. Important exceptions to this trend have been the work of Cynthia Daniels, Marcia Inhorn, Nelly Oudshoorn, Judith Leavitt, and Angus McLaren. Cynthia Daniels, Exposing Men: the Science and Politics of Male Reproduction (Oxford ;;New York: Oxford University Press, 2006). Angus McLaren, Impotence: a Cultural History, (Chicago: University of Chicago Press, 2007). Marcia C. Inhorn, Tine Tjornhøj-thomsen, Helene Goldberg, and Maruska La Cour Mosegaard, Reconceiving the Second Sex: Men, Masculinity, and Reproduction. 1st ed. (Berghahn Books, 2009). Marcia C. Inhorn, The New Arab Man: Emergent Masculinities, Technologies, and Islam in the Middle East, (Princeton University Press, 2012). Nelly Oudshoorn, The Male Pill: A Biography of a Technology in the Making, (Duke University Press Books, 2003). Judith Leavitt, Make Room for Daddy: the Journey from Waiting Room to Birthing Room, (Chapel Hill: University of North Carolina Press, 2009).
Since knowledge about artificial insemination was actively destroyed and/or suppressed for much of its history coupled with the fact there are few secondary investigations focusing on artificial insemination (especially its history prior to the 1980s) there were few archives that held large collections of documents pertaining to the practice. My research therefore, was spread out across numerous archives. When there were archival sources in medical collections it was rare to have “artificial insemination” be a category around which archivists subdivided a collection. Therefore, my archival research required attention to the changing etiologies for which artificial insemination might be deployed as a therapy—from “hostile wombs” in the nineteenth century to the highly specific causes for male infertility in the late twentieth century namely, low sperm count (oligospermia), poor sperm motility (asthenospermia), abnormal sperm morphology (teratozoospermia) and complete absence of sperm in the ejaculate (azoospermia). An awareness of what kinds of records might escape the purging of case documentation on artificial insemination was also invaluable to accomplishing this research. Patient requests for medical services were often filed apart from clinical records. Thus, they were critical to accessing patients voices and uncovering their personal experiences with infertility and personal knowledge of methods that might solve their childlessness. And, although patient requests were an important window into the

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50 For instance, one recent investigation of infertility, masculinity and stigma found that male infertility and impotence were often conflated in media accounts. The authors argue that concepts of hegemonic masculinity allow a highly restricted set of options for men in terms of perceiving and representing their bodies and their health. In another study by anthropologist Helene Goldberg on male infertility in Israel she found that even in fertility centers known as clinics focused on the treatment of male infertility men were often absent or in the background. Gannon, Kenneth, Lesley Glover, and Paul Abel, “Masculinity, Infertility, Stigma and Media Reports,” Social Science & Medicine 59, no. 6 (September 2004), 1169–1175. Helen Goldberg, “Male Infertility and Its Challenges to Masculinity” in Marcia C. Inhorn, Tine Tjornhoj-thomsen, Helene Goldberg, and Maruska La Cour Mosegaard (eds.), Reconceiving the Second Sex: Men, Masculinity, and Reproduction, 1st ed. (Berghahn Books, 2009), 208.
lived experience of using AI to create a family, they were relatively rare. Because of this, I also actively read “against the grain” of physicians accounts of artificial insemination (which were infinitely more numerous) to retrieve patients, and wherever possible, donors perspectives. What this entailed was looking for patient’s actions and feelings by interpreting physicians mediated clinical accounts against a historical landscape of gender, racial, and professional politics.

The pages that follow draw upon a wide range of sources – the works of medical researchers, fertility clinic pamphlets, patient letters, marriage manuals, professional scientific and medical journals, newspaper coverage, popular magazines, film, radio, and fiction. The papers of esteemed gynecologist, Dr. John Charles Rock held a treasure trove of patient letters that provided insight into how infertile men understood their condition and the role of media accounts in providing information about the location of services to couples (Chapter 3). The Rock Papers additionally held documents on early semen concentration and freezing research (Chapter 4). Also at the Countway were The Robert Latou Dickinson Papers, (1881-1972) whose battles with the American Congress of Gynecology afforded the opportunity to understand how knowledge about artificial insemination was controlled by the medical profession towards the goal of managing the public’s perception of medical professionalism (Chapters 1 & 2). The Archives and Manuscripts Division of the Wellcome Library for the History of Medicine, London UK offered key materials on internationally circulated eugenic utopian dreams for artificial insemination in the interwar era (Chapter 2) as well as patient letters of couples trying to access insemination services during World War II and its immediate aftermath (Chapter 3). The University of California Los Angeles Film & Television Archive held rare copies
of 1940s and 1950s educational and feature films about artificial insemination, providing a window into popular knowledge and representations about AI during this era (Chapter 3). The New York Academy of Medicine in New York City supplied early twentieth century texts on artificial insemination from a general practitioner and was an incredible resource for mid to late twentieth century urological journals (Chapter 2 & 4). Whereas the University of Iowa’s Robert Bunge collection was important in understanding the politics that shaped the first human uses of cryopreservation (Chapter 4). The Lesbian Herstory Archives in Brooklyn, NY broad collection of resources on sexuality and the women’s health movement provided the basis for the chapter on “alternative insemination” and the changing boundaries of family in the 1970s and 1980s (Chapter 5). Last but not least, digital (and some print) collections of historical newspapers, popular periodicals, and medical journals (*Fertility & Sterility*, etc.) accessed through Rutgers University and Princeton University library systems were integral in tracing popular knowledge about infertility, cryopreservation, and the American family across all time periods.

This wide range of sources reveals the multiple perspectives of clinicians, social reformers, religious leaders, patients, donors, and policy makers. They uncover the tensions between the specialties of gynecology, urology and psychiatry as they sought to provide relief to their patients and tensions between patients and clinicians as they negotiated the boundaries of ethical treatment. The breadth of sources also provides evidence of professional and personal agendas tied to AI—from the pursuit of scientific knowledge or a profit to achieving parenthood.
The dissertation – at once a history of medicine and technology, a history of gender and sexuality, and a political history of family – draws upon several methods and styles of analysis. First, attention to the differences between language and discourse versus practice on the ground revealed several things. Using this method I was able to show the gendered forces driving the development of a taxonomy of artificial insemination, the differences between the imagined eugenic uses and the reality of eugenics in infertility practice as well as how language was strategically used by feminists during the women’s health movement.

A history of scientific and technological practices, the study draws upon the history and theories of scientific and technological circulation and development. Works such as Wiebe Bijker’s *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change* or Nelly Ooudshorn’s *The Male Pill: A Biography of a Technology in the Making* have helped me, and a wide array of scholars of medical anthropology, sociology of science and others in the STS realm, to think about how objects, practices, and ideas change and are (re)negotiated. These works, and more generally frameworks like Social Worlds Theory (in which researchers follow people and things that have shared commitments with the group being studied) have been important in shaping why and how I followed federal regulators, Reagan era anti-regulation conservatives, and lesbian mothers as they for very different reasons, pursued the goal of an unregulated sperm banking market in the 1980s. History and sociology of science

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52 A good example of this is Adele Clarke’s *Disciplining Reproduction*. She analyzes not only the practitioners of reproductive medicine but also those they interact with, and she follows the flow of people, instruments, finances, and theoretical and moral ideas that make up the evolving field of reproductive medicine. She maps out how biology, medicine and agriculture had overlapping conversations that evolved
and medical anthropological work that uses actor-network theory has been useful in mapping the relationships physicians, patients, and institutions (chiefly, the evolving modern fertility clinic) made and then persistently remade in subsequent eras when conceiving by syringe. 53

As an historian of American culture, medicine, gender and the family, I have also been greatly influenced by studies on the social construction of technologies and especially, how users shape the development and meaning of technologies. 54 My goal was to prove that gendered ideas embedded in reproductive medicine and science and popular culture have significantly affected how artificial insemination developed and furthermore, that its development laid the groundwork for later interpretations and institutions of assisted reproduction. Thus, in addition to reconstructing the technical and

53 Bruno Latour, Michel Callon, and scholars emerging from Centre de Sociologie de l’Innovation are proponents of this theory. Key aspects of this theoretical method are centers of calculation (places or institutions where particular kinds of facts are collected and disseminated), obligatory passage points (certain kinds of facts have to pass through this point to become stable and standardized), enrollment (process by which something or someone is allied to a particular view of the world and comes to act or speak as evidence of that position), delegation (process whereby a network holds in place particular social relations and a particular representation of the world), and networks. More specifically to my own field, Charis Thompson’s expert mapping out of different disciplinary approaches and their stakes in the study of reproductive technologies has been critical to my understanding the contemporary literature and landscape of assisted reproduction. Charis Thompson, Making Parents: The Ontological Choreography of Reproductive Technologies, (Cambridge: MIT Press, 2005).

54 Wiebe Bijker has argued that technologies go through a cyclical process of development and interpretation. The trajectories of technologies, in his formulae are interpreted (aesthetically, economically, etc.) by different social groups (users, producers, etc.) are inherently flexible in their design (i.e. there are many ways that a technology “works”) and then conflicts over the interpretations eventually lead to brief moments in which the meaning of the technology stabilizes. Whereas historians and historical sociologists have pushed this model to allow for users—whether the choices made by consumers or even how they might be imagined to interact with or not use a technology—shapes the status of a technology. Wiebe Bijker, Of Bicycles, Bakelite, and Bulbs: Toward a Theory of Sociotechnical Change, (Cambridge, Mass./London: MIT Press, 1995). Nelly Oudshoorn and Trevor Pinch’s (eds), How Users Matter: The Co-Construction of Users and Technology. Ruth Schwartz Cowan’s “The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology” in The Social Constructions of Technological Systems: New Directions in the Sociology and History of Technology, edited by Wiebe Bijker, Thomas Hughes and T.J. Pinch, (MIT Press, 1987).
scientific history of artificial insemination (and its sister technology of cryopreservation)
I needed to contextualize the broader social, political, gender and sexual politics of infertility and the family. Debates about what a healthy male or female reproductive body was and the importance of reproduction to the family and the state were necessary to understand why a practice that was covert for much of its history would be deployed by physicians and patients.

Historical approaches have enabled scholars to trace how a particular idea (like kinship, biology, nation, gender, or sex) or a technology (like artificial insemination or birth control) changes over a long period of time. This perspective exposes the constructed nature of the current patterns that these ideas and technologies take by showing the multitude of formulations they have taken in the past. More specifically, my style of analysis draws from cultural history and gender history to offer an examination of both how gender affects the development of medical markets and scientific ideas as well as the role of technology in shaping families. I intervene into current scholarship that presents assisted reproductive markets (and their associated changes in family formations, consumer relationships with germ cells) as primarily (or only) of the post-IVF moment. These histories, when they include AI, have tended to

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55 Historians like Londa Schiebinger have exposed how current definitions that we use to think about the nature of biological entities in our life have their own history embedded in a particular gendered and political moment. In “Why Mammals are Called Mammals: Gender Politics in 18th Century Natural History”, Schiebinger convincingly shows how the social and gender politics of a wet-nursing debate emerge with the taxonomical classification system of Linneas. Londa Sheibinger, "Why Mammals are Called Mammals," American Historical Review (1993). In the twentieth century, the twentieth century, historians like Wendy Kline in Building a Better Race: Gender, Sexuality, and Eugenics from the Turn of the Century to the Baby Boom have aptly dissected how the cultural history of eugenics in America was firmly embedded in cultural notions of gender and sexuality. Through appeals to strengthen the family and the nation through “positive” and “negative” social eugenic projects, Kline exposes the middle-class fascination with eugenics from the 20s-the 50s and places eugenics argues that it was an essential part of modern construction of family values and in how we judge a child’s worth as a society.

56 Doing so provides a platform for thinking about what factors influence the reformulation of low-tech by high-tech methods (i.e. A technology like in-vitro-fertilization requires daily hormone shots, surgery, the
present its story as one that is recent and synonymous with IVF, was defined by negative social reception, revolved around scientific discoveries about biological systems, and as based primarily on physicians perspectives.  

Offering unparalleled access to the private world of men and women making decisions to use artificial insemination to create families, the pages below destabilize contemporary frames of assisted reproductive technologies (and their markets) by showing how gender, sexuality and race created many means of assisting conception in the past. From its eighteenth century use as a means to determine the biological sex of hermaphrodites to mid-twentieth century attempts to breed eugenic babies to the contemporary business of sperm banking—artificial insemination has continually influenced cultural and scientific understandings of reproduction. Its complicated history reveals that fears about artificiality, marriage, and sexual desire when sex is removed from reproduction are concerns for actors across eras. As scholars and society consider the current explosion of fertility technologies and their implications for women, men, and families my work provides a historical perspective on such debates in biomedicine and society.

Chapter Outline

My first chapter “From ‘Fructification’ to ‘Insemination’: Nomenclature, Medicine, and the Family in the Early History of Artificial Insemination,” provides a broad introduction to the early practice of artificial insemination, from the late eighteenth

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century to the mid twentieth century. Using the naming of the procedure as a lens, I
demonstrate the ways in which the procedure has been relentlessly embroiled in questions
of the biological and social basis of gender. This chapter examines how different
generations of gynecologists, urologists, biologists, natural philosophers, and patients
understood “artificially” assisting reproduction and (un)reproductive bodies. The second
chapter, “‘Ghost Fathers’ in ‘A Brave New World’: Eugenics, Sexuality and Artificial
Insemination with Donor Sperm, 1900-1942” maps how the shifting landscape of early
20th century eugenics came to focus on AI as a positive eugenic tool for remaking society
and modern families. It looks at AI as it was used within a new science of genetics and
gynecologists practices and theorized about in utopian dreams of social and racial
betterment. The third chapter, “Rehabilitating Bodies: Disabled Veterans, Childless
Rosie the Riveters, and the Birth of Modern Cattle Breeding” provides an account of AI
in the 1940s and 1950s as it became a means to reintegrate soldiers, rebuild families, and
revolutionize American agriculture. It considers how concerns of the postwar era—of
homosexuality and the status of the family—impacted the first cohort of men who
entered fertility clinics, affected reproductive options for paraplegic veterans, and the
shaped the sometimes competing narratives expressed by physicians like John Rock (of
birth control fame), experimental biologists from the dairy industry, and patients as they
imagined the transformative possibilities of this technology.

The last two chapters consider how new technologies, cryopreservation, the birth
control pill, and IVF interacted with artificial insemination to change the legal and
cultural terrain of reproduction. During the 1960s and 1970s, an era struggling to
understand a radically new means of limiting reproduction with the release of the birth
control pill, was paradoxically also a moment of exponential growth in fertility clinics practicing artificial insemination. Chapter four, “Fresh and Frozen Donations: Reproductive Rights and the Science and Politics of Sperm Cryopreservation, 1960-1980” examines the complicated interplay between the politics and discourse about reproductive rights and the birth control pill, abortion, and artificial insemination. At the same time, new and more effective methods of freezing and concentrating sperm enabled infertile men new possibilities for when, if and how to become a parent. Thus, in this chapter I show how “reproductive choice” manifested in surprising ways. Chapter five, “The Birth of Banking: How Race, Sexuality, and Regulation Generated the Business of Conception” introduces a host of new users of artificial insemination—lesbians, single women, and transgendered parents—in the last three decades of the twentieth century. It locates their emergence as sperm bank consumers in the politics of the gay liberation movement, the sexual revolution and the women’s health movement, and indeed, the dramatic transformation of medicalized reproduction (as IVF and amniocentesis became widely used practices). This chapter traces how and odd confluence of radical feminist and lesbian politics and neo-eugenic ideals transformed the expectations of choice for a much wider set of heterosexual users of AI. Finally, it investigates how a new means of classifying, marketing, and delivering germ cells became institutionalized in the modern sperm bank.
Chapter 1
From ‘Fructification’ to ‘Insemination’: Nomenclature, Medicine, and the Family in the Early History of Artificial Insemination

Since the eighteenth century, physicians, scientists, and patients have experimented with the idea of achieving pregnancy by intervening in the act of sex “artificially.” As they did so, they debated the scientific principles of reproduction, the boundaries of practice in the emerging medical specialties of gynecology and urology, the significance of heredity to the eugenic and scientific social worlds, and the meaning of marriage and parenthood to generations confronting such issues as declining birth rates and battles over the use of prophylactics. This chapter explores the history of artificial insemination at the intersection between nomenclature, imagery, and medical practice. A cultural investigation, it draws from sources in literature, biomedicine, natural philosophy, and the popular press to ask—what is in a name? In other words, how can both lay and biomedical language be used to understand the interplay between scientific and social worlds as historical actors confronted a technology that implicated gender, sexuality, and race? Accordingly, this chapter traces the changing nature and nomenclature of the debates about artificial insemination (A.I.) as the technology surfaced both as an increasingly used form of therapy for infertility and as a medical term from the late eighteenth century to the mid-twentieth century.

The history of this technology is one typified by scattered medical accounts, secrecy, and a historiography heavily weighted towards the late twentieth century. Nevertheless using a discursive lens allows the complex and changing modes of
knowledge and practice to emerge more readily. It also helps bring into focus changing understandings of reproductive bodies as physicians, their infertile patients, and society struggled with issues often considered to be part of the recent past—the removal of sex from reproduction, alternative kinship formations, and increasing medical intervention into the most intimate and loaded moments in a couple’s life and in the reproduction of society and its norms—sex, conception, and the production of parenthood.

I use a snapshot approach, bringing forward key examples of this seemingly simple technology for analysis from a long historical scope (1790-1950) of contested language as represented in Graph 1. I investigate meanings behind the messiness of nomenclature in the 19th century with examples from the United States and France of “artificial fecundation,” “artificial fertilization,” “artificial fructification,” and “uterine injection.” Then, I discuss the significance of lay language about “test-tube babies” in the early twentieth century, and finally, the factors that influenced a sudden development of consensus around “artificial insemination” in the mid twentieth century. The first section considers the practice of assisted reproduction in an era before it acquired a working name. Here, I discuss its emergence as a means to answer the role of the sexes in reproduction during a time period that strove to understand the physiology of

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“generation.” The focus then shifts to early international discussions about “artificial fertilization” and “fructification” in the nineteenth century. Using sources ranging from a French dissertation on *insémination artificielle* to the case books of infamous mid-nineteenth century gynecologist Marion J. Sims, I discuss what assisting fertility promised to physicians at a pivotal moment in the foundation of the modern specialty of gynecology and how diseases affecting fertility became associated with first female and then male bodies.

The second section highlights the important role that new research about “artificial parthenogenesis” by experimental biologists like Jacques Loeb played in fostering discussions and misunderstandings about assisted conception. I then turn away from technical and scientific nomenclature and deliberate on the historical practices that fostered the emergence of a new lay language and understanding of “test tube babies” in the early to mid-twentieth century. By focusing on ordinary language, the clinical use of the test tube itself materializes as a key symbolic signifier in promoting the idea of a scientifically produced baby, long before the first IVF baby was born. I place physicians’ technical discourse about “artificial insemination” in conversation with patient experiences and understandings of “test-tube babies” as their voices emerged in newspapers, film, radio, popular journals, and personal letters.

The final section considers why nomenclature began to change, solidifying as “artificial insemination” in the early twentieth century. This final case traces the rise of a

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59 By “generation” I refer to late 18th century understandings of what we would today call the moment of conception. However, in this context generation was contentiously debated and included arguments about the pre-formation of the child in the “seed” of the man or woman versus an older understanding of male and female seed mingling (along with an essential essence/spirit) to create a child. See Thomas L. Hankin, *Science and the Enlightenment*, (Cambridge University Press, 1985) and Shirley Roe, *A Matter, Life, and Generation: Eighteenth-Century Embryology and the Haller-Wolff Debate*, (Cambridge University Press, 2003) among others for more on this debate.
new urological profession steeped in eugenics discourse and deeply concerned with the scientific study of semen as means to understand and battle the evils of venereal disease. Two lines of research (experimental biology and urology) helped to put the “semen” in “in-semin-ation” but they were also affected by the need to classify an innovative new practice—the use of sperm from anonymous donors. Thus, the closing section also considers the final classificatory bifurcation into more contemporary terminology, “artificial insemination using husband’s sperm” (A.I.H) and “artificial insemination using donor sperm” (A.I.D) as society attempted to grapple with the implications of artificial insemination for families, heredity, and society when the use of sperm from anonymous donors became relatively widespread during the interwar period.60

Taking as its premise that the formulation of a definition, a name, requires the subordination of other or past meanings, this chapter endeavors to show, that while the actual act (the insertion of sperm to the vagina, cervix, or uterus using a syringe) of human artificial insemination changed little over the course of its early history, the contextual factors in which it was named, defined, understood, used and produced underwent radical changes.61 Indeed, the following analysis of nomenclature, images,

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60 Note: The terminology has continued to evolve in since the post-war era. Currently, it reflects highly specialized medical knowledge and the technical placement of sperm inside a woman’s body. Intrauterine insemination (IUI) is the most commonly performed procedure that takes place within a clinic and places sperm inside the uterus using a catheter. Intravaginal insemination (IVI) can be performed at home and involves placing the sperm in the vagina (near the cervix) using a syringe. Intracervical insemination (ICI) can be performed by a midwife or fertility specialist and involves placing the sperm inside the cervix using a catheter. After an ICI a sponge cap is generally placed over the cervix to prevent sperm leaking out.

61 I draw here on work from within the history of medicine that uses nomenclature to show the shifting factors that influence the concept of a disease, diagnosis, and therapy (i.e. from Bright’s Disease to End-State Renal Disease in Steve Peitzman’s chapter in Framing Disease: Studies in Cultural History, ed. Charles Roseberg and Janet Golden, (Rutgers University Press, 1992) and from chlorosis to sickle cell anemia see Keith Wailoo, Drawing Blood: Technology and Disease Identity in Twentieth-Century America, (JHU Press, 2002), from work on the history of the body that uses the naming and visual depiction of bodies to understand gender dynamics (i.e. Londa Schiebinger, “Why Mammals Are Called Mammals: Gender Politics in Eighteenth-Century Natural History” in Nature’s Body: Gender In The Making Of Modern Science, ed. Schiebinger, (Rutgers University Press, 1993) or Thomas Laqueur, Making Sex: Body
and objects reveals that this simple technology has been relentlessly embroiled in questions of gender (i.e. what is the essential biology and social roles of being a man or woman) and sexuality. From “artificial fructification” to the modern definition and practice of “artificial insemination,” the cultural and biomedical politics of naming were integrally bound to the movement of knowledge between scientific and lay audiences, contests between the emergent professions of gynecology and urology, and the importance of marriage to couples who achieved parenthood with the help of a syringe.

I. Generat(ing) Artificial Fecundation, Fertilization, and Fructification in the Enlightenment Life Sciences and Nineteenth Century Medicine

The earliest reports of “the experiment” emerged sporadically from physicians, philosophers, and naturalists in Western Europe. These periodic accounts were bound up in questions as important as the very nature of sex and the moment of conception, “generation” itself. The artificial control of the moment of “generation” at the end of the eighteenth century foreshadowed, in some small way, what the practice was to become to the professionalized scientists and physician of the twentieth century, a tool to answer questions about the variety of sexed biological life and the passing of traits from parent to offspring. What would soon come to be named artificial fecundation, provided a site in which ideas and experiments about the nature of life would be tested from a wide range

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of perspectives—from naturalists, philosophers and physicians in the enlightenment sciences to experimental biologists, fertility specialists, and even eugenicists of the twentieth century. This experiment, still without a name in the eighteenth century, was the means by which natural philosophers were attempting to discover the boundaries of sex as well as the role of “seminal liquor” and eggs in the beginning of life. It is with this context in mind, before the formation of biology as a discipline, that we can understand the emergence of artificial control over the moment of conception.

A Problem of “Connexion”

In the 1780s, a Scottish surgeon, known to some as the “father of modern surgery,” William Hunter (1718-1783) was a well-established lecturer on anatomy in London. He had produced his masterwork in 1774, *The Anatomy of the Gravid Uterus Exhibited in Figures* depicting detailed dissections of pregnant women. Based out of his private Windmill Street (Anatomy) School, he operated outside of existing medical colleges namely, the College of Physicians and the Company of Surgeons. William Hunter was famously and lucratively employed in obstetrics and man-midwifery (*accoucheur*), a specialty that although not accepted by the arbiters of the profession was

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63 The only prior terminology for the procedure occurred in German, “Künstliche Fischzucht,” translated as “artificial” fish-farming or fish breeding. See L. Jacobi, “Künstliche Fischzucht,” *Hannover. Magazin* (1765). It also emerged in a well-known Italian experiment performed in 1777 on the “fecundation” of frogs (Lazzaro Spallanzani, *An essay on animal reproductions* (T. Becket and P.A. de Hondt, 1769) and subsequently a dog (a spaniel) although this was not published in English until thirty years later. Spallanzani, *Dissertations relative to the natural history of animals and vegetables Translated from the Italian of the Abbé Spallanzani, ... In two volumes.* (London :: printed for G. G. and J. Robinson,, 1797).

William Hunter was likely aware of Spallanzani’s experiments, not only was Spallanzani one of the most well known scientific figures of his time and a defender of ovist preformation ideas, but William Hunter’s brother, surgeon John Hunter, also authored the appendix to the first volume of the above, entitled “On the Digestion of the Stomach After Death” which appeared in the *Philosophical Transactions to the Royal Society, Vol. LXII, 447*. Spallanzani used these experiments to provide proof for his eventual conclusion that the liquid surrounding the “spermatic worms” accounted for fertilization.

64 Home, 157-178.

fast becoming a fashionable practice amongst society women.\textsuperscript{66} Known for his
discretion, in which even the unmarried daughters of peers could rely on his silence when
consulted about unintended pregnancies, couples troubled by infertility also consulted
Hunter. Sometime between 1776-1783, one such couple called upon Hunter to “remedy
an inconvenience” of “connexion.” A draper and his wife were having trouble during the
act of sex. Hunter’s brother in-law, Everard Home later revealed to the Royal Society of
London that the husband in question passed semen “out at the perinaeum” and had been
unable to “beget children.”\textsuperscript{67} Today, this patient would probably be diagnosed with
hypospadias (a common hereditary defect where the opening of the urethra is found on
the underside of the penis rather than at the tip). But in the late eighteenth century, larger
questions about the physical manifestations of sexed bodies were at stake.

Everard Home asked, was a man who was “malformed” in such a way truly a man
or a mixture of both sexes, a hermaphrodite?\textsuperscript{68} Other physicians wondered whether such
an opening was in fact a preternatural clitoris or a narrow vagina.\textsuperscript{69} For his part, Hunter
had performed many dissections of hermaphrodites, or “free-martins,” in cattle and had
argued that there was no singular kind of “hermaphrodite,” but rather animals with
different degrees of “parts belonging to both sexes.”\textsuperscript{70} During the late eighteenth century
new categorizations of sexual difference emerged—anatomists were beginning to
produce new illustrations of a distinctly female skeletal structure, a new word was coined

\textsuperscript{66} Brock, \textit{William Hunter}, p. 8 and Bynum and Porter’s \textit{William Hunter and the Eighteenth-Century
Medical World}. (2002), 16-23.
\textsuperscript{67} Upon Hunter’s death in 1793 his case notes and manuscripts passed to Home.
\textsuperscript{68} Home, \textit{Ibid}.
\textsuperscript{69} For more on this discussion see Lorraine Daston and Katharine Park, "The Hermaphrodite and the Orders
of Nature: Sexual Ambiguity in Early Modern France," in Fradenburg, L. O. Aranye, and Carla Freccero,
\textsuperscript{70} William Hunter, “Of the Structure and Diseases of Articulating Cartilages,” \textit{Philosophical Transactions
to describe female anatomy, vagina, indeed distinct sexual differences were deployed by such political theorists as Hobbes and Rousseau as biological signs of each gender’s place in society.\textsuperscript{71} Accordingly, ambiguous or “imperfect”\textsuperscript{72} sexual organs were particularly loaded sites of argument, speculation, and social anxiety.

Home, and presumably, Hunter perceived the act of “impregnation” to be an important clue to an individual’s innate sex or, in the case of a mixture of male and female sexual organs, their dominant sex. In other words, the ability to reproduce dictated the sex of the individual. In the case of the draper, if conception could occur with what seemed to be a normal woman, then, Hunter and Home logically concluded, the partner was of the opposite sex (or largely thereof according to Hunter’s idea of a mixed spectrum of sexual organs). Hunter advised the gentleman in question to first have intercourse with his wife (ensuring that his wife was stimulated enough to have an orgasm he and others still considered essential to conception)\textsuperscript{73} and then to be prepared with a warm syringe “fitted for the purpose” to collect and then inject his semen into the vagina of his wife. A pregnancy, one in which both Hunter and the husband were sure was the result of the experiment, the first successful act of human “assisted reproduction,” was the result.\textsuperscript{74} Home reported with zeal, “the impregnation was entirely the effect of the experiment.”\textsuperscript{75}

\textsuperscript{71} Thomas Walter Laqueur, \textit{Making Sex: Body and Gender from the Greeks to Freud}, (Harvard University Press, 1990), 156-159.
\textsuperscript{72} Home, 487.
\textsuperscript{73} And although Laqueur points out that Spallanzani’s successful artificial insemination of a spaniel suggested that “orgasm was not necessary for conception,” in Hunter’s estimation, this did not hold true for humans. Laqueur, 161.
\textsuperscript{74} Note: there is one earlier mention of a form of artificial insemination being practiced on human beings by a Professor of Medicine in Rome and Physician in Ordinary to the Pope, Bartholomeus Eustachius (d. 1574) who advised a fellow physician to “insert his finger into her vagina and push the semen upwards towards the mouth of the uterus” in approximately 1550. As cited in A. Schellen, \textit{Artificial Insemination in
During the Enlightenment, experiments like this were part of a larger endeavor to learn about the natural world. In a cultural context that was defined by a shifting and hotly debated discourse about the organic phenomena of generation, many experimental investigations were, as historian Mary Terrall puts it, “inseparable from questions about the nature of life itself.” It is within this milieu that we must see John Hunter, a man reading the books and experiments of Buffon (who examined fluids taken from the reproductive organs of animals to assert that male and female germs contributed symmetrically to generation) as well as treatises by preformationists and ovists like Friar Spallanzani (on the generation of frogs and the “fecondazione artificiale” of dogs).

Accordingly, Hunter’s use of a warm syringe with a “purpos” then can be seen both as a scientific investigation about anatomical variations of sexual difference and the moment of “generation” and as an act performed by a physician with an eye on a changing medical marketplace in which helping patients achieve parenthood was part of a more

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75 Historical accounts of this episode differ on exactly when and how the insemination took place. Dates of occurrence range from 1776-1799 and the specifics range from Hunter providing the husband with a syringe to Hunter performing it himself. Sources: Goldber and Schatz, J. Fletcher, Koerner, H. Davis, Rohleder, Rambaur, Niedermeyer, Paul Levy as cited in Schellen 13 and Wendy Moore, The knife man: the extraordinary life and times of John Hunter, father of modern surgery (Random House, Inc., 2005), 142-3. It is also likely, according to details released after Hunter’s death, to the Royal Society of London revealed that this “experiment” in generation was at least partially based on Hunters early experiments to impregnate silkworms in the 1760s, in which he successfully collected unfertilized female moth eggs and then dissected a male moth to extract semen samples with a “hair pencil.” Everard Home, Esq. F. R. S., “An Account of the Dissection of an Hermaphrodite Dog. To Which Are Prefixed, Some Observations on Hermaphrodites in General,” Philosophical Transactions of the Royal Society of London 89 (January 1, 1799), 162.


77 Note: Bonnet foresaw the potential use of Spallanzani’s experiments on humans. In an letter to Spallanzani he noted, “I do not know, but one day what you have discovered may be applied to the human species to ends we little think of and with no light consequences.” Ltr Jan 13, 1781 in Spallanzani, Fisca animale e vegetable, 3 vols (Venice 1782) (translation from FNL Poynter). It was not until Lazzaro Spallanzani published Fecondazione artificiale. (Artificial Fecundation) in an Italian encyclopedia in 1779 that a name for the procedure was given. Spallanzani, Fecondazione artificiale, (Podromo della nuova enciclopedia Italiana. Siena, 1779), 129-134.
consumer and service-oriented ethos.\textsuperscript{78} In this light, the syringe he wielded was a tool of a man of science, a man using knowledge of the new science of anatomy in order to help the efficacious fluid and vapors surrounding the spermatic worms to reach the germ of his female patient. At the same time, the syringe was a tool in an experiment to study one of the central debates on the nature of sexed bodies, hermaphroditism. Perhaps it was the dual nature of this investigation (for science and for patients) that allowed Hunter to consider a prior experiment performed on dogs and frogs as a potential therapy for a “problem of connexion.”

After Home’s account of Hunter’s experimental therapy, only a few intermittent reports of the technology appeared in the next century. Undoubtedly, many factors contributed to this historical gap of sources including a culture of professional secrecy in gynecology and the laying to rest of preformation debate about the nature of the egg and sperm by the mid-nineteenth century.\textsuperscript{79} By the mid-nineteenth century publications began to appear once more but, it was in late nineteenth century France that the greatest number of publications and potentially, the most artificial Fécondation, in English “artificial fertilizations” or “fecundations” were practiced in cases of infertility.\textsuperscript{80} From 1865 to 1900, at least 14 texts on the method were published in France, the first of which by Girault were inspired by the same eighteenth century experiments by Italian priest

\textsuperscript{78} Bynam and Porter define Hunter’s outlook on medicine as an “enterprise” in a competitive environment and argue that this, in part, enabled his rise to prominence in the profession, 21.

\textsuperscript{79} It was not until the mid and late nineteenth century that publications about the practice once more emerged. For instance, in Germany a university thesis was successfully defended on “künstliche Befruchtung” (K.B.), literally translated as “artificial fertilization”, by Paul Levy at the University of Würzburg in 1888. Paul Levy, \textit{Über die Ausführung der künstlichen Befruchtung am Menschen : Inaugural-Dissertation} (Würzburg: Scheiner, 1888). See Schellen, 18 for further publications in German.

\textsuperscript{80} John Shaw Billings, \textit{The National Medical Dictionary} ...(Pentland, 1890), 506. Note: at some point the French term transitioned as well, into its current usage \textit{insemination artificielle}, however it is not within the scope of this chapter to unravel the politics behind this transition. The older term persists in the nomenclature as well according to William J. Gladstone, \textit{English-French Dictionary of Medical and Paramedical Sciences}. 4\textsuperscript{th} Edition, (1996).
Friar Spallanzani on the “Fecondazione artificiale” of animals that Hunter had read. In fact, Girault repeated Spallanzani’s experiment with a dog three times before attempting it, successfully, on a young twenty-three year old Countess in 1838. Unlike the medical and philosophical discussions of earlier years, by the time “artificial fecundation” reemerged in France in the latter part of the century, the technology became intertwined with larger cultural concerns about industrial society, gendered anxieties about women’s role in family life, and the boundaries of professionalized medicine.

“Les fabriques d’enfants,” (“Baby Factories”)

Despite a considerable history of use and publication in France, the first significant public dialogue about the technology emerged relatively late in the century, the 1880s, and revolved around the seemliness of the discussion and not necessarily the efficacy of fécondation artificielle. The trigger of the public uproar was the thesis defense of Joseph Gerard on “De la fécondation artificielle” (1885) at the University of Paris in which he announced that the method could help 100 of 500 infertile couples.

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82 Girault, “Ea generation artificielle dans l'espece humaine,” L’Abeille medicale, 25 (1868), 409, 417.
Studying under the celebrated gynecologist Pajot, who had pioneered both instruments and techniques for artificial fecundation in France, at the time of his defense Gerard was a fifty-one year old decorated veteran of the Franco-Prussian war. Two years after his original thesis was rejected and the day after he defended a less controversial thesis and received his diploma, Gerard thumbed his nose at the medical establishment and published his original thesis entitled, *New causes of infertility in both sexes: artificial fertilization as the ultimate treatment* (1888). The imagery and language used therein, serve as mediums that make obvious not only how reading such texts could be a source of pleasure for medical and lay readers alike, but also demonstrate the role artificial fecundation played for its physician supporters as well as the fears it sparked in late 19th century French society. 83

In the text Gerard presented his readers with a broad etiology of the conditions and diseases that produced infertility. He begins with the “marriage of egg and sperm” (a brief lesson in the biological model of reproduction at the time). In this marriage, an opera star egg in high heels selects a sperm to achieve conception with—a handsome and generous sperm with a fine moustache and top hat who brought gifts to her backstage door. Then the readers learn about factors that harmed fertility—from women being too fat to men being too thin, of being mismatched in size to ones partner, or homosexual desires (particularly the affects of lesbianism on heterosexual marriage). Gerard also blamed the melancholic effects of modern life on the decreased ability for couples to conceive. For instance, in *Image 1* both parties are despondently turned away from one another and the causes of their disrupted equilibriums are littered around them. The man

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83 According to Poynter, that the drawings were done by the well-known artist, José Roy caused the faculty to contend that the thesis lacked seriousness and would be too accessible for laypersons. Poynter, F. “History of Artificial Insemination,” in Stevenson and Multhof, *Medicine, Science & Culture*, (1968).
sits above what is most likely pornography, is an abuser of liquor, and he considers the rabbits (symbolic of his fertility) below him diminishing. The woman, on the other hand, is holding a cat in her lap (a symbol of sexual receptivity, uncontrolled sexuality, prostitution, and venereal disease) and a white flower specifically referencing Leucorrhoea—both causes of decreased fertility. These factors are indicative of the prevailing cosmology of disease that French physicians of the Paris health schools pioneered. They understood human bodies to be regulated by a host of physiological functions, including those of experience and sensation. In other words, nerves determined the health, nature, and etiology of diseases. This integrated vision of the mind and body resulted in an increasing fear that social and political changes, in this case the Franco-Prussian War and the Paris Commune, disturbed nervous sensibilities resulting in degeneracy and infertility.

According to historian Michael Finn, contemporaries did not dispute the efficacy of the artificial fecundation, or even that it was being performed. Rather, they were concerned that the thesis amounted to an announcement that would “open up the procedure to abuse by charlatans or those in search of debauchery.” The relatively simple concept and procedure of artificial fecundation seemed ripe to fall into the wrong hands, argued physicians and newspaper columnists, and various examples of inappropriate users emerged in the public debate including couples not under medical

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84 It was likely absinthe, which for the first time in the 1880s began to be mass-produced in France.
86 Leucorrhoea was commonly known as whites, referring to a whitish discharge (a sign of infection) from the genitals.
88 Finn, 41.
care, medical charlatans, and in what would prove to be a constant concern throughout the history of the technology, women not under male supervision. These fears materialized during an era in which the French medical profession was enjoying unprecedented power in French society and in international medical culture.  

Consequently, any shadow cast on this prestige was viewed with hostility by members of Académie Impériale de Médecine who actively policed entrance into the profession and the actions of physicians within the nation. The faculty declared, “official sanction given to such a question [artificial fecundation] might have the most disastrous consequences for the family, society and the State.”

Newspapers covered the story with interest wondering, under such sensationalist headlines as “Les fabriques d’enfants,” (“Baby Factories”) if women would no longer require dowries or coming-out parties. Moreover, would women become more attached to their syringe than to their male friends?  

Ironically, for a procedure that one hundred years earlier had been used to discover the role of male “liquor” in the process of reproduction, by 1885 journalist Edmond Pelletier spat out, “this suburban Esculapu

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89 From the first medical regulations law of 1803 which formed a model for education that stipulated that physicians were required to attend four years at a state medical school and pass examinations in anatomy, physiology, pathology, nosology, material medica, chemistry, pharmacy, hygiene, forensic medicine, and clinical medicine, the prestige of the profession rose rapidly. This expansion included the birth of organized public health and rapid medicalization of French culture in the second and third republic in order to deal with a France that became increasingly viewed as riddled by disease including, venereal disease. For more on these changes in French society and medical culture see Ann Elizabeth Fowler La Berge and Mordechai Feingold, French medical culture in the nineteenth century, (Rodopi, 1994).

90 Chronique medicale, 5 (1898), 65-71 as cited in Poynter, 97.

91 Note: That Dehaut had to specify that artificial insemination was for “l’espèce humaine”, humans points towards the fact that the practice was widely used in other species. Félix Dehaut, De la Fécondation artificielle dans l'espèce humaine comme moyen de remédier à certaines causes de stérilité chez l'homme et chez la femme, par Félix Dehaut,... (Paris: impr. de F. Malteste, 1865). Michael Finn, “Female Sterilization and Artificial Insemination at the French Fin de Siecle: Facts and Fictions,” Journal of the History of Sexuality 18, no. 1 (January 2009), 41.
(Gerard) has just invented a means to remove the *pater* from paternity!"³ Edmond Pelletier, “Les fabriques d’enfants” *L’echo de Paris*, August 6, 1885. Other physicians roundly supported the procedure as a means to “perpetuate the species and to provide families with joys that could not have experience without it.” (note: only reference to AIH) Dr. Philippe Marechal, “Propos du docteur: La fecondation artificielle,” *L’echo de Paris*, Aug 11, 1885. Names all doctors in Paris practicing the procedure.

Gerard himself hinted at how artificial fecundation changed physical and social relationships between men and women, publishing in his thesis a depiction of a woman hugging a large and healthy looking sperm instead of a male partner (*Image 2*). Taking this idea one step further he illustrated how men might come to be seen by women as mere vehicles carrying the germs of reproduction—young/old, healthy/unhealthy (*Image 3*).

Variations on both of these themes, concerns of medical respectability and male vulnerability, were to emerge in subsequent eras during moments when the medical consideration of the technique of artificial fecundation intersected with public discussion of the procedure. In every era the meaning of the procedure depended upon the cultural context and presumed implications for the social order and the family. Moreover, in an era of anxiety about reproduction, descriptions of “baby factories” denoted broader concerns about the family and society. As historian Martha Hildreth points out, concerns about the depopulation and status of families became the primary concern of the French medical profession after the dawn of the Third Republic (1870) in the social crisis following the Franco-Prussian War and the Paris Commune. A panic about the dubious honor of France possessing the lowest birth rates in the industrialized world (a public concern as early as the 1860s but most especially by the 1890s as deaths began to outstrip births) and pronatalist rhetoric clashed with a strong feminist movement whose proponents argued for female autonomy through birth control and a new frankness about
female pleasure and sexual satisfaction. Fears of demographic decline intersected with those of racial degeneration, powerfully influencing Third Republican politics and social reform. Policy-makers expanded welfare services and the French eugenics movement grew as a result. These anxieties permeated the language of diagnosis and dominated social and political discourse as physicians attempted to protect the family’s “health, its reproductive capacity and its [assumed] ability to promote hierarchy and stability.”

Beyond these fears, what other meanings and concerns did nineteenth century gynecologists have when they used the terms “artificial fecundation/fertilization”? A close reading of the etymology of “artificial fertilization”, and subsequent terminologies, offers a means to unlock understandings of three areas—the biology of conception, gendered societal concerns, and the politics of medical professionalism. The meanings that the joining of these two words implied also formed a scientific conceptual structure around the act of “artificial fertilization.”

The term “fertilization” focused on the meeting of egg and sperm (or potentially pollen and ovary) and, in a broader sense, the ability to make someone or something more fertile (for instance, the application of fertilizer to plants). As discussed previously, in the eighteenth century the terms fertilization/fecundation had many meanings in plant and animal breeding and continued to do so in the nineteenth century. However, at this

point “fertilization” began to encompass a broader discussion of Malthusian anxieties from demographers and medical hygienists about a decline in the “will” to reproduce. Epigenetic theories also expressed interest in fertilization, that in France equated a decline in male births as a sign of stunted or failed fertilization because of the decreased motility and vigor of sperm, weak testicles, effeminacy and more generally the failure of French masculinity.96

The term “artificial”—a term that was relentlessly attached to procedure in its myriad of forms and names—could denote “man-made,” unnatural, or even artful or cunning. In the European context the terminological choices made by physicians and biologists and most especially, the reaction of French contemporaries, point toward a melding of the multiple meanings of “artificial” as being particularly important to claiming an understanding of what it meant to assist reproduction at this moment. For journalists and their contemporaries in France, like those who expressed worries about the allure of syringes, it was the man-made nature of the syringe as a replacement for marriage and sexual relationships with men, and the implied “unnaturalness” of the act when compared to the sexual act that caused the most consternation.97 Paradoxically, “artificial” simultaneously expressed the growing belief in progress and the industrial revolutions of Western Europe and the United States. Mass production enabled 19th century middle class consumers to acquire a much larger number of standardized objects in their homes and lives. However, when this crossed the line into the mass production of reproduction, social critics wondered about the boundaries of this industrializing trend.

Were wealthy families now able to purchase parenthood as a commodity rather than attain it as a natural process? Images (4 & 5) in which babies were not only delivered in boxes by the postman, but also had a price tag attached to them, caused concern—even if the result was the creation of a happy family (Image 6).

“Artificial” products including artificial teeth, legs, artificial incubators for fowl and even artificial butter emerged in both markets. “Artificial” breeding was shaping the new industrialized organisms that drove an agricultural revolution in late nineteenth and early twentieth century America. In medicine, there was a boom of new “artificial” products due to an unprecedented rise in experimentation and public intervention into private procreative behavior. These medical incursions into the most intimate moments of private sexual life and procreative activities included: rising use of surgical treatments for infertility; mechanical devices to support the uterus and shift it into a position perceived as normal; and, an increasing circulation of knowledge about birth control methods ranging from coitus interruptus, condoms, cervical caps, diaphragms and douching to abortion. And in the case of Gerard, “artificial” intervention into private life also included the invention and production of new gynecological apparatuses to assist those practicing artificial fecundation—from three new types of syringes to the portable fecundation stirrup (see Images 7 & 8). Using portable stirrups, science literally entered the bedroom with the physician so that the procedure could be performed post-coitus by attaching the stirrups to the bed. Consequently, the “artificiality” of artificial fecundation


should be seen in 19th century France, and within our next case study, America as part of a broader trend to admit new mechanically and industrially produced objects (including those from an industrializing American agricultural system) into social lives and worlds. Artificial fecundation and other industrial items embodied this belief in progress as well as concerns about resulting changes within families and in reproduction.

“Artificial Fructification” and the Treatment of “Diseases of Women”: The Case of J. Marion Sims.

Just as the first publications on De la Fécondation artificielle emerged (the 1850s and 60s), in the United States fertility became particularly bound up in the reconstruction of American society after the Civil War. Worried about the “degeneracy of American Womanhood” as a few but visible women sought higher education and careers outside of the home rather than marriage and motherhood, physicians and social reformers were worried that sterility would be the ultimate result. The rise in reproductive anxiety went hand in hand with the decline of ministerial authority and the increasing secularization of society. The result was that physicians had new power to write prescriptive literature on health, gender and sexuality—which they used to promote traditional notions of femininity.100

It is not surprising then, that the 1850s and 1860s were a transitional moment in the use of artificial fertilization and more generally, in the treatment of “diseases of women” in the United States. Physicians who were part of the medical elite, practicing in the new urban voluntary hospitals and trained in Philadelphia, New York, or Massachusetts were completing their medical educations with tours of famous Parisian

hospitals. Dissection and the keeping of statistics complemented the insights gleaned from clinical observations and postmortem examinations in French hospitals. Those who braved the Atlantic and followed new developments in the medical literature abroad began to transform their long held beliefs about the systemic pathology of infertility and move instead toward identifying local causes of disease. In other words, they no longer saw infertility as being a problem that encompassed the whole body; rather they looked for a particular cause at the site of the dysfunction. As they did so, infertility shifted from being a social state to medical condition. The medicalization of infertility that started before the Civil War, increased rapidly thereafter with the entrance of a new organization to guide the profession in 1876, the American Gynecological Society.\textsuperscript{101} At this pivotal moment in the evolutional of the professions’ status, one of the most (in)famous representatives of the new gynecological profession and its interventionist ethos was Dr. J. Marion Sims.\textsuperscript{102}

In his landmark book, \textit{Clinical Notes on Uterine Surgery, with Special Reference to the Management of the Sterile Condition} (1866) Sims admitted to performing 55 “artificial fructifications” on 6 patients at his renowned Woman’s Hospital in New York City.\textsuperscript{103} Sims, a controversial figure remembered today both as the father of gynecology, as well as a physician who perfected his surgical techniques on enslaved women, was considered by later practitioners of artificial insemination as the scientific forefather of

\textsuperscript{101} The American Association of Obstetricians and Gynecologists was formed in 1888 and by 1911 a combined AMA Section on Obstetrics and Gynecology was established.  
\textsuperscript{103} Note: Sims inconsistent language, ranging from “artificial fructification” and “artificial fertilization” to “uterine injection” to “mechanical fertilization”, reflected the continued instability of the medical terminology and the idea of the procedure itself.
the practice because he “investigated the whole matter scientifically.” However, not everyone in the profession, at home or abroad, thought all scientific inquiries should be put into print. *The Medical Times and Gazette* responded to his book stating,

> Many things are here described on paper, which have hitherto been veiled in Professional silence, even if they entered the imagination of Professional men. Still, Dr. Marion Sims has but carried out minutely, and with many a detail which he probably would be glad to have spared himself, processes of fertilization.

Readers were so interested in Sims’ work that the journal felt the need to restate its position, in an attempt to stake out the boundaries of professionalism in gynecology. “We can but express our unfeigned regret that Dr. Marion Sims has thought proper to found an odious practice…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.”

The disgust expressed by this physician was indicative of a tension in the American medical community around male physicians entering into an arena that had been solely the purview of female midwives. In contrast, other physicians saw his methods as the epitome of rational scientific practice. They thought his “calm clearness of style…full and philosophical analysis” to be the highest standard of medical inquiry.

These radically different points of view are indicative of the tension surrounding a shift in

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105 *The Medical Times and Gazette*, 1 (1866), 133.


medical culture—from varied sectarian practices to “regular” medicine. Sims represented a new era of “scientific medicine” that shifted medicine away from individual case studies towards experimental approaches to solve medical problems. This would eventually culminate in the use of controlled clinical trials that were meant to test both the safety and efficacy of a procedure or therapy across multiple bodies/examples. A practitioner of this new “scientific” and surgery-focused era of American medicine, Sims kept meticulous accounts of both his singular successful artificial fructification and his many failures, providing detailed descriptions of the technology he used and invented for the procedure as well as the various physiological reactions to his diverse methods. Importantly, he also defined the condition that he was curing put differently, the physiological indications that would require a “uterine injection.”

Not yet a therapy for impaired male reproductive health as it would become in subsequent years\(^{109}\) the nomenclature of “uterine injection” points towards the organ being treated—the uterus—as well as who was considered a patient—the woman. Sims prescribed uterine injections to conquer the “mechanical obstructions [in women] that prevent the passage of semen to the cavity of the uterus” by leaping over the barrier of the cervix “throwing the fructifying agent right into the cavity of the uterus.” In his mechanical view of copulation and reproduction, neither pleasure nor sexual satisfaction mattered. Instead, the most important thing was that “the semen be deposited at the mouth of the uterus.”\(^{110}\)

\(^{109}\) Most physicians denied that male factor infertility was a common occurrence. James Whitehead, author of *On the Causes and Treatment of Abortion and Sterility* (Philadelphia: Lean and Blanchard, 1848), 346 said “The non-existence of the procreative power in the [male] sex [is], in reality, extremely rare.” As cited in Marsh and Ronner, *The Empty Cradle*, 273.

\(^{110}\) Sims, *Clinical Notes*, 193.
The examination of the word itself, “fructification” also reveals a focus on the female reproductive body and its ability to bear fruit, or be fruitful. The idea of fruitfulness as a descriptor for becoming pregnant reflects the lingering ideas of an older epistemology of *generatio* (akin to fruitfulness) not yet drowned out by the new language of “reproduction” that would dominate medical discourse by the twentieth century.\(^{111}\) The persistence of “fructification” thus marks the relatively slow transition between the former ideas of ovists focused on “generation” and the increasingly held nineteenth century view of shared heredity from both parents, in which the father was responsible for the child’s external musculature, skeletal development, and analytical abilities while the mother was responsible for the internal viscera, emotions and piety.\(^{112}\) But, when “fructification” is paired with its oft-used companion term “fertilization” other relationships emerge. Even more importantly than its links to generation were its associations to reproductive definitions borrowed from plant biology and horticulture,\(^{113}\) and as we will see shortly, a similar elision occurs with ideas from marine biology only a few decades later.\(^{114}\)

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\(^{111}\) Barbara Duden expert analysis of reproduction in eighteenth century Germany marks around 1850 as the moment in which “medicine, demography, and political science…replace the expressions of *generatio*—whether Latin or vernacular—with “reproduction.” Prior to this new definition there simply was no term in which insemination, conception, pregnancy, and birth could have been subsumed. Duden, 20.


\(^{113}\) Referring the reproduction of plants as well as the addition of nutrients “to fertilize.” For more on both methods see in the American context see Philip J. Pauly, *Fruits and Plains: The Horticultural Transformation of America*, (Harvard University Press, 2007).

\(^{114}\) Scholars are only just beginning to explore the relationships between agriculture, medicine, and artificial insemination. The first technology of conception to be used in both domains, the current literature that explores artificial insemination includes: an account of infertility treatment in Britain (Pfeffer, 1993), in the United States Herman’s 1981 agricultural account and Marsh & Ronner’s two recent works (*The Empty Cradle* and *The Fertility Doctor*) briefly discuss the subject. A new special issue entitled “Between the farm and the clinic: agriculture and reproductive technology in the twentieth century” in *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* (Volume 38, Issue 2, June 2007) has begun to address this gap. Contributing authors Christina Benninghaus, John McMillan, Sarah Wilmot, and Paul Brassley collectively argue that the history of
Sims was a physician who made it his business to try new procedures and invent new instruments to do so. These experiments and inventions secured him both profit and professional acclaim, although they were often fraught with problems regarding patient consent and autonomy. It is within this context that we can see Sim’s naming himself the first to attempt “artificial fructification” with success, as one in a long line of his investigative attempts into women’s reproductive functions. In this case however, the “fructified” patient in question suffered a “fright,” fall, and subsequent miscarriage in her fourth month of pregnancy. While Sims always emerged as an authority in his case narratives, Sims’ female patients were often depicted as problematic individuals and bodies to be conquered, a perspective broadly held by physicians. But, for Sims in particular, this point of view may certainly have been shaped by his early experiments on slave women in Alabama to cure vestiovaginal fistulas. Although ether had been widely known about since the 1840s, Sims claimed that his procedures (in which vaginal tissues torn apart in difficult childbirths were then surgically abraded and sutured shut to attempt to prevent urine leakage) “were not painful enough to justify the trouble and risk attending the administration.” Similarly, in his description of his experiments with uterine injection he shows little concern for his patients comfort when he tells his readers how he tried many variations of the procedure until finally deciding to limit the drops of semen he injected with his newly crafted syringe (Image 9) because “uterine colic” (painful cramps, contractions, or disease and infection) resulted from the practice.

artificial insemination shows a technology that flexibly moved between infertility treatment, population improvement, and industrialised agriculture and “inhabit[ed] a terrain between the farm and the clinic.” (Wilmot, 310).

115 Seale Harris, M.D, Woman’s Surgeon: The Life Story of James Marion Sims (1950), 109.
The women who came to Sims requesting the procedure, did so according to him, because they were all “too timid” to submit to the new “standard” operations for uterine obstructions that would enlarge the cervical os with “a short pointed knife.” Others, suffering from infertility related to vaginismus (painful intercourse) may not have agreed to other prescribed therapies in which the administration of ether to the patient was followed by their husband engaging in sexual intercourse with their prone body while they were unconscious. Instead, the women “accepted the uncertain alternative of uterine injection.” These first American women to experience “artificial fructification” were most likely patients from the free care section of the Woman’s Hospital in which Sims conducted his “experimental observations” and accordingly, were probably of lesser social status. Their status, however, was up for debate. Sims’ colleagues assumed that only women who were not “outcasts” but, rather from the wealthy classes where “real virtue has no home” would have pursued such a therapy.

Sims published his account in the hopes that it would serve as a guide to future physicians who had the “curiosity, leisure, courage, and perseverance to experiment future in this direction.” He envisioned, correctly as it would turn out, that future knowledge about how and when conception occurred would enable “mechanical fertilization” to become more widely practiced and successful. From a twenty-first century perspective, it is surprising that even one of his attempts was successful.

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119 Note: the term uterine injection did not appear subsequently but variations on “mechanical fertilization” did, i.e. Mosher in 1912 discusses “instrumental impregnation.” James Marion Sims, *Clinical notes on uterine surgery: with special reference to the management of the sterile condition* (Wood, 1867), 364-370.
considering he and his contemporaries believed that ovulation happened during
menstruation, that women were most fertile in the week after their period, and
embryologists still considered the meeting of sperm and ova to be “a mystery above the
ken of ordinary mortals.”

Sims’ method was widely publicized and by 1880 even
textbooks for general practitioners and advanced students of gynecology recommended
his method. Although Sims is a controversial character often defined by stereotypes of
callousness and unrestrained medical experimentation, his use of “artificial fertilization”
in some ways provides a new spin on this common portrayal. His experimentation with
the creation of medical instruments (including forceps) laid the groundwork for the
innovative new uterine injector, a device used seemingly at the behest of women patients.

In contrast to current histories of medical practice during the nineteenth century, in which
Sims and his fellow physicians always seem to be in complete control over their largely
female patients, this elective procedure was practiced even against the wishes of the
physician. The power women held over artificial insemination was more akin to the
power that women retained over what procedures they allowed the first generations of
male physicians in the birthing room to perform during parturition.

120 Gardner as cited in The Empty Cradle, 45.
121 Paul Fortunatus Mundé, Minor surgical gynecology: a manual of uterine diagnosis and the lesser
technicalities of gynecological practice: for the use of the advanced student and general practitioner (W.
Wood & company, 1880), 367.
122 In contrast to McGregor’s portrayal in From Midwives to Medicine of the women being punished by
Sims for their unruliness by conducting these inseminations, reading Sims account in conversation with
subsequent practitioners concerns about female patient’s power and autonomy over whether or not to
pursue assisted conception provides a very different understanding of these first office relationships about
artificial insemination. For discussions on “non marital insemination” see “Editorial: X-insemination,”
Western Journal of Surgery 53, no. 209 (1945).
123 Judith Walzer Leavitt found that throughout the nineteenth century women invited physicians to attend
during their delivery but would not consent to all of the procedures they suggested—from blood
letting to forceps. Marsh and Ronner also note that Sims more wealthy private patients often insisted on
particular forms of treatment (including AI) and rejected others (cervical incisions). Leavitt, 60. Marsh and
Ronner, 66.
The concerns that physicians had when a patient requested artificial impregnation, especially when the patients refused the physicians’ recommendation about another form of care (particularly an operative one), remained part of the decision-making process well into the twentieth century. These concerns shaped both practice, and by the mid-twentieth century, affected the politics of naming as “non-marital insemination” was suggested and then discarded by physicians for seeming to give to much power to female patients. The status of artificial fructification as a method in which women possessed some agency continued until the late nineteenth century. To Professor of Gynecology at Dartmouth Medical College, Paul F. Mundé, the power of patients to direct care remained a concern. Echoing Sim’s earlier commentary on recalcitrant female patients, Mundé warned that only after dilations, incisions, straightening and pessaries were tried to correct obstacles into the uterus or malpositioning of the cervix and vagina should “artificial fructification” be employed. Furthermore, only when the patient refused these procedures/techniques and “we are at our wits end to devise some means to gratify the patient’s desire for maternity” should “this manuver” be tried. Thus, artificial fructification was a therapy that was largely performed at the behest of childless women during the nineteenth century.

124 For Sims, women taking such an active directive stance in their gynecological care would have reeked of a trend in medicine that he was firmly against—the self-help movement. Distrustful of the kinds of heroic medicine practiced during the 1830s and 1840s, the growing self-help movement encouraged women to learn about how to treat their own ailments and promoted alternative therapeutic methods from Eclectics including; hydrotherapy, botanical medicine, and simple dietary regimens.

II. Efforts to Define Conception: Parthenogenesis and Evolving Nomenclature in Reproductive Science and Popular Culture at the turn of the Twentieth Century

Mirroring the changing terminology of “generation” to “reproduction” during the eighteenth and nineteenth centuries, the shift from “artificial fructification/fecundation” to “artificial insemination” was part of the twentieth century scientific and rational discourses that were meant to define abstract biological processes. The gendered stakes of debates about artificially engineering conception first became caught up in emerging discussions about “artificial parthenogenesis”—chemically induced reproduction without sperm. Then, the nomenclature of artificial insemination surpassed other terms as new scientific studies in urology investigated male reproductive health in relation to venereal disease. New definitions of fertility and the incorporation of semen analysis into diagnoses of infertility and thus, the choices physicians made to use insemination as a therapy were the ultimate result. It was not a seamless transition to “insemination,” however, and physicians continued to hotly debate both the role of the practice and the name of the procedure. Was AI a simulation of “nature” or a scientific improvement on nature? Should the name describe the tools used in the process or the process itself? Or perhaps, should the name reflect the eventual result—pregnancy? All sides were argued bitterly amongst AI practitioners. However, one of the final issues that solidified the nomenclature was a shift in practice in the twentieth century—the use of sperm from anonymous donors. As the research streams from experimental biology and urology collided with the use of sperm from outside the nuclear family, semen and

marriage jointly became the most important signifiers in the nomenclature, and “artificial insemination using husband’s sperm” (A.I.H) and “artificial insemination using donor sperm” (A.I.D) came to dominate medical diction in the interwar period.

Parthenogenesis

The concept of controlling conception became bound up in other terminologies and debates at the turn of the century as biology itself was undergoing a revolution. Jacques Loeb’s experiments with “engineering biology” and particularly, his discovery of “artificial parthenogenesis” were making headlines. By treating California sea urchin eggs with various salt solutions Loeb was able to spur embryological development without sperm. Historian Phil Pauly has argued that artificial parthenogenesis “represented an attack on the privileged status of natural modes of reproduction.”127 In contemporaries’ understandings of gradual evolution, a race of “fatherless sea urchins” was completely outside of the pale. What did it mean if with artificial parthenogenesis it was possible to separate the sperm’s function as initiator of embryological development from its role as the vehicle of male hereditary characteristics? For Loeb, and others in the emerging field of biology, it meant that fertilization was the ultimate site to explore the ability to control biological phenomenon.128

As the discussion traveled from scientific journals into popular ones, this question became one of significance for human reproduction as well, perhaps following Loeb’s own futuristic imagination. Loeb believed that the future of artificial parthenogenesis included the possibility for not only fertilization without sperm but also controlled fertilization with “foreign sperm,” sperm usually unable to initiate development (i.e.

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127 Pauly, Controlling Life, 98.
128 Loeb, 183.
across species), opening up the potential for hybridization. Sea urchins were only the beginning, Loeb announced while simultaneously pondering “whether we may expect to produce artificial parthenogenesis in mammalians…”¹²⁹

As Loeb’s dreams of artificial parthenogenesis entered the public imagination they were symbolically linked with artificial impregnation. The stakes of these overlaps ranged from the meaning of sex removed from reproduction to “mechanistic” intervention into reproduction. In the sixty popular women’s, popular science, and popular interest magazines tracked by Readers Digest, 35 publications on artificial parthenogenesis emerged between 1905-1914. This number would dwindle as publications on artificial impregnation rose between 1932-45 (31 in all) but concerns about the multiple meanings of parthenogenesis lingered as “artificial impregnation” transitioned to “artificial insemination” during the 1930s.¹³⁰ In the public imagination, the most important meaning for all of these terms was that they were in some ways interfering with “natural” processes of reproduction. Popular understandings of parthenogenesis appeared to closely reflect the Latin root of the word—a virgin begetting—albeit an assisted one. Loeb too, discussed artificial parthenogenesis as a conscious work to reconstruct the natural order, one in which biology would take its place as “an engineering science.”

The implications of inexact definitions for the process of conception were pointed out even before Loeb’s publication on parthenogenesis. Physician and professor Walter Heape (1855-1929) of Cambridge University’s School of Agriculture, the first scientist to transfer ova from one mammal to another (angora rabbits), expressed his frustration on

the continued, and in his mind erroneous, use of terms like “fertilization” or “impregnation” to describe the introduction of “the male generative substance” onto or into the “generative organs of a female plant or animal.” In an 1897 publication from the Royal Society of London he reported that some authors even assumed “that the female herself has thus become "fertilised," or "impregnated." He noted that this verbal flexibility led too easily to ideas like telegony—a theory of heredity that posited that offspring (human or animal) could inherit the characteristics of a prior mate of the mother. For example, a woman could hold some essential hereditary part of a prior mate that would emerge after subsequently mating with another partner—a kind of double fatherhood. Heape argued that both the mechanics of conception and meaning of heredity needed to be agreed upon by embryologists and biological scientists.

As far as is known, the female absorbs no essential part of the male elements with which she is supplied…the female herself is not fertilised by means of pollen or spermatozoa, and her ova are not necessarily impregnated in consequence of the introduction into her generative organs of the male element. It has seemed necessary, therefore, to make a distinction between the introduction of seminal fluid into the female generative organs of animals and the subsequent possible fertilisation of their ova, and for that purpose I have used the word “insemination,” which can thus be applied to animals in precisely the same way as the word "pollenate" is applied by some botanists to denote the placing of pollen on the stigma of a plant.131

Approaching the turn of the twentieth century, Heape was advocating letting go of the conceptual baggage associated with the terms used throughout the nineteenth century, “impregnation” and “fecundation” and “fertilization.” He felt a descriptor that encompassed the mechanical nature of the process was more apt, “in-semination.” He focused on the process (placing semen) rather than the result (fertilization).

To readers of *Readers Digest* and its publications, the terms artificial impregnation, fecundation, and fertilization continued to be common parlance until the mid-1930s, when artificial insemination rose to prominence. But, the term, if not its common use appeared much earlier in the medical literature. By 1890, artificial insemination was being cross-referenced to “fecundation.”\(^\text{132}\) All of the definitions that Sims employed—from making fruitful to making pregnant—were part of the understanding of “impregnation” by 1870.\(^\text{133}\) Nevertheless, the only term that physicians explicitly deployed to refer to the insemination procedure from 1890 through the 1920s was “artificial fecundation.”\(^\text{134}\) Medical definitions provide a key towards understanding how perceptions of artificial parthenogenesis could become muddled with notions about artificial fecundation or artificial fertilization. Parthenogenesis was often defined in the first quarter of the twentieth century as “a virgin begetting,” “asexual,” “self-fertilization,” or a “form of non-sexual reproduction … in which the female reproduces its kind without fecundation by the male”—all descriptions which privilege sex being removed from reproduction as the defining aspect of parthenogenesis.\(^\text{135}\)


\(^{133}\) From the Low Latin impreg’no, impregna’tum, to “make fruitful,” to “make pregnant.” The act of making or state of being, pregnant; fecundation.” Joseph Thomas, *A Comprehensive medical dictionary* (Lippincott, 1870), 273.

\(^{134}\) Definitions for artificial impregnation usually consisted of the following: “impregnation by artificial application of semen” or “fecundation brought about by the injection of semen into the vagina or uterus through a syringe or other instrument.” Billings *Ibid* and George Milbry Gould, *The Student's medical dictionary* ... (P. Blakiston, 1900).

juxtaposes these understandings to definitions of “artificial fecundation/insemination,” often defined as “fecundation induced mechanically” or “effected by injecting semen into the uterus by means of a syringe,” one can see how slippages across terms could occur. Was a woman pregnant via a syringe a virgin? Was artificial fecundation non-sexual reproduction? These questions loomed large for Americans as they confronted these ideas in popular and medical sources. As they did so, one object came to symbolize artificial interventions into reproduction, the test tube.

III. “Test Tube Babies” and the Impact of Lay Language

We have seen the historically varying meanings that terms like “artificial impregnation” can carry with them over time and how slight variations in nomenclature can denote large scale societal, scientific, or theoretical shifts. In this section, I examine how ideas about artificiality that resided in the nascent technical language of assisted reproduction during the eighteenth and nineteenth centuries emerged within ordinary language in the early decades of the twentieth century. Adele Clark, in Disciplining Reproduction, argues that ordinary (lay) language can have power and currency over an idea and a practice, often exceeding the impact of the more technical language of science and medicine. In what follows, I briefly track the origination of a term that has continued to hold broad popular cultural resonance for those who attempted to access, critique, and understand artificial insemination—“Test Tube” babies.

An unwritten part of the history of artificial insemination is intimately linked with the use of test tubes in gynecological practice. As one can see in Graph 2, the term “test tube baby” was used from at least 1900 onwards, although its use increased rapidly leading up to the moment and procedure that is more classically referenced as the birth of
the “test tube baby” phenomenon today, the birth of Louise Brown in 1978 and the dawn of in vitro fertilization (IVF). For a sense of scale in relation to the other terms analyzed thus far, Graph 3 shows both the increasing practice of and popular interest in IVF from this moment onwards and the precipitous rise in the term artificial insemination from 1940 until 1960 (the focus of the final section).

The idea of test tube babies is usually thought of as originating with Aldous Huxley’s *A Brave New World* (1932), a dystopian novel whose pages open at a “hatchery and conditioning center” where sperm, ova and eventually embryos and babies are stored and grown within the confines of their glass tubes to create specific classes of humanity. Hearkening back to the “baby factories” of concern to French society, in this new context the “hatchery” was a critique of the removal of sex from reproduction and the hedonism and consumerist mass culture emerging in the interwar period. *A Brave New World* also represents interwar America and Britain’s fascination with science, eugenics and social intervention as well as how deeply ideas of parthenogenesis and stories of artificial insemination had circulated globally. Two short years later in his landmark publication in English, *Test tube babies a history of the artificial impregnation of human beings* (1934), German émigré and gynecologist, Hermann Rohleder noted not only that artificial impregnation was “the one procedure which still remains and may serve as the last anchor of hope for the disappointed woman” but also that it “is commonly referred to as Test Tube Babies in English-speaking countries.”136 Popular sources reflect Rohleder’s observation in 1934 and in the years following headlines for newspapers, journals and magazines announced the arrival of test tube babies with perspectives

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ranging from the salacious “13 Babies in New York Have Test Tube as Father!” to the
sober, “Test-Tube Babies, A Medico-Legal Discussion.” However, test tubes
significantly predate Huxley’s publication and such 1930s discussions. By tracing the
tubular object itself and its use in assisting reproduction alternative origins and
understandings of “test tube” reproduction emerge.

One of the first instances in which the term “test tube” was linked with artificial
insemination occurred in 1912. Although not a “test tube baby,” the test tube was an
integral part of the process of artificial impregnation. In the spring of 1912, Brooklyn
physician Eliza Mosher had been given the important job of leading the discussion on
sterility at the Women's Medical Society of New York State’s annual meeting in Buffalo.
She chose to instruct her audience on a “field peculiarly adapted to women in medicine,”
the history, results, and practice of “Artificial Impregnation.” To her it had “long seemed
not only a proper procedure, but one offering results far-reaching and of the greatest
importance.” Her detailed description, read at the symposium is revealing not only of
what the initial meaning of “test-tube” in relation to assisted reproduction might have
been (that of a heated helper for sperm within the vagina) but also of the technical and
social maneuverings that occurred within the physicians’ office space.

My own technic is as follows: I give careful instructions to my patient regarding
the aspetic collection of the seminal fluid. Warm sterile water and a sterile well-
covered receptacle (an ointment jar is as good as any other) are placed in
readiness in my office dressing room. My patient meets her husband there and
brings me the seminal fluid in a warm bath to maintain its temperature. I place
her on the operating table … the speculum is put in place, and the vagina and
cervical canal well wiped with cotton. A sound is then passed through the cervix
to make sure the canal is open and to ascertain the direction of the uterine cavity
at the moment….With a Braum's intra-uterine syringe the semen is carefully

instilled into the uterine cavity. The vagina is filled with the fluid and a “test tube,” containing very warm water and closed with a cork, is inserted into the vagina a couple of inches to promote by heat the activity of the spermatozoa. After a half hour the test tube is removed and the vaginal injection is repeated. I permit the patient to remain in position an hour or an hour and a half before she goes home.\textsuperscript{138}

This case presents a radically different vision from the “test tube babies” of later years in which the test tube is a reference to life created life external to the human body by mixing sperm and egg in a test tube. Instead, this early example suggests that test tubes played an important role in the internal process of insemination.\textsuperscript{139}

Neither the utilization of heat to augment male fertility nor the use of test tubes in insemination attempts was novel in nineteenth and early twentieth century medical practice. Sims and others had also noted the relationship between temperature and liveliness of sperm. In his words, even the slightest variation of temperature, whether too hot or cold were “inimical to the life of the spermatozoa.”\textsuperscript{140} In the late 19th century, irregular practitioners too argued that warmth, applied to the genitals, as one enterprising doctor recommended, through an electrical “curative belt,” would aid in sperm production.\textsuperscript{141} Other physicians used the test tube in a manner more similar to current practices, as a collection device, albeit a one more intimately in contact with female and male bodies. In the first, the husband was given a sterile test tube, dry and corked, in

\textsuperscript{139} It is also possible that the glass tube within 19th and 20th century uterine syringe housings, removable for cleaning and filling purposes, became symbolically associated with artificial insemination.
\textsuperscript{140} James Marion Sims, \textit{Clinical Notes on Uterine Surgery: With Special Reference to the Management of the Sterile Condition}, (Wood, 1867).
\textsuperscript{141} William A. Hammond, \textit{Sexual Impotence in the Male and Female}, (Detroit, Davis, 1887) as cited in McLaren, 135.
which he would “secure a friction specimen” an hour before the impregnation procedure. He was then instructed to “keep the tube warm but not hot…in a Thermos bottle” but above all to “verify by telephone a successful production.”

Whereas for women, the test tube could also be a collection device inserted into her vagina directly after coitus.

Where autoerotic or cover processes [collection via condom] completely inhibit, a specimen may be obtained by slipping the mouth of a sterile test tube within the opened labia immediately upon withdrawal…By such methods of collection semen can be secured in quantity in those instances where a man avers that he is desirous of having children but refuses to take the steps necessary to prove that the fault is not his. Some such plan is necessary when he asks for or consents to operation on his wife but declines an essential preliminary, since no surgeon nowadays is excusable for any operative measure or any gynecologist for a course of treatment on a woman for sterility until a good quality of male product can be certified.

In Dr. Dickenson’s method of internal collection of sperm for testing the test tube could conquer male partner’s reticence to question their own virility. Many physicians reported the recalcitrance of husbands towards testing with exasperation from the turn of the century to today. The test tube was such an important part of the process of artificial impregnation that it was even featured prominently in instructional drawings of the procedure (Image 10).

These early uses of test tubes in artificial impregnation hint at a radically different etymology for the idea of “Test Tube Babies” than the fictional Brave New World. They remind us that lay language and experiences can infiltrate cultural understandings of biomedical procedures in unexpected ways. The terminology of “test tube baby” and

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143 Note: the insertion of a test tube into a vagina was also used until the 1930s as a treatment for painful coitus by slowly increasing the size of lubricated test tubes inserted to dilate the vagina before attempting intercourse. Paul Titus, Diseases of women for the general practitioner, (New York N.Y., National Medical Book Co. Inc., 1937), 280-81.
145 See Marsh and Ronner, The Empty Cradle, 102 for more on this behavior.
“artificial insemination” reveal the very different perspectives and foci of physicians and lay audiences—patients and society focusing on the experience and the outcome (the test tube and the baby) and physicians focusing on the intervention (the insemination). In addition, they also point towards broad cultural concerns about early twentieth century life, a precarious balance between the fear of intervening too greatly in “nature” and the hope that doing so would lead to the betterment of the human condition.

IV. Putting the Semen in “Artificial In-Semin-ation:” Urology, The American Family, and Terminological Consensus

The medical and symbolic function of the procedure shifted in the late 19th and early twentieth centuries as “insemination” surpassed “fertilization” and “fecundation.” A broad range of sources—medical, popular, agricultural, and biological—illustrates this dramatic terminological shift in Graph 1. At the turn of the century increasing knowledge about the role of male sterility in infertility coincided with a new specialty in male “genitourinary” diseases (soon to be Urology) to manage male sexual and reproductive health. Coupled with the birth of anonymous sperm donation as a procedure, the multiple meanings and terms associated with the practice coalesced around artificial insemination (by donor/by husband). In Chapter 2, I will explore in greater depth how in the decades before WWII, eugenic discourse, the status of specialized medicine, and new expectations about the role of sex and desire in marriage allowed artificial insemination to migrate from the lab into the clinic, becoming a positive eugenic tool for the remaking of modern society and modern families. What follows here is an examination of the impact of some of these changes on arguments about what naming artificial insemination meant to a broad host of historical actors.
Urology Journals began to publish opinions and research on artificial impregnation by 1915. As a specialty, urology primarily concerned itself with male physiology and the treatment and etiology of sexually transmitted diseases, particularly syphilis and gonorrhea. By the turn of the century, a new public health movement argued for public education about perils of venereal disease (particularly for women and children within marriage) and explored experimental therapies to combat resulting fertility issues. Venereal disease came to be understood as the leading cause of sterility in the early twentieth century. The effects on women were well studied but urologists discovered that in men, gonorrhea caused pain during sex and urination, sores, and decreased or absence of sperm production.146

As Americans entered World War I, controlling venereal disease became an important part of the war effort. As will be discussed in greater detail in the chapter that follows, urologists went with the American Expeditionary Forces to provide medical care and manage efforts to control the sexual health of the army. From condoms to court-martials, urologists treated young “doughboys” and expanded the status of the specialty. Focusing on male bodies, it is not surprising that urologists saw semen as a mode of disease transmission and a vehicle for infection. This perspective led to a transition in the classification and study of spermatozoa with special attention to the affects of disease on reproductive outcomes. Although gynecologists, like Gerard and J. Marion Sims, in the 19th century who performed artificial insemination attempted to check husband’s sperm under a microscope before proceeding with an insemination, their estimations of the potential of sperm to be effective in conception were rough using classifications like

146 The link between gonorrhea and consistent Azoospermia in men was made as early as the 1880s as discussed in the Noeggerath debate in Marsh and Ronner, The Empty Cradle, 90.
weak, average, excellent. It was not until World War I that urologists moved towards a more systematic definition of normal/abnormal sperm. A result of increasing funding and research in the biochemistry and physiology of sperm as well as access to male bodies, these spermatic understandings also resulted in new methods to alleviate sterility—and it was in this context that donor insemination emerged.

Gerald Moenches’ 1929 publication on the structure of sperm in humans, a landmark in the field, is indicative both of the new power of urologists in the care of the infertile and also the implications of these investigations on the widening practice of artificial insemination. Moench defined what “normal” sperm would be—basing their definition on the number of sperm per cubic centimeter, their morphology, movement and viscosity. This classification was integral for discerning whether a man could achieve parenthood via artificial insemination or would need to use donor sperm. By the 1940s, Moench and others work enabled urologists to pronounce that only ejaculation specimens that contained above 60 million sperm per cc with no more than 15% immobile or 20% abnormally shaped were potentially fertile, and candidates for AIH. These definitions would expand to include, normal seminal plasma viscosity and normal volumes ½ to one teaspoon per ejaculation.

147 Samuel Raynor Meaker, Human sterility; causation, diagnosis, and treatment: a practical manual of clinical procedure (The Williams & Wilkins Company, 1934). By 1941, fertility specialist and professor of obstetrics and gynecology at New York Medical College, Aber Weisman could declare that due to the work of Moench, Williams, Meaker, Cary, Hotchkiss, Huhner Seguy, Ivanov, and others the role played by spermatozoa in sterility had become clarified and that “one of the most recent advances in sterility testing has been the gradual evolution of a scientific appraisal of semen, x, 52.
149 However, these emerging definitions of male fertility were always used in concert with the Huhner postcoital test, in which samples sperm samples were retrieved from various locations within the female reproductive tract to ensure that “hostile secretions” were not damaging them post-coitus. Emil Novak, Textbook of gynecology, 2nd ed. (Baltimore: The Williams & Wilkins company, 1944). John MacLeod, “Human Semen,” Fertility and Sterility 7, no. 4 (August 1956), 368-386.
Using these new classifications, gynecologists and urologists individually, and sometimes collectively, could wrestle with the idea of using sperm from another man to help a couple achieve pregnancy. The genesis of this new terminology and practice remained hotly contested however—especially as it confronted (by the 1940s) ideas about heredity from the biological sciences and the eugenics movement, fears of “race suicide” and immigrant hordes on American shores, but most of all about the meaning and status of the American family.

As the meaning of marriage and usefulness of eugenics were battled out within medical journals and in the meeting place of popular and professional cultures, physicians’ examination rooms, other terms emerged briefly but never gained traction. These terms left by the wayside are particularly revealing of the politics of a contested landscape of language. Some physicians, including Dr. Frances Seymour who catapulted artificial insemination into headlines across the nation with her 1936 Marriage Hygiene article on “eugenics in practice” suggested that “artificial cross insemination” was best suited to explain the kind of “cross pollination” that occurred when donor sperm was used. Others concluded with that “X-insemination” was apt because it could denote an unknown person as donor (the X equating to unknown). X- or cross-insemination was also deployed to denote cross breeding to eugenically improve the resulting child as well as to highlight the unknown, or private nature of donation.

Terms like “insemination by foreign donor” were shot down in an editorial in the *Western Journal of Surgery* because readers were concerned that “foreign” might be mistaken to mean a foreign-born donor—most particularly disturbing would be if the

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donor hailed from Italy or China. The same editorial, when analyzed by Dr. A. Schellen in his foundational text, *Artificial Insemination in the Human* (1957) added that “non-marital or extra-marital artificial insemination” seemed “less dubious” than “foreign donor” because using “insemination by foreign donor” could refer to the standard ideal patient (a married woman who used donor sperm) but could also encompass a meaning in which an unmarried woman used the practice. In 1954, Dr. Wendy Stewart advocated using “exogamous artificial insemination” when donor sperm was used and “endogamous artificial insemination” when a husband’s semen was used. In other words, she was using endogamy, the practice of marrying within one’s class, religious, or ethnic group to refer to reproducing within one’s marriage. Although, considering the persistence of eugenic language and ideas into the postwar era her meaning might well have included a broader definition. Concerns of the specialty doing the naming also influenced terminological choices. In one of the most important urological articles on insemination urologists Brodny and Rosen argued for “insemination” to change to “trans-semination” drawing on their wartime experiences with blood transfusion, or put differently, the trans-fer of fluids across multiple bodies. They were also horrified that “heterologous insemination,” in a nod towards heterologous organ transplants (transplants from one species to another) could be taken to mean non-human semen. “Heterologous insemination,” a new name for Loeb’s “foreign sperm” and dreams of hybridization, in this new context brought horror rather than scientific interest.

Even as late as the 1950s, the nomenclature continued to evolve and be contested. Some physicians endorsed classifications that showed less concerned with who the sperm

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came from but rather *where* it was acquired, inside or outside the woman’s body.

“Insemination *ab extra*” could denote semen collected outside the body and introduced by a syringe or tampon into the body. Whereas, “insemination *ab intra,*” also referred to as “assisted insemination,” indicated a particular method of insemination in which semen deposited in the genital tract during sex, was extracted post-coitus and helped along to “higher” regions using an instrument.\(^{154}\)

By the late 1940s these arguments diminished and the terminology began to coalesce in the American literature around a dual classification—artificial insemination using a husband’s sperm (A.I.H) (sometimes known as homologous or “being of the same kind” except in this case the kind refers to the traditional biological family) and artificial insemination using semen from a donor (A.I.D). By 1956, the most widely cited book on artificial insemination would use this two-fold classification. Husbands and donors became highlighted in the biomedical classification during a period when the *New York Times* and *Chicago Tribune* splashed across their front pages the first divorce and custody cases entering the state courts about the status of children born of AID and the meaning of motherhood and fatherhood in these families. This final vocabulary shift reveals what aspects of the procedure held the greatest significance for post-War American society, the meaning of family relatedness and the status of marriage.

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By the post-World War II period the first form of assisted conception had coalesced as an idea and practice under the umbrella term of artificial insemination. Its

trajectory ranged from 19th century discussions about treating female infertility with the new mechanical wonders of the industrial age, “artificial fructification” and “artificial fecundation,” to the treatment of a new diagnosis of male sterility by urologists using “artificial insemination by donor.” It also saw the dawn of new lay terminology of “test tube babies” reflecting the unsettled place of assisted reproduction in the public imagination and a wide range of uses for test tubes in insemination attempts.

The early history of the practice and naming of “artificial insemination,” in which boundaries between humans and technology, production and reproduction, women and men, natural and artificial occurred also raises questions about the prevalent periodization of “postmodern” reproductive technologies—a moment usually linked to the advent of IVF in the late twentieth century. Exploring nomenclature and other controversies between reproductive scientists, practicing physicians, and the infertile couples they attempted to help over a long span of time presents a different periodization for the shift of these binaries within scholarship on reproduction. It also offers a unique perspective on the continuities within the history of assisted reproduction—from the social implications for masculinity when sex is removed from reproduction and the perceived artificiality of this separation to the unchanged nature of the basic act of the oldest form of reproductive assistance, the injection of sperm via syringe to aid in conception. The scope of the investigation also exposes the discontinuities, including the sanctioned use of sperm from a donor and understandings of family relatedness and parenthood. More broadly, the evolution of the nomenclature of “artificial insemination” serves as a window into the complex shifts in medical knowledge about reproductive bodies, the relationship between specialties around an emerging therapy, and the concerns of
societies about gender and reproduction as physicians, families, and eventually sperm donors collectively gave birth to a practice that created an estimated 10,000 American “test tube babies” by World War II.155

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155 Frances I. Seymour and Alfred Koerner, “Survey of Artificial Insemination,” *N.Y. State Medical Journal* 40, no. 1772 (1940), 2747. Earlier studies estimated that there were somewhere between 1000-3000 requests per year for artificial insemination but that the possibility for the technology could be as high 10,000-20,000 babies born per year using donor sperm if the proper clinics were created. John Harvey Caldwell, “Babies by Scientific Selection,” *Scientific American*, March, 1934.
Graph 1: Incidence of Reproductive Terms, 1800-2000

Graph 2

Graph 3

Image 1: Disrupted Reproductive Equilibriums

Source: Gerard, p. 296

Image 2: Woman Hugging Sperm

Image 3: Men as Sperm

Source: Ibid.

Image 4: Postman Bringing Babies

Image 5: The Purchase Arrives

Image 6: The Happy AI Family

Source: Gerard, 319, 322, and 344.
Image 7: Dupont Portable Insemination Stirrup  
Image 8: Seen in situ—Attached to Patients Bed

Source: Gerard, 387-388.

Image 9: Sim’s Syringe for “Mechanical Impregnation”


Image 10: Drawing of Artificial Impregnation (Method 2).

Chapter 2

“Ghost Fathers” in “A Brave New World”: Eugenics, Sexuality and Artificial Insemination with Donor Sperm, 1900-1942.

In the years immediately following World War I, artificial insemination along with discussions of the characterization of sperm and the role and efficacy of hormones in reproduction migrated out of laboratories. As it did so, it bore a new clinical name, “artificial insemination,” and began to be increasingly used in the clinical care of the infertile. During this migration the character of the procedure changed to reflect new understandings of “rational” scientific and medical discourse, most particularly eugenic theories. These powerful discourses influenced not only how patients chose to imagine a use for artificial insemination but also how physicians set up parameters around selecting appropriate patients and donors.

This chapter analyzes the changing relationship of physicians, infertile patients, biologists, and others counseling about artificial insemination to the shifting landscape of early 20th century eugenics with its racial overtones and undercurrents. Different actors argued about the creation and role of a “eugenic baby” or “eugenic sperm donor” for society and for families. Arguments ranged from utopian dreams of social and racial betterment expressed by biologists immersed in the new science of genetics and “liberal eugenics” of the 1930s to the personal understandings of eugenic health and eugenic families expressed by American gynecologists and the men and women who considered having a “scientific” baby. The next chapter will offer a deeper analysis of the incredibly intimate moments in which individuals and couples aspired, and often conspired, to become parents using “Eugenic cross insemination” in greater depth. Instead, the focus
of this chapter is on the contentious creation of a set of medical “best practices” around
donation that once formulated would reverberate in future decades of artificial
insemination. These practices of identifying appropriate donors and matching them to
particular patients emerged in the turbulent era prior to World War II. At this moment, a
confluence of eugenic ideas, the status of specialized medicine, and broader cultural
changes about the role of desire in sex and marriage, together allowed artificial
insemination to emerge as a positive eugenic tool for remaking society and modern
families.

In the first section, we will look at how artificial insemination became entangled
with key concepts and figures in the birth of modern biology—genetics. Genetics came
to be used in service of a wide variety of eugenic projects in the early twentieth century.
The hereditary principles upon which this new field was based then migrated into the
practice and goals of “positive eugenics” by the 1930s. Scholars like Wendy Kline have
persuasively argued that gender played a central role in the eugenics movement in that it
offered new ways to understand sexuality, reproduction, and “the role of men and women
in society.”156 On the one hand, this chapter builds upon this concept by analyzing how
artificial insemination, for many the ultimate eugenic tool, became a locus of medical
activity because of rampant anxieties about the status of men in heredity, the roles of
sexual desire in society, and of reproduction in marriage. It shows how eugenics
penetrated all arenas of American society, even the most intimate spaces of family and
sexual life. Ultimately, eugenically informed AI reformulated the relationship of kinship
to genetics and biology using the practice of sperm donation. On the other hand, the

156 Wendy Kline, Building a Better Race: Gender, Sexuality, and Eugenics from the Turn of the Century to
chapter considers how artificial insemination first became a tool in the biological sciences—used to control breeding populations for the study of heritable characteristics and to study the moment of conception itself. And then, how it migrated from the labs of reproductive biologists into the hands of urologists as a new clinical solution for sterility.

I. Controlling Heredity: Biology, Eugenics, and Artificial Insemination in the Early Twentieth Century

At the turn of the twentieth century the idea of eugenics was diffuse and remarkably flexible. The goals laid out by Francis Galton as early as 1883, were to improve the human race through better breeding, to impose control on the “grand phantasmagoria” of the wild evolutionary process. In so doing, the reproduction of the fittest human beings (what he called positive eugenics) and the prevention of the unfit (negative eugenics) could be achieved in a manner that was much quicker and kinder than the blind and ruthless processes of nature.157 By the first three decades of the twentieth century these ideas were enacted in a wide variety of programs to control human reproduction—one of the most basic sites of human experience. Proponents of eugenics attempted to change reproduction in an assortment of ways at various times: to prevent life (contraception, abortion, compulsory state sterilization laws), to increase the “fitness” of life (public health reforms, child rearing practices, eugenic marriage counseling, immigration restrictions aimed at those who might pollute the American “germplasm”), to create more life (pronatalist policies, treatment of infertility) or to end life (euthanasia of the disabled or the “unfit”). As one might imagine, different actors used these theories to intervene on many bodies and processes—from psychiatrists advocating for sterilization to public health officials sponsoring “better baby” contests. It is not

surprising then, that artificial insemination, with its focus on treating infertility and creating new life (albeit of a particular kind and for a particular parent), became bound up in eugenic endeavors in the early twentieth century.

Eugenic ideas were popular and enjoyed the support of a broad spectrum of American society in the first decades of the twentieth century. Birth control advocates like Margaret Sanger, religious leaders, and social scientists all wanted to solve the social problems within American society. Eugenics offered hope and answers to the perceived problems of large numbers of new immigrants from southern and eastern Europe; urbanization; economic depressions and industrialization. Family life, what was seen as the very bedrock of the American commonwealth, was under attack argued leaders of public opinion like President Theodore Roosevelt. In the early twentieth century women of the American-born middle class (particularly Anglo-saxon Protestants) were shirking their duty to society to bear children, opined Roosevelt and his reformers with alarm, citing rising numbers of never-married women and childless (American-born) wives.¹⁵⁸ In December of 1903 President Roosevelt announced to Congress and the nation his new cause, a cause that was to be guided by eugenic ideas.

Surely it should need no demonstration to show that willful sterility is, from the standpoint of the nation, from the standpoint of the human race, the one sin for which the penalty is national death, race death; a sin for which there is no atonement; a sin which is the more dreadful exactly in proportion as the men and women guilty thereof are in other respects, in character and bodily and mental powers, those whom for the sake of the state it would be well to see the fathers and mothers of many healthy children, well brought up in homes made happy by their presence.¹⁵⁹

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¹⁵⁸ For an excellent discussion on these “shirking” women see Elaine Tyler May, *Barren in the Promised Land*, 78-82.
New professional societies began to emerge to guide the discussion and implementation of eugenic policies and ideas including the British Eugenics Education Society (1907) and American Eugenics Society (1921). A wide range of disciplines including; psychology, anthropometry, biology, anatomy, genetics, religion, education, politics and law collaborated in these forums towards progressive eugenic reforms.\(^{160}\) Similarly, the history of artificial insemination in this era as it becomes a technology of eugenic significance reflects a remarkably varied utility to a diverse array of actors, both scientific and nonscientific.

The idea of control remained central to all of the reports about artificial insemination. In 1912, newspapers worldwide announced “Life [Has Been] Artificially Created.” University Professor at University of Munich and Privy Councillor Doderlein had, using artificial insemination, created a successful pregnancy in a married woman, 24 years of age who was already four months along. The papers intimated that the procedure might soon be available in America. The articles assured American readers that Prof. Doderlein had trained many “American women specialists.”\(^{161}\) Papers followed up a month later stating that Prof. Doderlein had just published an account of his experiments on women along with reports of AI experiments on “blooded horses” by Russian scientist, J. Ivanoff.\(^{162}\) Researchers in the US were quick to announce their own experiments with AI—although not on human subjects. On June 17, 1912 newspapers announced that Pennsylvania University scientists could “Produce Life By Artificial

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\(^{160}\) MacKenzie, “Eugenics in Britain,” 523-527 and Stefan Muller, [forthcoming].

\(^{161}\) “Life Artificially Created.” *Charlotte Observer*, June 24, 1912, 2.

Means.” Funded by the Rockefeller Institute, scientists experimented with inseminating guinea pigs, bringing 3 to term. However, these findings showed little hope for human adoption of AI as University of Pennsylvania “men of science” reported that the resulting offspring were noticeably smaller than “natural” guinea pigs and that two died quickly leading them to conclude that “certain of the diseases of infant life were produced by artificial means.”

Clearly, these reports offered a less optimistic vision than the one reported from Germany. American medical textbooks on gynecology and urology echoed a lack of enthusiasm or hope for AI during this period. They pessimistically thought that “artificial impregnation” would probably never become popular because sperm needed to be transferred so quickly and many attempts were often needed before pregnancy occurred.

Being able to control how heredity occurred was crucial, especially to eugenicists, because of the growing power of the concept of innate hereditary characteristics. At the turn of the century the field of biology was undergoing a revolution. Biological theories of heredity were shifting from a Lamarckian perspective to an overwhelmingly Mendelian perspective. This change affected both biologists and lay eugenicists. Lamarckianism, often known as “soft inheritance,” was a theory that purported that an individual could pass on characteristics to its offspring that it acquired during its life. An

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163 “Produce Life by Artificial Means—Pennsylvania University Scientists Succeed in Raising Three Guinea Pigs—Will Make Report,” *Grand Forks Daily Herald*, (July 17, 1912), Vol. XXXI, Issue 224, 4. Note: There had been previous reports on successful animal experimentation with AI. For example, see “Draft Stallions,” *Bismarck Daily Tribune*, July 27, 1900, 3 and “Oysters Reared by Hand. Propagation of the Succulent Bivalve has Been Successfully Accomplished by Naturalist,” *The Biloxi Daily Herald* February 11, 1904, Vol. VI, Issue 153, 5. However, for the purposes of this paper I will refrain from delving too deeply into the development of AI in animal husbandry.


165 This was a complicated process however, and in the 20th century some American eugenicists continued to support the theory of inheritance of acquired characteristics from the environment (Jean Baptiste de Lamarck’s theory). For more on these ideas see Alexandra Minna Stern, *Eugenic Nation*, (2005), 131-134.
acquired characteristic (or characteristic that was lost through disuse) was the means by which species adaption took place. Whereas Mendelian theories, “hard inheritance” claimed that traits were passed through what came to be known as genes, and were entirely independent of the external environment. The proof of this theory was based on the work of Gregor Mendel who after meticulously controlling the reproduction of pea plants, forwarded laws of segregation and independent assortment that predicted the expression of traits using mathematical probabilities. To ensure that that the calculations of hereditary traits were correct, however biologists needed to control and monitor the moment of conception, and it was in this capacity that artificial insemination was deployed as a tool.

Well known eugenicists like Paul Popenoe clearly articulated the weight heredity was assumed to bear in shaping the next generation in his publication *Applied Eugenics*, first published in 1918 and again in 1935. In its pages he lauds the work of Dr. Barbara S. Burks who studied the development of children adopted at birth into families that already had biological children (the biological children were their control group). Burks estimated that “differences in intelligence among children are due, to the extent of probably 75% or 80%, to heredity.”166 In other words, the role of heredity in creating healthy, attractive, intelligent people was much more important than the familial environment in which they were raised. In terms of evolutionary theory this represented a hardening of perspectives on how characteristics were passed—hereditary selection surpassed adaption as the means of genetic change.167 Hereditary scientists pointed to diseases like Tay-Sachs (then known as Jewish amaurotic idocy) or the “inherited

criminality” found in the pedigree studies of the infamous Jukes family to argue for the hereditary differences between the “races.”\(^{168}\) Hereditary “racial” characteristics however, also encompassed such categories as “drunkenness”, poverty, and “feeblemindedness.”\(^{169}\) The balance between the nature/nurture debate had tilted towards “nature.”\(^{170}\) Controlling heredity, whether through sterilization or insemination, therefore became increasingly important to eugenically minded reformers. As the debate shifted, new scientific and medical actors became entangled in these debates.

II. “Now we see, as in a speculum, darkly”: Medical Specialization and the Struggle for Artificial Insemination to find its Institutional Home

As interpreters of “nature,” not only scientists but also physicians began to hold newfound power to speak publicly about issues that had primarily remained unspoken or private in the previous century—sexual behaviors, birth control, and infertility. During the first decades of the twentieth century, organized medicine was undergoing vast changes in status, its relationship with government, the formation of specialties, and in its connection to pressing social issues like reproduction. Medical education was reorganized and became more strictly regulated after the infamous Flexner Report of 1910, waves of epidemic disease were being managed by new therapeutics like the antitoxin for diphtheria and sexually transmitted disease too, became more manageable

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\(^{169}\) Daniel Kelves’ discussion on the relationship between sexuality, “feeblemindedness,” and compulsory sterilization is particularly revealing of how broadly genetic characteristics were conceived. Daniel J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity*, (University of California Press, 1985).

with the development of Salvarsan for syphilis in 1910. Many physicians were on the front lines of the new public health movement and served as healers during World War I. However, not all of the new specialties held equal power during or after the War. This section will track how new regulations and new specialties, like urology and old, gynecology, impacted the conversation on artificial insemination. The often messy, disputed, and overlapping boundaries between disciplines (biology, agriculture, sociology, psychology, urology, and gynecology) are pivotal to understand their roles in attempting to shape the bodies of future generations.

Scholars like Adele Clark, Sarah Wilmot, Susan Schrepfer and Sarah Franklin have pointed out that reproductive knowledge, expertise and services circulated between the agricultural and medical spheres.\(^{171}\) Artificial insemination, as the first widely used conceptive technology, sat firmly between these spheres, and was part of both the negotiation across them as well as the sharing of ideas about the improvement of populations, both human and animal. Historian Christina Benninghaus has investigated how artificial insemination in early twentieth century Germany traveled back and forth between the laboratory and the clinic. *Künstliche Befruchtung* (artificial fertilization) was used to refer to the mixture of milt and roe in fish farming by the second half of the nineteenth century and by 1912, to reference the experiments of Russian specialist Elias Iwanoff (sometimes Ivanov or Ivanow in English) on horses and cows. At the same time physician and sex expert Hermann Rohleder’s (as well as the aforementioned gynecologists Albert Doderlein’s) work on humans was discussed in medical texts, legal

court cases, and popular forums—newspapers and magazines throughout the 1910s. Benninghaus notes the different discourses associated with biology, veterinary science, law, and medicine “overlapped and mingled” and that most articles on AI “deliberately alluded to this crossover of meanings.”\(^{172}\) She goes on to note that artificial insemination on humans was not tested systematically and remained virtually useless until the interwar years.

In the United States, the relationship between practice, success, and knowledge about artificial insemination is difficult to parse out. However, it appears to mirror the German story in many ways not surprisingly, as many American physicians avidly read German journals like *Centralblatt für Gynäkologie* and translations of German gynecologists and urologists in the *American Journal of the Medical Sciences* or the *American Journal of Obstetrics and Gynecology*. Success using artificial insemination was also largely restricted by basic knowledge about what period within a woman’s menstrual cycle was most fertile.\(^{173}\) Even as late as 1934, the leading book on artificial insemination published in English by Rohleder outlined that the best moment for conception was during menstruation. In an entire chapter dedicated to “Artificial Fecundation Should Be Undertaken After Sexual Relations and During Menstruation” he argued that “the absence of alkaline secretion in the cervix” retards conception. Rather

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\(^{172}\) Christina Benninghaus, “Great expectations—German Debates About Artificial Insemination in Humans Around 1912,” *Studies in History and Philosophy of Biological and Biomedical Sciences* 38, no. 2 (June 2007): 377-78.

\(^{173}\) The first step in identifying when ovulation occurred in a woman's cycle was the pioneering work of John Rock. In 1937, he published his landmark study "Biopsy Studies of Human Endometrium: Criteria of Dating and Information about Amenorrhea, Menorrhagia and Time of Ovulation" in *JAMA*. By testing the endometrium (the lining of the uterus) he announced, one could begin to see changes in the tissue after ovulation had occurred. Accurately predicting ovulation beyond the rhythm method did not become more widespread until Goring published his work on the relationship between a sharp increase in a woman's basal body temperature and ovulation in 1967. GK Döring (June 9, 1967). "The reliability of temperature records as a method of contraception (Über die Zuverlässigkeit der Temperaturmethode zur Empfängnisverhütung)," *Deutsche medizinische Wochenschrift*, 92 (23): 1055–1061.
than “call forth such a secretion in the woman artificially” by exciting her sexually or through the difficult, albeit natural excitation caused through “cohabitation” with the husband—one must “undertake artificial fertilization during menstruation.” However, as contemporaries who were reading the latest research in the 20s and 30s on the discovery of “ovarian hormones” (estrogen and progesterone) and their role in reproduction along with the ability to track the female reproductive cycle using vaginal smears well knew, this would be the least likely time for conception to occur.¹⁷⁴

Often American physicians did not comment on when the best time to attempt an insemination was. Physicians, like Sims in the former century, had bemoaned their lack of knowledge about “the proper period of conception” and so had tried uterine injections before menstruation and from two to seven days after menstruation had ceased. By 1903, other gynecologists hypothesized that insemination (and the exact knowledge of the time of entry of sperm into the genital tract it afforded because of the speed that sperm could travel, they estimated one inch per eight minutes) would enable physicians to learn more about the “timing of conception.” For instance, Dr. Kenyon of San Francisco reflected in 1903 that his own practical experience led him to believe that ten days after menstruation was the perfect time for impregnation but that some women “are liable at any time.”¹⁷⁵

Beyond using knowledge about the female menstrual cycle gleaned from work on rats, guinea pigs, cows, ewes, mares and sows by zoologists, embryologists and

¹⁷⁴ For more on the history of ovarian hormones see James Reed, From Private Vice to Public Virtue, 313 and Aberle and Corner, Twenty-Five Years of Sex Research. For more on George Papanicolaou and the menstrual cycle see Adele Clark, Disciplining Reproduction, 82-85 and Reed, 314. Even though the current guidelines of periods of highest fertility (which recommend day 10-17 for conception) are being reevaluated, current scientific studies still see the first five days as being the least likely for conception, see Allen J Wilcox, David Dunson, and Donna Day Baird, “The timing of the ‘fertile window’ in the menstrual cycle: day specific estimates from a prospective study,” BMJ : British Medical Journal 321, no. 7271 (November 18, 2000): 1259-1262.

endocrinologists, American physicians, beginning at the turn of the century and continuing until at least the 60s often began their investigations on artificial insemination with a review of its successes in animals.\textsuperscript{176} Famed gynecologist, Robert L. Dickinson pointed out that there were significant benefits that veterinarians had in the practice of AI stating,

\begin{quote}
The only unimpugnable evidence of efficacious instrumental insemination comes from our successful and scientific brother the Veterinarian, because he can exercise complete supervision over his patient. Human tests are blocked by aversions, vitiated by reticence’s, and happy results are not susceptible of rigid proof, because intercourse may have followed treatment.\textsuperscript{177}
\end{quote}

In other words, there were significant disadvantages that physicians experienced as compared to veterinarians as they began intervening in the complicated social relationships between men, women, and with their patient’s “reticence’s” to opening up their most intimate moments to medical intervention and surveillance. However, slowly but surely in the years after the end of World War I, couples turned to specialists in...

\textsuperscript{176} For example, in 1923 F. Davis began his chapter on “Artificial Impregnation” by noting that it had become “the general practice among breeders of horses...[and that] the technic has been worked out until artificial impregnation in animals has become a science. Instruments for the purpose are sold by dealers in veterinary supplies.” Some spoke even more directly about the relationship between veterinary practices and medical usefulness. Towards the end of World War I, W. E. D. Stokes, “The Horse-Breeder” wrote into the \textit{American Journal of Urology and Sexology}. “Especially among the literary, we find refined and sensitive women to whom sexual intercourse is repugnant, but deep down in their hearts is a longing to be a mother. To such persons I say that over thirty per cent of all my colts at the Patchen Wilkes Stock Farm are from artificial impregnation and such colts are among the best. All that the sensitive woman abhors is absolutely unnecessary, for a woman can fertilize herself. Life germs will live for hours if kept warm; sunlight has no effect as popularly supposed. I know this and have at my farm made exhaustive experiments....Follow me for a moment: A stallion serves the mare in the usual way, or the stallion is provided with a rubber "breeding bag" that catches the life germs, or these germs are stripped from the stallion or taken from a mare that has been served by a stallion by a platinum or nickel impregnator properly heated. Having collected the germs, they are placed in the womb of the mares to be fertilized. A drop is all that is needed. Or, these life germs are put into little sterilized gelatine capsules, carried for miles in heated sterilized cotton and inserted in the mouth of the womb —and nature does the rest... There is absolutely no difference between children and colts produced in this way and those produced in the usual way. What is true of the horse, is equally true of the human. W.E.D Stokes, “Animal and Human Impregnation,” \textit{American Journal of Urology and Sexology} 13 (1917): 472. Franklyn Davis, \textit{Impotency, Sterility, and Artificial Impregnation}, (St. Louis: Mosby, 1923), 130.

genitourology and gynecology (as well as the new experts in the social sciences) to help them alleviate “the problems of sex.”

_Urology and Venereal Disease_

One of the central problems of sex that rose to prominence in the first decades of the twentieth century was the control of venereal disease (sexually transmitted diseases/infections)—primarily syphilis and gonorrhea. A new public health movement emerged, battling against the strictures the former era, in which the Comstock Law of 1873 had largely prevented the discussion of such issues in respectable medical practice much less polite society. As historian Vern Bullough discusses in _Science in the Bedroom_, physicians had been a part of the “coercion towards civilized morality” by supporting anti-contraceptives laws that tried to ensure “that sexuality be restored to the private sphere and than any public expression of sexuality was by definition obscene.”

Comstock and his allies attacked not only sexual literature sold for profit but also any dissenting medical or philosophical opinion that supported the belief that sexuality was for anything but reproduction. Ironically, however, these laws and the pro-reproductive ethos they voiced gave physicians unexpected leeway to discuss strategies and technologies that solved infertility (like artificial insemination) and its related sexual problems, and in so doing, surreptitiously discuss sexual health and happiness in marriage. Artificial insemination, performed solely within the bounds of marriage and undertaken with the goal of producing children thus became part of such discussions.

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Throughout the first third of the twentieth century, public education regarding the perils of venereal disease increased (particularly for women and children within marriage) and lay audiences also became more familiar with new therapies to combat decreased fertility. Venereal disease was cited as one of the leading causes of sterility in the early twentieth century. A young man who visited prostitutes brought home to his then or future wife “the affliction which such acts frequently entail” said one eugenic reformer, Dr. AJ. Rongy. He estimated that "The greatest single factor in the production of sterility is gonorrhea and its complications....It is absolutely certain that nearly 60 percent of women who suffer from primary sterility give evidence of gonorrheal infection." Before the use of antibiotics, this bacterial infection caused salipingitis (scarring of the fallopian tubes) sometimes to the point of sterility. Urologists also began to realize that in men, gonorrhea caused scarring or narrowing of the urethra, chordee (curvature of the penis causing pain upon erection), abscesses, and decreased or absence of sperm production.

Concerns about syphilis, too were rampant. New York dermatologist, Prince A. Morrow, who became one of the foremost spokesmen against venereal disease, published *Social Diseases and Marriage* in 1904. In its pages he estimated that eighty of every one hundred men in New York City had had gonorrhea at one time in their lives and that somewhere between five to eighteen percent of men were infected with syphilis. The perception of an epidemic was so widespread that Morrow argued that men should be

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180 The link between gonorrhea and consistent azoospermia in men was made as early as the 1880s as discussed in the Noeggerath debate in Marsh and Ronner, *The Empty Cradle*, 90.
held as guilty as a the prostitute he visited and that women should take a leading part in reporting disease and in reform.

As concerns about male sexuality and behavior circulated ever more widely in popular forums the blame for infertility began to balance a bit more evenly across the sexes. One author reviewed physicians widely varying estimates of male factor sterility in cases of infertility by 1923 and found:

Courty estimates…10 percent; Duncan 12 per cent, Noeggerath, 8 per cent; Gross, 17 per cent; Engelmann, 25 per cent; Brothers, 29 per cent; Kehrer, 35 per cent; and Huhner places it at 59 per cent. My own experience leads me to believe that 15 per cent would be a conservative estimate.”

Margaret Marsh and Wanda Ronner in The Empty Cradle have argued that it is impossible to know if the actual incidence rates of venereal disease were as rampant in the early twentieth century as reported but, fertility was surely in decline and gonorrhea was incurable and assuredly caused some degree of sterility in women. Approximately sixteen percent of married white women of childbearing age and eighteen percent of their counterparts of color remained childless in the first two decades of the twentieth century.

As the male role in infertility became more recognized the specialty of “genitourinary” disease (a forerunner of urology) emerged by the end of the 19th century to manage impotence and sterility as they emerged within marriage. Coming from experiences with male venereal disease and its implications for not only individual health but also public health, it is not surprising that by the twentieth century when specialists in urology and dermatology entered into the conversation on artificial insemination they

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182 Franklyn Davis, Impotency, sterility, and artificial impregnation, (St. Louis: Mosby, 1923), 111-112.
183 As cited in Marsh and Ronner, 117-188 from Claudia Goldin, Understanding the Gender Gap, (Oxford University Press 1990), 141.
incorporated both their knowledge of syphilis and the growing literature on eugenics emerging in such publications as the *American Journal of Urology and Sexology*. Dealing with male reproductive and sexual health made them intimately familiar with sperm. Looking at the history of men’s reproductive health history from this period through the lens of artificial insemination reveals that physicians who came from a background of genitourinary/urology were early adapters of sperm testing and brought this practice into widespread use in the care of the infertile. This finding is in contrast to scholarly discussions that present semen analysis as a product of post-WW II infertility care.\(^\text{184}\) This scholarship (one which focuses primarily on the history of gynecology) can be seen in new ways by carefully examining the role of discussions across specialties and professions in fostering its adoption. World War I had a major impact on the practice of physicians with two central results—men began to enter physicians’ office for fertility care and diagnoses of sterility became chiefly tied to indications of venereal disease.\(^\text{185}\)

“Genitourologists” (soon to be known as urologists) first and foremost saw semen as a mode of disease transmission and a vehicle for infection, even before the war. This association between semen and disease is articulated in 1913, by the Chief of the Dept of Genito-Urinary Disease and Dermatology at the Bronx Hospital and Dispensary and Editor of the *American Journal of Urology*, Dr. William Robinson as he offered a urologists’ point of view on “artificial impregnation.”

Suppose we have a case, in which the husband's semen is found normal, and we can find no pathologic lesions; or if there were lesions [signs of syphilis], they have been corrected. What are we to do then? In such cases we assume that for some unexplainable reason the spermatozoa cannot reach the os uteri, or that the vaginal secretion has the property of killing the spermatozoa or making them

\(^{184}\) D’Emilio and Friedman, *Intimate Matters*, 148, Marsh and Ronner, 102.

\(^{185}\) For instance, see Elaine Tyler May, *Barren in the Promised Land*, 158.
inactive. In such cases we are perfectly justified in attempting artificial impregnation.

The technic while very simple requires great skill and care. The fresh semen is drawn directly from the condom into a sterilized syringe with a long nozzle, warmed up to about 99 degrees F. The cervix is drawn down and a small quantity (a few drops) of the semen is injected into the uterus. The rest of the semen is put on a tampon of cotton which is pushed up against the cervix. The woman remains in bed several hours. No douches or antiseptic applications are to be made. It is important to inject only a few drops, as a large quantity of semen may cause uterine colic, inflammation and perhaps even extra uterine pregnancy.\textsuperscript{186}

That Robinson, a specialist in \textit{male} sexual and reproductive health was performing intra-uterine procedures on \textit{female} patients was something new. This crossing of professional lines began to be of increasing concern to gynecologists by the interwar period. The practice of insemination too, was slightly different in the hands of urologists. Robinson recommended the extraction of semen from a condom rather than from the vagina post-coitus (a procedure referred to as a PK).\textsuperscript{187} Since the time of James Marion Sims, gynecologists had gathered semen samples for testing and for artificial inseminations after married patients had sex. To speculate about why insemination via condom entered into practices of Robinson and others, perhaps urologists were more comfortable with the male-centered condom then their gynecology colleagues, who had closer relationships to the women in their care and contraceptive devices for the female reproductive tract. The use of cotton tampons to ensure the sperm was in contact with the cervix emerges in both specialties reports however, and is suggestive of reading about artificial impregnation occurring across the specialties.

\textsuperscript{187} Max Huhner was the early twentieth century pioneer and advocate of postcoital testing. Max Huhner, \textit{Sterility in the Male and Female and Its Treatment}, (Rebman, 1913).
The first large scale systematic investigation of ejaculation samples was published in 1913. The final chapter of urologist Max Huhner’s landmark publication, *Sterility in the male and female and its treatment* considered the motion of sperm (motility and the mechanics of sperm movement) and its relationship to fertility.\(^{188}\) As discussed in Chapter One, it was only after World War I that more detailed definitions of spermatic health emerged. Using new funding and research in biochemistry and physiology healthy and unhealthy semen samples—those grouped under a widening definition of sterility—were delineated.\(^{189}\)

Gerald Moench’s 1929 publication on the structure of sperm in humans is indicative of the new power of urologists in the care of the infertile and, on the implications of these investigations on the widening practice of artificial insemination. Moench worked to define what “normal” sperm would be—how many sperm per cubic centimeter, their structure, and how mobile they were.\(^{190}\) By the 1940s, due to the continuing work of urologists to define the sperm count benchmark of “normal fertility” only specimens that were above sixty million sperm per cc with no more than fifteen percent immobile or twenty percent abnormally shaped were deemed potentially fertile.

\(^{188}\) Huhner also began to combine his examinations of sperm motility (through aspirated sperm taken directly from the testicles of a patient who had only ever had dead sperm in condom samples) and then “injecting the aspirated testicular fluid directly into the cervix of the wife.” He tried several methods of this type of artificial insemination, mixing the testicular fluid with bicarbonate soda, various timings of the attempt post-menstrual, mixing fluid from both testicles…and although no pregnancy resulted, he had great hopes and planned to “continue making similar experiments”…in order to afford “a harmless method of relief in what is an almost hopeless condition.” Huhner, *Ibid*, 104-105.


and candidates for AIH. As noted in the last chapter, these definitions would continue to evolve to include normal seminal plasma viscosity and normal volumes of ejaculate.\(^{191}\)

The reasons for prior inattention to male reproductive physiology was obviously not because of lack of diagnostic tools necessary to make these sorts of analyses, the microscope had been present for and used in sterility diagnoses since the mid-nineteenth century. What was necessary was a change in the power of urologists and gynecologists to request samples during fertility testing from men and couples, an increase in the broader cultural stakes associated with sterility and the funding to address them, and a conditioning of men to the idea and necessity of genital examinations. All of these conditions were met during World War I as the control of venereal disease and “moral disorder” became an important part of creating Woodrow Wilson’s “cleanest army in the world.” Urologists, like Dr. Hugh Hampton Young at Johns Hopkins, worked with the American Expeditionary Forces to control venereal disease—held great power over soldier’s daily experience including; the distribution of condoms, the court-martialing of those who “willfully” contracted disease, and so called “dangle parades” to search for early signs of infection amongst the troops.\(^{192}\) More men became familiar with full body inspections by the end of the war. And, coupled with the birth of the new science of endocrinology that empowered doctors to offer new and radical means of therapy to restore flagging manhood, more men entered doctors’ offices for a wide range of new

\(^{191}\) However, these emerging definitions of male fertility were always used in concert with Huhner’s postcoital test, in which samples sperm samples were retrieved from various locations within the female reproductive tract to ensure that “hostile secretions” were not damaging them post-coitus. Emil Novak, *Textbook of gynecology*, 2nd ed. (Baltimore: The Williams & Wilkins company, 1944). John MacLeod, “Human Semen,” *Fertility and Sterility* 7, no. 4 (August 1956): 368-386.

therapies.\textsuperscript{193} The power and status of the specialty increased accordingly, as did its ability to categorize and quantify sperm in treating the infertile.

*Gynecology at the Crossroads*

By the end of World War I, as America began to rebuild and recover from the horrors of the first “total war,” population losses, political upheaval, and a still declining birth rate, gynecologists faced a transitional moment. Gynecology’s sister specialty, obstetrics was experiencing an evolution as well. It was attempting to make the process of childbirth more systematic, predictable, and scientific by ensuring that it continued to be in the hands of specialists.\textsuperscript{194} The future status of gynecology as a specialty seemed less certain. Other specialties like urology that had been an integral part of military health initiatives of World War I and gained increasing professional power that led to their incursion into procedures and arenas previously the sole purview of gynecology. Artificial insemination was an intimate part of this struggle for professional power.

The *American Journal of Obstetrics and Gynecology* was founded and released its first issue in October of 1920. It had a broad audience—from specialists to general practitioners, from clinicians to pathologists, and researchers to sociologists. The mission of the new journal was to provide a site for the exchange of information and “to make


\textsuperscript{194} For more on the transition of obstetrics into the hospital see Leavitt, 180-81.
obstetrics and gynecology one of the essential branches of medicine."

The lead article in the journal’s first issue was by renowned physician, Robert L. Dickinson and was delivered as the Presidential address from the Forty-Fifth Annual Meeting of The American Gynecological Society (Chicago, May 1920). Entitled “A Program for American Gynecology,” in his speech Dickinson challenged members to change and engage in self-examination or else gynecology would be surpassed by other specialties.

Now it is meet and right…that we diligently examine ourselves whether our own omissions have had anything to do with such situations as an untouched obstetric mortality and morbidity and the threat of eclipse of the gynecologic guild. Surgery we promoted. But if we be just surgeons, by surgeons we may be displaced. Diagnosis we developed and principles we have taught, till all may follow — and supplant. The point is come where old fields must give new crops and new lands be opened up or our claims surrendered. The war searched out most of the barren spots in medicine, and the geography of the spots. In that search the Council of Defense and then the Army, sifted the men and the methods of every specialty save one. Our group-work, useless to war, escaped ordered scrutiny, and now, after the war, presents the anomaly of being without an inventory and lacking in data on which to construct a plan for intensive culture… It is for us to decide whether we shall lead or be led in such surveys. Now, we see, as in a speculum, darkly. It is for us to say how we wish to be seen in the future.

His grim prediction of the future of gynecology could be averted only if specialists could determine and agree on “problems which the man in our line is alone qualified to solve” and advance studies that members of the American Gynecological Society were “particularly equipped to undertake.” In Dickenson’s eyes “sociologic problems” (social issues) were of critical importance in the society and the first meeting reflected this by incorporating advice from specialists on “the spirit of citizenship”, “industrial hygiene”, and the prevention of “propagation among women who are idiots, epileptic,

197 Ibid.
hopelessly insane, or incurably criminal.” The latter, was an early call for attention to a practice that Dickinson would become a leading champion of in the coming decade, birth control by sterilization.¹⁹⁸ Last but not least, Dickenson led the call for artificial impregnation.

At the opposite pole from sterilization, with its enormous potentialities of betterment of the race, is artificial impregnation. It is a field almost unstudied. Dublin proposes to open the abdomen after a few months of sterile married life, and Boston and Brooklyn do so without trial of this simpler means. This procedure is an excellent instance of the need of collective experimentation, since no one man is likely to have a large experience.¹⁹⁹

It was in the context of racial betterment and in the promotion of marital stability that the control of fertility through sterilization and the encouragement of it through eugenic artificial insemination emerged as issues of intense public debate, almost simultaneously. Unsurprisingly, the tools of cautery for sterilization and of injection for insemination were literally in the hands of the same gynecologists and urologists. Touching upon heated social issues of male and female sexual function and desire, on hereditary knowledge disseminated through eugenics and the new science of genetics, and on the role of the physicians to shape the discussion and practice of such topics—artificial insemination would be transformed in the tumultuous years of the 1930s.

III. Pleasure, Utopian Biology, and the Beginning of Donor Insemination

By the 1920s and 1930s, eugenicists, sexologists, and “New Women” had helped to shift the meaning of sexual intercourse from solely for procreation to primarily for

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¹⁹⁸ Dickinson outlines his position on sterilization by 1928 in his AMA paper “Sterilization without Unsexing” based on his studies of female sterilization in California. It was part and parcel of a new type of surgery he was developing and championing, “cautery-stricture.” For more on his relationship to sterilization see Wendy Kline, Building Better Babies, 66.

pleasure. British sexologist and proponent of artificial insemination, Havelock Ellis, had written that sexuality “penetrated the whole person.” Through the work of eugenicists and the overwhelming popularity of the writings of Sigmund Freud, particularly his idea that the sexual instinct suffused human life and its denial caused suffering, female sexuality moved towards its more modern incarnation—one in which desire became the primary function of sexual acts rather than reproduction. By 1939, geneticists could argue that “motherhood was no longer a universal right, it was an exclusive privilege.” Fatherhood too, came under increasing medical, sociological, and psychological scrutiny. This, coupled with record high rates of childlessness in two decades before World War II, meant that there was increasing attention to not only how many children were being born but also who was having them. The betterment of the race could only be achieved if the "right" kinds of people were bearing, and raising children, within their marriages argued physicians and eugenicists. However, in order to affect changes in this personal arena physicians and eugenicists needed to be able to shape public behavior in realms in which they were unused to publicly discussing—realms of sex and desire. As they did so, new psychological and physiological theories of reproduction emerged which placed increasing onus on the role pleasure in fertility. These ideas actively shaped the new practice of donor insemination as physicians, eugenicists and families wrestled with incorporating, and in some instances removing, desire from a therapy that required intimate acts of intercourse, ejaculation, and orgasm to be open to medical intervention.

200 Kline, 62.
202 Ibid.
When Dr. Frank P. Davis, writer and medical veteran of WW I began writing on sterility after the war, he had many of these concerns about racial decline, reproduction, and sexual desire in mind. In 1917 and again in 1923, Davis published the first treatise in the American medical literature on artificial insemination, *Impotency, Sterility, and Artificial Impregnation* with leading medical publishing house, C.V. Mosby Company. Within this volume he recommended reintroducing the romantic aspects of sex, and the privacy it demanded, to the insemination of infertile couples like the young, white, Midwestern ones he treated. Couples had always objected to the presence of a third party at so intimate a moment he reported, and so he had begun to teach them the use of “the impregnator.” Using this device the operation could be “performed in the privacy of the home and at the opportune time.” After the wife carefully douched, desires could be satisfied. Then, after intercourse was completed, the semen could be collected (from a used condom) with a syringe before its contents were carefully “injected into the uterus.” Davis instructed both parties in the use of the instruments and loaned them “a speculum and a syringe.” However, he did not envision this procedure occurring without the consultation of a doctor. In the eyes of Davis, and of many physicians during this “Golden Age of American Medicine,” no one was “so well prepared to teach young men and women their duties and their dangers along sexual lines as [was] the pure hearted physician.” Only through using these practices, could the “race suicide” (referencing declining birthrates) seen in all “Christian nations,” be halted argued Davis.

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204 Ibid, 134.
206 Davis, 10.
There was not consensus amongst eugenicists about the role of sexual pleasure and insemination, however. Unlike Davis, others saw artificial insemination as the means by which the last and final separation between sexual desire/love and reproduction could occur. To reformers like Herman Muller, only when desire and reproduction were completely divorced from one another could the social and biological goals of eugenics be achieved.

Herman Muller was arguably the most well-known early twentieth century public intellectual on the relationship between biology and society. Nobel prize winner for his work on the effects of radiation on altering genes and author of the utopian manifesto *Out of the Night: A Biologists Vision of the Future*, Muller too envisioned that artificial insemination had a role to play at the intersection of biology, society, and sexuality. Herman Muller proposed, along with twenty-two British and American scientists who signed his “geneticists’ Manifesto,’ in 1939 that “the superstitious attitude toward sex and reproduction now prevalent” must be replaced with “a scientific and social attitude.” His goal was for parenthood to become “an honor and a privilege, if not a duty for a mother, married or unmarried, or for a couple, to have the best children possible, both in respect of their upbringing and their genetic endowment.”

JBS Haldane had originally fostered this idea with a small book in 1924 entitled *Daedalus*, which was a science fiction story from the point of view of a 21st century Cambridge undergraduate about the early eugenics movement and the first “ectogenetic child.” This child was produced from the eggs of a woman killed in an airplane accident, grown outside of the woman in order to produce a select “next generation…so

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207 Herman Muller, "Social Biology and Population Improvement" [i.e. The Geneticists’ Manifesto], *Nature*, 144, September, 16, 1939.
undoubtedly superior to the average that the advance in each generation in any single respect, from the increased output of first-class music to the decreased convictions for theft” would be “startling.” Only when reproduction was completely separated from sexual love would mankind be free, thought Haldane. *Daedalus* sold some 15,000 copies in the first year and received a great deal of attention…it also opened peoples eyes to possibilities that were “less fanciful” as Enid Charles remarked.\(^{208}\) For Muller and Haldane, desire fettered mankind and artificial insemination represented a key to freeing it to a socialist utopian society.

Other contemporaries saw new reproductive technologies not as a key but as a trap. They feared that when desire took on a life of its own, removed from reproduction, that an essential component of humanity would be lost. In 1932 Aldous Huxley penned an assessment of reproductive engineering that remains a poignant criticism of race, eugenics and assisted reproduction today. *A Brave New World* was a dystopian novel whose pages open at a “hatchery and conditioning center” where sperm, ova and eventually embryos and babies are stored and grown within the confines of their glass tubes to create specific classes of humanity. Hearkening back to the “baby factories” of concern to nineteenth century French critics of AI, in this new context the “hatchery” was a critique of the removal of sex and desire from reproduction and the hedonism and consumerist mass culture emerging in the interwar period. Huxley saw these new technologies, and what they could lead to (sexuality based solely on pleasure, removed from reproduction) as something to be feared.

Charlotte Perkins Gilman and other feminists were more closely aligned with Muller’s perspectives on the perils of sexual pleasure. In Gilman’s utopian vision of *Herland* (1915), when a society achieved conception separately from love and desire, motherhood could take its truest form—as a social connection shared by many women at once. Sex and desire, argued Gilman, merely produced lust and violence in men preventing the creation of a peaceful society. Thus, by removing lust and men via parthenogenesis an ideal woman-centered society would result. However, both *Herland* and *A Brave New World* were shortly to be followed by a plan to a eugenic socialist society through artificial insemination and Muller would be one of its architects.

By 1935, Hermann Muller, Dr. C.P. Blacker, and Herbert Brewer (a British eugenicist and postal worker) began a series of correspondence with one another about the physiology of reproduction, artificial insemination, and genetics. They discussed the biological fostering of aptitudes that would aid in the creation of the socialist order and forms of talent and intelligence essential to literary, artistic and scientific achievement, to, as they put it “advanc[e] from the present best to the superman.” Brewer told the British Eugenics Society in 1935 that through the process of “eutelegenesis”, the eugenic breeding of human beings “from afar”—by artificial insemination—it would be possible in “a few generations.” However, in their first plan they envisioned a future that would not arrive until the 1970s, that of an egg removed from a woman, united in a “test tube” with sperm, implanted in a "third-party female (most likely inferior but able to nurture the fetus).” Today, this is known as surrogacy. Muller, however, decided not to wait for

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that technology to develop, and in his 1935 publication of *Out of the Night* he forwarded artificial insemination as the ultimate eugenic solution.212

Muller argued that the current state of the eugenics movement was “hopelessly perverted.” Artificially controlling reproduction offered the means to “economic, social, and intellectual changes which alone will afford the means of eventually undertaking a real biological upbuilding.”213 In a world that experienced war after war, had just learned that the earth was cooling and slowing, in which suicide rates were rising—a world that would soon confront, he hypothesized, new forms of machines and substances, the coming of power sources of sunlight wind, waves, rain, the tides and subterranean heat...and even division of the atom nucleus—biology had a duty. It was the duty of biology "to make us all healthy, vigorous, and happy in "natural" temperament. But the duty of biology only begins there…its further duty is to study, to understand, and to reach into the heart of the organic world and refashion this radically to man's own advantage."214

Muller was familiar with Loeb’s experiments on parthenogenesis that were discussed in Chapter 1 and thought that the potential benefits of laboratory science in which,

a frog can be made to develop without a father, that a starfish can be formed from a sperm in egg protoplasm without any hereditary contribution from the mother, that one sea-urchin larva can be made to grow from two eggs combined...we begin to wonder...if even an ant can, and does, by artificial treatment of its embryos, determine whether queen or soldier or worker shall develop from a given egg, then may not perhaps *homo sapiens* also attain the power to fashion all would-be queens and soldiers into workers?215

212 Kevles, *In the name of eugenics*, 188.
214 *Ibid*
The relationship between laboratory science and social science collapsed in his eyes through the vehicle of eugenics and artificial insemination although, as a biologist he saw the path to genetic improvement through "hybridization" and "mutation," the vehicles for limitless species adaptation. Not only for plants and animals was genetics the key to shaping bodies to "our desires" he asked society and biology "what of us men ourselves?"\textsuperscript{216}

For Muller and many other eugenicists, artificial insemination was the answer to the improvement of the human “germ plasm.” However, unlike mainstream social reformers who called on middle-class women to bear “better babies” and return to the home, for Muller the brunt of the improvement would need to rest with men. Their billions of reproductive cells would ensure that via artificial insemination “a vast number of children of the future generation (fifty thousand was his estimate) should inherit the characteristics of some transcendently estimable man.”\textsuperscript{217} There would be no need for contact between the parents concerned, no disruption of their private lives thus, the only thing that was holding society back from this reproductive revolution was “social inertia and popular ignorance” mused Muller. If personal love and reproduction, completely “laissez faire” methods for such an important matter in his eyes, were merely “unyoked” from one another then both the spirit and “germ” could survive. Subsequently, in the course "of a paltry century or two...it would be possible for the majority of the population to become of the innate quality of such men as Lenin, Newton, Leonardo, Pasteur, Beethoven, Omar Kayyam, Pushkin, Sun Yat Sen, Marx, or even to posses their varied

\textsuperscript{216} Ibid, 74.
\textsuperscript{217} Ibid, 112.
The idea of reproduction as merely a scientific process of improvement in which marriage and even contact between the sexes was not necessary caused laughter as well as interest for contemporaries. For instance, George Bernard Shaw commented about AI, “when I, who have no children, and couldn’t have been bothered with them, think of all the ova I might have inseminated! And of all the women who could not have tolerated me in the house for a day, but would have like some of my qualities for their children.”

Muller believed society must first accomplish a socialist revolution and artificial insemination would be the “biological socialism” capstone to this effort. If the project of artificial insemination were attempted in a society like that Muller saw around him in the United States before he left for the USSR in 1936, a society of “individualism, careerism, charlatanism, unscrupulous aggression, and shallow hypocrisy” then the reproductive revolution would be a failure. Instead of super socialist men, the result would be the production of “Billy Sundays, Valentinos, Jack Dempseys, Babe Ruths, even Al Capones.” Thus, instead of only genetic qualities to define donors rather, he envisioned a combination of “the highest possible intelligence…or ‘reason’” and “fraternal love/comradeliness.” Characteristics like individualism and careerism represented everything that had gone awry with the eugenics movement in his mind—a false premium attached to the “upper classes” and racism—only a new eugenics in whose model artificial insemination could be practiced—“freed of the traditions of caste, of

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218 Ibid, 113.  
219 Kevles 191.  
220 Ibid, 118.
slavery, and of colonialism” could can be a thoroughgoing and a true eugenics.\textsuperscript{221} \textit{Out of the Night} and \textit{Daedalus} gained a wide audience of both supporters and critics.

Muller’s correspondent, Herbert Brewer, took a more intermediary position between pleasure, positive eugenics and conception—one that incorporated psychoanalytical ideas about sexual feelings leading to normal adulthood and biological understandings about female pleasure being necessary for conception. Herbert Brewer began to argue for, as he termed it, “eutelegenesis” (the eugenic creative beginning).\textsuperscript{222} “Racial advance may be regarded as an adventure entailing risks commensurate with the great reward which success would give,” he stated as he introduced the idea in an article in \textit{The Eugenics Review}.\textsuperscript{223} Brewer believed that sexual desires were unnecessary now that artificial insemination was available. By using “mechanical reproduction” coitus and all the turbulent emotions associated it, could effectively be removed from the real end goal, “fertilization.” When this was accomplished we could become truly human, by conquering our own egos, prejudices and behavior to take hold of the creation of mankind’s children. Contraception, Brewer opined, has led the way to this new land by making physical love “independent of fertilization.” The technique is ripe for use in that thus far its success has been stunted by use with the subfertile and the absence of “erotic stimulation” thought Brewer. “Normal subjects would probably yield different results.”\textsuperscript{224}

The foundation of his plan, like Muller’s, rested on the perception of overabundant materials in male reproductive biology. Through “telegenesis,”

\textsuperscript{221} Ibid, 120.
\textsuperscript{223} Ibid.
\textsuperscript{224} Ibid.
reproduction between people who have no bodily contact eugenic inseminations could help to shore up the “enormous amount of wastage” produced by the male reproductive system. With an improved technique potentially one man could fertilize “five million women” in a year.\textsuperscript{225} By using the “germs of a few highly selected males to impregnate the general body of females…a great and rapid improvement in the hereditary qualities of the race [could be achieved]. He supported his argument by calculating how recessive traits of “latent defectiveness” could be statistically cross-bred out so that “unpredictable degeneracy” would be significantly less frequent in society. This new solution would obviate the need for sterilization or elimination, which he said “is like clearing a river of fish by catching the few which jump from the water.” Through eutelegenesis one could sweep out of existence “latent defect in a few generations” and create “homozygous types of the highest excellence” and in addition, “the carrier female” would be allowed to gratify her maternal impulses “which with women in general must be regarded as fundamental to self-realization and happiness. A vast store of maternal energy would thus be conserved and canalized for racial progress.”\textsuperscript{226}

This progress would not need to be forced, thought Brewer, “eugenic advance must be the voluntary adventure of free men and women, or nothing. Eutelegenesis might be such an adventure. All it need ask of society is that people with courage and imagination enough to make a new experiment for human progress should be left alone.” He saw the historical social experiments at Oneida Community in the United States as indicative of this imaginative spirit and thought that America might be the best place to

\textsuperscript{225} Ibid.
\textsuperscript{226} Ibid.
Institute eutelegenetic plans. By 1934, when Brewer read in *Scientific American* about the rising number of requests for inseminations, he was sure that in America "it would appear that a Eutelegenetic Institute has business waiting for it already." To bring eutelegenesis from the realm of theory to practice, an organization was necessary to manage the process. This would call for the services of geneticists, psychologists, physiologists, and other experts. Collectively, Brewer hoped they could provide prospective parents assistance in offering the “widest choice in the way of superior human types whose germ cells were available for eutelegenesis. There might be included such types as saints, philosophers, scientists, poets, artists, musicians and athletes. If there was an effective demand for politicians and film idols, even this should, if possible, be satisfied!” But above all this organization could manage the “keeping of records and pedigrees” to prevent children of such unions to from unknowingly marrying a “half-sib.”

The character of artificial insemination during the 1930s is revealed in the plans and dreams of eugenicists like Brewer, Muller, and Blacker. Artificial insemination was a technology on the cutting edge of science that incorporated new efforts to categorize, understand, and rank human bodies and behavior. It provided a fertile proving ground for practicing science cum social reform for those who were keenly interested in genetics and the new scientific studies about human intelligence. In a confidential memorandum on “The Eugenics Society and Eutelegenesis," Brewer excitedly reported that Professor

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227 In 1869 the Oneida Community instituted a program of stirpiculture designed to create more perfect children for the community. Based on their spiritual and moral qualities men and women were match for reproductive potential. The 58 children so produced, were then raised communally. For more on early eugenic practices at Oneida see Maren Lockwood Carden, *Oneida: utopian community to modern corporation* (Syracuse University Press, 1998), 61.


Terman at Stanford University was identifying children of exceptional ability using the new Stanford-Binet IQ test. Following those children with measured IQ's above 140, Terman was testing them over a course of six years. Brewer latched onto this as a standard measure to help solve the vexing problem of how to identify superior eugenic sperm donors. He dreamt that similar long term initiative could be launched in London with "intelligence tests... a yardstick, a means of measurement and comparison." The children identified would then be tested into adulthood and upon reaching adulthood and beginning their families, the study could test the children of the initial cohort to ascertain whether "high intelligence" was passed on to their progeny. If both the IQ and the progeny test were achieved then, at age 40, would be fit for "eutelegenetic fatherhood."

During the years leading up to World War II, artificial insemination became an object of imagination for a large number of eugenic visionaries. As it did so, the role of pleasure, sex and marriage in society were implicated. Some like, Charlotte Perkins Gilman thought these new technologies abrogated the need for pleasure and marriage. Others, like Muller, saw artificial insemination as the means to achieve the ideal socialist community in which pleasure, romantic love, and choices about reproduction were separate. While Brewer and Blacker (after reading Havelock Ellis) thought that the “eutelegenetic adventure” would only be successful if “erotic stimulation” accompanied inseminations and that children should be raised by loving and assumedly sexually active couples regardless of the father’s genetic relationship to the progeny.

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231 Ibid.
From Utopian Ideals to Medical Practice: Donor Insemination in the 1930s

When artificial insemination emerged on the pages of most American popular newspapers it would do so only meeting a scant number of both Muller’s and Brewer’s eugenic hopes. In its actual practice it would be the personal choice of couples to engage in “eugenic insemination” using donor sperm although they would have no choice in the donor. That decision, the donor’s identity, and the criteria of selection, remained in the hands of the physician. Muller had hoped that a social feeling to better the race rather than individualism would motivate potential parents to use artificial insemination. But, when the technology came into widespread use in the mid-1930s the “eugenic” selection of donors aimed first and foremost to match the individual hereditary characteristics of the donor with the sterile husband, not necessarily improve the genetic health of the baby. The role of popular ideas about heredity, the relationship between physicians and patients, and the contested status of women as both mothers and sexual beings would be at the center of the practical, clinical application of artificial insemination in America. Similar to the technologies at the other end of the spectrum, sterilization and birth control, when placed within a framework of eugenics, artificial insemination became a central spoke in the rolling wheels of racial progress.

Frances Seymour was a specialist in obstetrics and gynecology in the thriving metropolis of New York when she announced to newspapers in May of 1934 “Test Tube Babies Born”, “Ghost Fathers”, “‘Synthetic’ Babies Born to 12 Mothers” and “Existence

232 This occurred with the announcement of gynecologist Frances Seymour’s successful insemination practices and the 1934 publication of JH Caldwell’s Scientific American Article “Babies By Scientific Selection.” Both publications occurred a mere year before Out of the Night and in time for Brewer to mention it in his “Eutelegenesis” article.
of ‘Laboratory Babies’ Confirmed by Woman Physician.” The media frenzy was the result of the birth of twins, conceived via artificial insemination (AI), to her patients Mr. Salvatore Lauricella, an Italian motor mechanic, and his wife Mrs. Lauricella. Although they had been childless for eight years, the proud new Long Island mother of twins with “five-and-a half pound Victoria and seven-and-a half pound Marilyn,” was photographed in *Newsweek* holding in each arm the turn of her fortunes as a mother. Dr. Seymour told reporters that “usually parents do not want publicity about this kind of thing. I suppose they were just so happy about twins they couldn’t contain themselves.” Mr. and Mrs. Lauricella were also undoubtedly more inclined to share their experiences with insemination because it completed their biogenetic family. In other words, the insemination occurred using Mr. Lauricella’s sperm (AIH), rather than that of an anonymous donor (AID). When juxtaposed against a second set of parents Dr. Seymour treated, single women using donor sperm who remained anonymous and shadowed in the news coverage, the Laricella’s loquaciousness is even more pronounced. At the same time the Lauricella’s were treated Seymour reported using the method to impregnate “unmarried business women.” The third type of patients that emerged in this period were married couples who used donor sperm. Their voices could rarely be found in public forums although, more often than single women users. When a married couple used a donor questionable paternity and shame worked to keep the couple silent.

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235 Current scholarship has explored the centrality of biogenetic relatedness in European and American kinship ideologies. These relationships were and are seen at various points in history as relationships of
Both AIH and AID were understood as a means to promote marital happiness by Seymour and other physicians. Many patients agreed with the sentiment. “Since it is not possible for me to procreate, I believe that our mutual happiness and the well being of my wife will be best served by her being artificially inseminated.”\(^{236}\) This quote by Mr. Lauricella was echoed by other childless married men who used New York’s Marriage Consultation Center, a center that provided referrals to doctors who practiced AI and whom were required to sign an affidavit before their referral.\(^{237}\)

Much of the medical establishment did not approve of the publicity surrounding the Lauricella twins or the other cases of successful impregnation that Seymour discussed with the media, especially those of two single “business women” who conceived using anonymous donor sperm. In an attempt to refocus the issue on the procedure itself, and not the new and sensational use of donor sperm, the New York Academy of Medicine and members of the New York County Medical Society publicly denounced the news...
worthiness of AI stating, “Artificial insemination is as old as the Greeks.” However, when asked about the use of anonymous donors, prominent doctors like Morris Fishbein, editor of the prestigious *Journal of the American Medical Association* “retreated into their professional silence.” Thus, sperm donation became the roiling center of this contentious, public exchange in the American popular press about artificial insemination.

The conflict revealed much broader anxieties over such issues as the role of institutionalized medicine in American culture, the status and practice of eugenics, the meaning of heredity, gender roles and sex. These anxieties affected not just scientific research about infertility but also the *practice of and demand for* artificial insemination by patients during the post-Depression era.

Contemporaries believed that there were two ways to deal with the emerging practice of donor insemination in the wake of Seymour’s “Test Tube Baby” scandal in 1936. This final section will focus on the factors that influenced individuals on either side of the debate. The first side, held by many luminaries of the new sub-specialty in gynecology, infertility and sterility, was to conduct a study of the practice, see how widely used it was, what and where physicians supported it, and discuss the ramifications for medical respectability and patient/familial health. The other side held by general physicians and everyday practitioners in gynecology, was to suppress any and all


information about the practice. By shadowing it in secrecy one could effectively limit knowledge and thus, demand. These two opposing views were represented on the one hand, by Frances Seymour and eugenicists like her who began to gather and disseminate information on donor insemination and on the other hand, by the governing board of the *American Journal of Obstetrics and Gynecology* who refused to publish moderate perspectives and new research on artificial insemination.

**Eugenic Surveys**

The first large scale survey to understand the practice of AI was pursued, not by a physician, but a reporter and eugenicist. Publishing in *Scientific American*, in 1934 a mere two years prior to the birth of the Lauricella’s twins, John Caldwell presented AID as a means to improve humanity by using “super sperm.” In the brief article entitled “Babies by Scientific Selection” Caldwell reported,

> Babies of extra-marital paternity are now being born of women who have sterile husbands, by artificial insemination with the life-giving germ from selected men. This is one of the most significant eugenic developments in the history of man.  

Caldwell based his article on calls made to two hundred physicians to ask them about artificial insemination in their practices. Many were specialists in the treatment of sterility. In Chicago there were forty-five physicians, Milwaukee and Cleveland had fifteen, Washington had twenty while Philadelphia held twenty-five, Newark seven, Brooklyn ten. The greatest number were in New York, sixty-three. He reported that about a quarter of the two hundred physicians polled had received approximately three hundred requests from patients for artificial inseminations with “good sperm from a

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241 John Harvey Caldwell, “Babies by Scientific Selection,” *Scientific American*, March, 1934, 124. This article appeared to spur no condemnation from the medical establishment. This points to other factors besides eugenics as being controversial for Seymour.
selected source.” Less than ten percent of doctors did not answer or disapproved of the technology. Several physicians who had had patients who wanted to talk about artificial insemination but that “they [physicians] discouraged it” because they did not think the public was ready to sanction the practice. Of the fifty-six physicians who received requests for AI, nine had practiced donor insemination, and twenty-five patients had given birth using donor sperm. All in all, many of the physicians spoke “favorably of this method.”

By no means had AID entered the mainstream, but this article points to a clear increase in practice. Most fertility specialists had begun to receive increased numbers of requests for artificial insemination by 1930. There was a perception that America was experiencing a rising problem with sterility and in this light, the trend makes sense. Caldwell noted that sterility had become so prevalent that many of the large hospitals had established sterility departments. Even charity hospitals had begun to offer infertility services for those who could not afford a private specialist. Caldwell and the physicians he polled were optimistic that demand for insemination using donor sperm would only increase to encompass “90% of those having sterile husbands.” Conservatively, he estimated that that the need would affect somewhere between ten to twenty thousand couples per year and that there was an abysmal lack of donors to serve that large population.

By 1941, an even larger and highly controversial survey was sponsored by the National Research Foundation for Eugenic Alleviation of Sterility, Inc. As its lead investigators, gynecologist Frances Seymour and her associate Dr. Alfred Koerner

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242 Ibid.
243 Ibid.
attempted to prove scientifically that artificial insemination had continued to increase in acceptance and practice throughout the 1930s. The article, “Artificial Insemination: Present Status in the United States as Shown by a Recent Survey” was the first large-scale assessment of artificial insemination in the United States. They reported that thirty thousand physicians were polled regarding artificial insemination—it’s uses, success rates (in live births and pregnancies), use of husband v. donor sperm, and their geographical location. Seven thousand, six hundred and forty two replies were received, less than a third of physicians polled. However, they gave evidence a remarkably large number of pregnancies produced using both AI and AID—5,840 and 3,649 respectively. As Fig. 4 from her study illustrates, most inseminations appeared to be occurring in the Northeast—a trend that would continue until the advent of widespread cryopreservation services in the 1980s.

Fig. 4.—Geographic distribution of 9,238 children conceived by artificial insemination: Northeast, 4,266; Southeast, 1,053; Middle states, 2,403; Southwest, 58; Mountain and Great Plains states, 141; Far West, 612, and Pacific Northwest, 55.

The Response from the Establishment

Not everyone was as comfortable as Dr. Seymour with the adoption of AI as a mainstream practice in medicine. There were murmurs that Seymour might have violated professional ethics by publishing the study and by speaking with the press about it and her practice. Doctors tried to downplay the impact of her announcement by stating that the practice had largely been discredited as being unsuccessful, likely to cause infection, and could potentially result in a tubal pregnancy. This opinion directly conflicted with the excited and positive statements and cases that Seymour presented within the public press and medical journals.

Seymour’s contemporary, Dr. Claire Folsome worried that such positive outcomes for AI as presented by Dr. Seymour would lead public opinion on the track of socialized medicine. Clearly, not all physicians were supportive of the social goals for remaking society that utopian geneticists had argued for. However, for American physicians, “socialized medicine” raised a specter of medical knowledge, technology and practice being controlled not by physicians but rather by patients and the state. Citing physician’s fears about the public using AI to rally for socialized medicine in the United States, Folsome worried that this procedure might be come too routinized and an “assembly line kind of medical treatment.” Although other physicians disagreed that public knowledge of AI would lead down this track. Renowned fertility specialist and birth control advocate, Dr. Guttmacher of New York said that the problem was not the technology, it was the lack of fertility clinics that could control its use.

246 Ibid.
Like blood transfusion, artificial insemination is really the proper work of a clinic or of physicians...we need a ‘fertility’ clinic...prepared to provide a staff of selected donors in order that women who want motherhood from selected sources might obtain it.\textsuperscript{248}

Much of the medical establishment agreed with Folsome and Guttmacher—that only within this framework, structured around the doctor’s decision of who to inseminate and with what sperm, could AI blossom into becoming “one of the most satisfying of medical experiences.”\textsuperscript{249} A few physicians went beyond the social arguments against the practice and attacked Seymour directly on her statistical analysis of success rates.

All of these factors—specters of socialism, charges of unscientific scholarship, and public interest—contributed to the need for the profession to respond. Dr. Robert L. Dickinson believed that he was the perfect candidate to do so. One of the most prominent gynecologists in the United States in the early twentieth century, he had advocated work in artificial insemination for decades, was familiar with eugenic concerns, and was an esteemed member of the Advisory Board of the American Journal of Obstetrics and Gynecology (AJOG). He was well positioned to submit an article to AJOG, the ideal forum to formulate a rejoinder to the JAMA article Seymour had published. In October of 1943, in the context of a dearth of gynecological research (caused by increased clinical duties of physicians during the war and subsequent decrease in available new articles) Dickinson began to formulate his response—his own review of artificial insemination. Over the next few months, he interviewed Frances Seymour, presented copies of her case histories for review at the New York Obstetrical Society, and

drafted a paper that outlined the “details of fees, office procedures” and his own conversations with Dr. Seymour.

And yet, sometime in the fall and winter of 1943, the editorial board of the journal changed its position on the article it had agreed to allow Dickinson to publish. Even though the article would denounce many of her practices and lay bare her apparent statistical errors, the editor of AJOG, George W. Kosmak thought that “any possible scientific success” of artificial insemination that Dickinson had forwarded “must be weighted against ethical and moral considerations.” Instead, the journal decided to publish a highly charged article by Dr. Clair Folsome, “The Status of Artificial Insemination,” in June of 1943—a more legal perspective on the issue. Dickinson was furious and filed a formal and emphatic protest against the American Journal for Obstetrics and Gynecology for publishing the Kosmak-Folsome paper—“that part which is polemic and argument, with a bit of emotional tinge—while refusing my factual matter, based on inspection.” He went on to say, “My report seemed more effective condemnation of some of the Seymour claims than any generalization not built on the authors own experience.” He denounced the editorial board as being unscientific and unjust.

You sit on the bench of a high court—the appeal division of gynecology. You give judgment, wherein judicial working is in order, is it not? Hence, one ventures to question the working of a proposed editorial [Folsome’s] that appears to show intensity of personal feeling and bias. Accusations of insincerity, dishonesty, or commercialism, of procedure “often hysterical” epithets like “glamorous”, “unnatural”, “inevitable” “un-Christian”, ”breakdown of marriage”,

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251 Ibid, Letter to Dr Dickinson from Kosmak. Feb 22, 1943.
implication of advocacy of methods only fit for cattle—these are hardly calm and effective arguments or comments from the bench.\textsuperscript{252}

Dickinson believed that the journal feared legal action by Frances Seymour, who was married to a lawyer. He threatened that if “the greatest obstetrical-gynecological journal of the world has not the courage to report my little investigation, I should then be obliged to send my report to the \textit{Journal of the American Medical Association}.”\textsuperscript{253} If Dickinson followed through on his threat, the unwillingness of the journal to advocate for artificial insemination would be revealed. So too, would the private workings of the American Congress of Obstetricians and Gynecologists (ACOG) be exposed to public scrutiny—that ACOG had voted and then rescinded an offer to make an inquiry into Seymour’s claims.

Altogether, this heated debate represents the complicated and varied relationship of much of the established gynecological profession to the practice of artificial insemination at the onset of World War II. Without consensus about AI, even among fertility specialists, the specter of publicity was additionally freighted. For editor of ACOG, Dr. Kosmak, he worried that by letting as imminent a gynecologist and fertility specialist as Dickinson craft a response on behalf of the profession, publicity about the procedure would be \textit{heightened} rather than \textit{quelled}. Their “caution and expediency” was meant to dually prevent Dickinson and the profession from both making claims that might later have to be rescinded and also, to prevent the opening of inner workings of practitioners meetings and office practices to public scrutiny. Once out in the open however, knowledge about artificial insemination would not disappear. The Society’s response was an ineffectual one and it was left to former eugenicists, and a new society

\textsuperscript{252} \textit{Ibid.}
\textsuperscript{253} \textit{Ibid.}
and journal, *Fertility and Sterility*, in the post war era to formulate the first formal position on artificial insemination.

*Fashioning the Eugenic Donor and Saving Marriage*

Even without the blessing of *ACOG*, by the mid 1930s the beginning of a politics and practice of sperm donation for insemination had emerged, and in so doing the creation of an ideal donor. Several key practices were formulated during this era that have persisted into current formulations of assisted reproduction—the removal of the idea of reproduction from the act of sex and pleasure; the somewhat paradoxical idea of a paid donation; the central role of physicians as mediators between exchange of bodily substances; and last but not least, the idea of a donor profile or pedigree. Many hopes rested on the idea of the donor—from saving the race to saving motherhood. These hopes along with the professional and eugenic ideals of physicians, mediated by everyday issues of recruitment, disease risk, and the emerging practice of blood transfusion produced the first generation of sperm donors in the United States.

Frances Seymour used men who were already present in hospitals and experienced at donating fluids to be her first donors. Selected from a list of blood donors they were offered “the usual fee of $15 for their (cumulative) services.” In other words, they were on call to donate multiple times until pregnancy was achieved. Even so, this was quite a sum of money in the 1930s and 1940s. These “Ghost Fathers,” as newspapers of the time labeled them, were never told the names of the women who received their sperm or the names of any children produced. In fact, some physicians never knew the identity of the donor because they mixed the sperm of multiple donors.

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before insemination or used different donors on different days during a woman’s ovulation cycle.\textsuperscript{255}

Under the newly founded Blood Transfusion Betterment Association (BTBA) in the early 1930s, New York City’s 15 commercial blood agencies were not an unlikely place to begin to both find donors and look for best practice ideas for managing the emerging market for sperm donation. Blood agencies (not yet banks) were required to conduct a series of tests on potential donors: a physical examination, blood typing, and tests for syphilis. The New York City Health department jointly with the BTBA created a “modern passport book” that held a photograph of the blood donor, recorded examinations, donations and other information. Reputable hospitals, however, were thought to recruit blood donors from “colleges and gymnasiums” rather than “the parks of the city” where less scrupulous physicians found their blood donors. Examined weekly and listed in a file at the central office, the over 2000 blood donors listed in their registry by 1929 were required to be in good health standing or could be prosecuted under the sanitary code.\textsuperscript{256} With this system as a model and as a reliable source for sperm donors, Seymour began to fashion regulations for sperm donation and recommend them to fellow physicians. Sperm donors were required to undergo a physical examination, and in an era before the cryopreservation of sperm, were put on call for donations to “be

\textsuperscript{255} Bloom, “Artificial Insemination (Donor),” The Eugenics Review 48 (1957): 205–207.

\textsuperscript{256} Blood donation was experiencing a pivotal change in regulation at the beginning of the 1930s. Scandals of professional blood sellers involved simultaneously in prostitution raised fears of syphilis and of donors recruited from “less responsible” members of the community. Thus in 1929, the Blood Transfusion Betterment Association was founded in New York City to formulate new sanitary code regulations for the practice. By 1937 the Fantus blood banking system began to be widely adopted around the United States—these “blood banks” kept refrigerated deposits on hand in hospitals, balancing accounts monthly. See Susan Lederer, Flesh and Blood, 88-89. “‘Passport’ Planned for Blood Donors: Dr. Wynne Completes Draft of Regulations for Weekly Tests and Registration,” New York Times, September 15, 1929: 19.
ready for second, third, or fourth donation” in case a woman of “low fertility” did not become pregnant immediately.

Some physicians followed the blood registry model even more explicitly. Georgetown University Physician Ivy Albert Pelzman announced that he had created a male “gene register,” holding the names of football players and medical students who had agreed to serve as “synthetic fathers” for childless couples in 1938. As one Washington reporter explained, that “eventually it may be possible to develop the method to the point where “gene banks” can be established at hospitals similar to the blood bank at Gallinger Hospital.” Historian Susan Lederer notes that these oblique references to gene banks allowed the newspapers to avoid the mention of human sperm in what the Georgetown University priests privately labeled as “semen clinics.”

By the time of Seymour's publication in a 1936 issue of Marriage Hygiene, a journal that served as a forum for many radical and moderate sex reformers, she was more precise about the specifications required of a donor and the management of the social relationships that the donor might possess or disrupt. It was consideration of these social factors that caused the type of donor sought after in sperm donation to diverge from those sought for blood donation (young, healthy men in school or working in hospitals). In addition to a physical examination for “structural defects” (including childhood diseases, “diseases of the blood,” and heart palpitations), potential sperm

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donors needed to have proved themselves to be “successful,” to be wealthy, have a college education, have entered one of the professions, and possess a “sound family background.” These were not considerations in blood donation. Furthermore, in order for professional accomplishments and the screening of inheritable genetic diseases that emerge in early adulthood, like “Dementia Praecox,” to be screened, sperm donors were selected from a “middle-aged group.”

From the writings of physicians like Seymour the picture of a sperm donor was also different from a blood donor because they were interested “in genetics from a scientific standpoint.” They were willing to give extensive information about their parents that only a gynecologist, with childbirth, heredity, and child development in mind, might request, including: the particularities of the labor of the donor’s mother, her period of gestation and parturition, and the type of post-partum care the donor himself received as an infant. Additionally, donors were asked to construct family trees to help determine “the possible characteristics of his progeny…and their future well-being.” Similarly to blood donors, however, these potential sperm donors revealed their sexual histories both at the time of their physical examination and on their actual donation day—most likely in attempt to curb the likelihood of sexually transmitted disease but for sperm donors, sexual histories also provided a means to monitor the volume and concentration of ejaculation samples.

Beyond these basic eugenic health concerns, Seymour and her contemporaries spent time and energy contemplating the social politics of donor selection. What might happen to the marriage of the infertile couple if the donor were eugenically healthy but

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260 Ibid.
unalike the social father? What about the marital status of the donor himself—would the wife of the donor be uncomfortable with his donation if she knew about it? Matching the “dominant characteristics of the father” became the most difficult but important part of assisting conception. If characteristics, very broadly speaking (i.e. including temperament) did not match then the “adaptation of the child to the family group” might be compromised. The difference between biological (perceived as racial) characteristics and social processes were not distinguishable for Seymour and many other eugenicists hence, they were incorporated into the donor classification scheme.261 Seymour noted,

We have several genealogical lines of descent such as the Caucasian, Mongolian, Semitic, Aryan, Negroid, and the many divisions and sub-divisions. In making the selection of the donor, he must come from the same stock as the husband. If he is a Caucasian, a Latin, as for example an Italian, we have sections of Italy producing individuals of vastly different basic temperamental characteristics, as a Sicilian, or a Venetian, one being of a fiery nature and the other relatively poised.”262

If even these slight temperamental differences within the same racial category could produce “discord” and “unhappiness” in a family imagine the trouble Seymour envisioned “of a step-father of a phlegmatic German origin trying to bring up a quick, fiery-tempered Italian youngster.”263

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261 The idea of racial temperament was fostered by sociology. For more on this history see Richard W. Rees. Shades of Difference: A History of Ethnicity in America. Rowman & Littlefield, 2007, p. 72-89.
262 Note: There were differences between race, stock, and nation as categories in anthropological, political, and medical discourse. Races generally referred to large geographical zones (ie continents) with branches within each race and “stocks” within each branch, and groups within each stock. However, race and nation could be blurred. Stocking, George W. Delimiting Anthropology: Occasional Essays and Reflections, University of Wisconsin Press, 2001, 12-13. The idea of a human stock was clearly linked to ideas of animal husbandry as well. Daniel J. Kevles, In the Name of Eugenics: Genetics and the Uses of Human Heredity, University of California Press, 1985, 62. Frances I. Seymour, “Eugenics in Practice: Cross Artificial Insemination.” Marriage Hygiene 3 (1936).
263 Seymour, “Eugenics in Practice.”
Sex Under Pressure: Gender, Pleasure, and Intimacy in Artificial Insemination

The stakes for artificial insemination on the eve of World War II were the institution of marriage and its intimacies, the relationship between pleasure and reproduction, and literally, the next generation. Marriage was to be protected by maintaining the importance of the bonds between husbands and wives and between fathers and their children. Sterility threatened marriage legally, psychologically, and symbolically. “Our whole institution of marriage is based on the production of children, and the civil code presupposes marriage and offspring. To this day, sterility remains a ground for divorce among certain people. This alone suffices to indicate the gravity of sterility,” said ardent proponent of artificial insemination, Dr. Rohleder in 1934.

Consequently, American physicians counseled that under no circumstances should a known relative (brother of the husband, cousin, etc.) be used as the donor. In an odd mixture of eugenics and psychoanalysis, Seymour argued that in such a case a mother would “transfer her affections from her legally-wedded husband to the father of the child.” However, if done under the correct parameters (i.e. total anonymity for all actors) then the woman could sublimate her feeling of motherhood towards her husband and cement the “bonds of the little family even more strongly than it would be ordinarily.” For physicians, through donation the American family could be both maintained and even, improved.

265 Note: Not only was the status of the infertile couple of concern, but also of the donor’s family. Seymour was concerned that using a “proved donor” one married with children would cause rifts within his own marriage because the “wife may object to her husband’s scientific participations” and it would be unwise to have unknown half sibling to her own children out in the world constantly grating upon “her mental well-being.” Ibid.
Dr. Seymour was a rebel in the medical profession and in the ranks of sex reformers in many of her beliefs. However, the idea that women could have control over reproduction, without sex and without men, made an impression in popular culture. One of the first popular works of fiction to address this issue was Dorothy Wagner’s, *Broken Rhythm*. The main protagonist, Cindy, envied her friends who chose marriage and children over her exciting and wealthy life as a stockbroker in New York City. Feeling alone, she declared to her physician, “I want “an American baby—my very own.” Like many single women at the time, she was not considered a fit candidate to adopt and Cindy saw AID as the perfect solution to this predicament, provided that the donor was “American-born, of Anglo-Saxon origin. And of course, physically and mentally sound.” Turning to the medical profession, she was willing to pay for the procedure and the doctor noted that even with the penetration of the syringe Cindy was “still technically a virgin.” Procreation outside of marriage was resolved by the end of the novel when Cindy is lovingly reunited with the doctor, friend, and unbeknownst to her, sperm donor. They mutually end the “agony” of AID locked in a fast embrace, planning their marriage and life together with their son.

Stories like *Broken Rhythm* reflect new understandings of the importance of heredity and the successful campaigns of eugenicists to educate the public. Cindy and

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266 Well known sex reformers like the American Judge Lindsey or British Bertrand Russell were arguing that children, rather than sex, were the reason for marriage. Their primary goals, and those of many doctors affiliated with the movement, were to disseminate more literature on birth control and find a “middle ground” between science and sexuality. Jane Lewis, “Public Institution and Private Relationship,” 238. Seymour’s belief mirrored their own that children would strengthen marriage, but pursuing parenthood outside of the bounds of marriage seemed immoral and definitely privileged the “science” of eugenics over social questions of parenthood.


269 *Ibid*, 263.

her real life counterparts, wanted to have “their” genetic child, at least in part, and did not participate in the expanding cultural practice of adoption during this era. The narrative also reveals the emergence of new understanding of feminism for some women in the 1930s. Women now had the vote and freedom but, in reality many believed they had the freedom to choose their homes and husbands—as Nancy Cott has pointed out. This perspective is also mirrored in the status of infertility treatment. From the few individuals who had tried to relieve their infertility in the nineteenth century, in the first decades of the twentieth century thousands attempted to relieve their childlessness. Family life was under increasing pressure to “satisfy an ever expanding array of emotional needs” as Marsh and Ronner have argued. And, in this moment children became “sacralized.” However, what remained to be decided was who should have the ultimate agency to pursue parenthood and by what means. If a couple was infertile, should artificial insemination be attempted to relieve childless? Should only husbands sperm be used or that of donors? What role should physicians play in the process? What was an appropriate patient, donor, and family?

Examining questions about medicine, sex and the family through the lens of AI allows a theory of sex in marriage to come into view. Rhetoric began to emerge that women who chose to use AID without being married, or those who were seen as controlling the decision of a couple to pursue AID, were viewed as morally suspect. Sterility and impotence caused despair for affected men and physicians viewed them as “among the most miserable of all patients that the doctor is called upon to treat.”

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271 As stated in Marsh and Ronner, 121.
272 Ibid, 111.
sterile man was often seen as feminized during this period. Femininity was associated with weakness and literature warned impotent men to beware of being bullied into the procedure by their wives. From a psychoanalytical standpoint, Dr. Finegold wrote; “We must look out for the masculine-aggressive woman who insists on a child of her own body and forces consent from her husband.” Thus, infertility caused gender roles to be questioned and reversed within a couple. However, when and how these roles lapsed differed for both sexes. For men, sterility caused feminization. For women, masculinity produced infertility. For example, Albert Horlings of Harper’s Magazine noted in 1942 that: “Sterility groups contain a larger than average number of persons who are self-centered and show a lack of warmth in their social and personal relations. People of this kind frequently are the victims of frigidity and an abnormal reaction to the family relationship.” These people (read women) were engaging in behaviors that were antithetical to cultural conceptions of motherhood. “New Women” emerged after World War I and “self-centeredly” pursued sexual freedom, education, work and often an urban lifestyle.

By the interwar period, a new marital sexuality implicated both men and women for failures of sexual pleasure and reproduction within their marriages. These concerns became centered around a mutual and simultaneous sexual orgasm in marriage and particularly aimed at training the male partner in the scientific knowledge of desire. Marriage manuals abounded and stressed the need for romance, foreplay, and sexual techniques—contributing to both sexes facing "new pressures to perform." For men,

274 Finegold, 30.
modern life had resulted in soaring concerns about impotence through: shell shock, the stresses of motoring, masturbation, and perhaps school age homosexuality, as reformer Marie Stopes noted. Whereas, the most successful interwar marriage manual writer, Van de Velde argued that sterility had more organic causes including "gonorrhea, diabetes, nephritis, tuberculosis, obesity.” Although he too felt that aspects of modern life were bad for male reproductive health including: “overuse of drugs, drink and tobacco; psychic fears of sin, disease, discovery and worries about virility.” Conversely, if sexual desire was too great it could cause as large a problem as too little. Katherine Bement Davis, in her landmark publication *Factors in the Sex Life of Twenty-Two Hundred Women* (1929) argued that some women had greater desires then their husbands, causing unhappiness in marriage. The discussion of male and female sexual incompetence had become a topic of public discussion by the interwar period. However, contemporaries thought impotence was caused jointly by the failure of men to play their part as initiators of sexual and romantic acts and by women's unhealthily assuming male behaviors and positions in society and marriage. Artificial insemination could be a means to solve issues of impotence by allowing conception with husband’s sperm even without successful intercourse. But, for those who were azoospermatic (without sperm) it became a site of fear as well as hope as the idea of using donor sperm became a real possibility. The object was not to remove men from marriage or procreation but the pressures of achieving fertility caused a new formulation of the status of the sterile man.

The politics of this radical change in the procedure, from assisting a couple in

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277 Theodore H. Van De Velde, *Fertility and Sterility in Marriage*, (1929). For more on sex and marriage guides see Michael Edward Melody and Linda Mary Peterson, *Teaching America About Sex: Marriage Guides and Sex Manuals from the Late Victorians to Dr. Ruth*, (NYU Press), 1999.
reproductive intercourse to assisting a couple in reproduction *removed* from intercourse with a donor, represented the dawn of a new era of post-modern reproduction and in so doing, a new configuration of the meaning of family.

Fred Hogue, a social commentator for the *Los Angeles Times*, expressed his fears about what artificial reproduction might mean for motherhood in the form of a joke. In 1939, Hogue told his readers that “insemination babies” might seem to be the logical next step after “incubator chickens.” Tongue in cheek he noted, “From the purely animalistic concept that repudiates alike God and virtue it would not be repulsive…a race of children so conceived is entirely realistic.”

Following thru on the likening of artificial insemination to new methods of incubating chicken eggs, however, in which the hen played no part in the rearing of her chicks he related a “persiflage” (an argument) he had overheard in a restaurant. The diner asked, “Why did you bring me an incubator chicken?” The waiter replied, “How do you know it is an incubation chicken? His answer was that “no chicken with a mother could be as tough as this.”

With the breakdown of what contemporaries thought was the natural social order of the family through the use of technologies that could remove one parent from not only the reproductive act, but also the act of rearing a child Hogue’s funny story tells of deeper fears about the fabric of American society. Callousness might become a standard social practice as God and women’s moral character faded from society. Physicians seemed uncomfortable as well, speculating not only on what might be the effects on marriage if the procedure became more routine but also, what it might mean to divorce pleasure (not just sex) from reproduction. Not all physicians were at ease with the questions raised by

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donor insemination and this triggered bridging tactics in the procedural aspects of insemination.

One particularly fascinating bridging technique was presented to the NY Academy of Medicine in 1931 by urologist, Dr. C. Travers Stepita. With the help of Dr. Joseph F. McCarthy, Director of the Department of Urology at the New York Post Graduate Medical School and Hospital of Columbia, Stepita recommended a new procedure—Physiologic Artificial Insemination.²⁸⁰ He remarked,

> In some instances of azoospermia or absence of spermatozoa in the semen, it has been recommended to obtain the semen from some individual other than the husband…only an intense desire for progeny on the part of the female and complaisance on the part of the husband justifies this procedure….it is disquieting to the female and “unphysiological in nature.”²⁸¹

The juxtaposition of womanly “desire” and male “complaisance” seems to denote the powerful cultural pressure to achieve parenthood men and women felt compliance was necessary on the part of the man to allow the physically painful process itself. Stepita attempted in one fell swoop to satisfy his female patients desire for motherhood and sexual intercourse, quelling the “disquieting” nature of the medical procedure by reintroducing the male organ into the procreative act, and simultaneously satisfy his male patients assumed desire for sex and heirs of the body (so to speak) by using “a cystourethroscope” to inject semen from a healthy blood relative of the husband into the seminal vesicle of the husband using a syringe. Apparently, “in precisely the same way in which sodium iodide solutions are used in obtaining seminal vesiculograms.” He noted that, “Coitus may be performed immediately or within a reasonable period after insemination, the act not being interfered with by the slight trauma or disturbance of the

tissue incidental to the instrumentation.” He went on to testify his belief that this method of impregnation enabled artificial insemination to be “perfectly natural and physiologic...[and] free from aesthetic objection on the part of the female. He acknowledged that more experiments were needed but hypothesized that this sperm injection method was also healthier for sperm because “the injected spermatozoa are not so ‘alien’ to their new habitat, as spermatozoa always are to the generative tract of the female.”

Dr. Kenneth Walker and eugenicist Herbert Brewer, were also concerned about sex, pleasure, and the intimacies of marriage that artificial insemination might disrupt— not only for prospective mother and father of the child but, for the sperm donor and his partner as well. They proposed that "spontaneous incisions" could be used to retrieve sperm donations from "the eutelegenetic father." For them, the central issues were that sexual acts should only be performed by married people and to avoid acts of masturbation. Eutelegenic donors who were married could easily perform "coitus condomatuis" to capture their donations, they commented in 1934 but, "celibate" donors should have sperm samples retrieved through incisions to avoid "unpleasant accusations" from the clerical community. And for woman recipients, preparation for insemination (i.e. orgasm to facilitate conception) need not be performed by husband or auto erotically, rather, new methods of electrical stimulation of the "nervous reflexes" could provide "exactly what is necessary."

282 Note: Biochemical investigations on the effects of various additives to sperm were ancillary to Stepita’s research on physiologic insemination. With Dr. John A. Killian at the Biochemistry Laboratories of the NY Post Graduate Medical School and Hospital, Stepita had been using new motion picture filming technology to investigate the effects of adding solutions of glucose buffered with phosphate and a hydrogen ion as a medium “for activation of sluggishly motile spermatozoa.” Stepita, “Physiologic Artificial Insemination,” 451.

283 Letter from Herbert Brewer to Dr. Blacker. Wellcome Archive. April 25, 1934.
By the end of the 1930s, artificial insemination had arrived in fertility specialist’s offices, and in the pages of the popular press. Society grappled with the implications of using a technology that not only displaced sex from reproduction, but also men, and more specifically, husbands from both. Some, like Frances Seymour and Herbert Brewer, envisioned this possibility as one that was a step towards a eugenic transformation of “the race” and reproduction. Others, like the editorial board of AJOG, feared the consequences of AID for their professional status and the status of sexual pleasure in America. Artificial insemination in practice drew physicians into new terrain in the 1930s, speaking not only about the science of fertility, but about desire, pleasure, marriage and the role of sex in reproduction, and individuals’ psychological development, and society.

From these cases one can see that AI emerged in the popular press and became a more widespread practice in the 1930s for a number of intersecting reasons. Firstly, early studies in biology, with their concerns about controlling both conception and breeding, helped to shape the goals of artificial insemination in the next decades of human insemination practices. As scholar Adele Clarke points out, the drive to rationalize and “discipline” reproduction centered around the control of life itself. Secondly, the power of eugenic ideas in America during this period was a platform upon which physicians supporting AID could base their arguments for an increase in the practice. Interwoven with eugenic notions of breeding perfect “scientific babies” were fears about declining birthrates, masculinity, and the place of sex in marriage that had resonance on an international scale. In an era that worried about the place of the “new woman” in society,
AI was particularly problematic as it held the possibility for unmarried or even virgin women to become pregnant. Although Herbert Brewer conceived of artificial insemination during this era as only “a simple manipulation, less painful than drawing a tooth and no more unchaste than an antenatal examination.” American physicians found that in practice (rather than a utopian vision of AI) that they were navigating in new waters—waters with hidden reefs in which questions of professional behavior in the news about subjects that had prior been solely in private spaces could shipwreck the standing of the troubled specialty of gynecology.

“Test tube babies” resonated with the hopes and concerns of 1930s Americans. The function that physicians, biologists and geneticists played in promulgating these accounts and a vision of what artificial insemination could mean in the future, points towards the unprecedented power of medicine and science in this era. However, it was impossible to separate eugenic ideologies from the understanding and practice of making “Eugenic Babies.” All of these issues touched upon questions that loomed large in American society—the status of the women and the home, the creation of a eugenic family and nation, and the power and role of science (and particularly eugenics) in understanding the creation of a child.

AI in the 1930s is a lens onto themes of family. For women, the history of artificial insemination in this era highlights new possibilities for finding romantic, sexual, and reproductive satisfaction in marriage. For men, it highlighted new understandings of men’s reproductive health (with new solutions to solve men’s reproductive problems—donor insemination) but, also fears about artificiality with the growing use of a language

284 Kevles, *In the Name of Eugenics*, 190.
about “test tube babies.” Artificial insemination also brings into relief anxieties about the status of American manhood as well as the overshadowing of fatherhood by the renewed attention to the importance of attaining white middle-class motherhood in the context of eugenic public health discourse. The confluence of these eugenic ideas, the status of specialized medicine, and broader cultural changes about the role of desire in sex and marriage together allowed artificial insemination to emerge in a new manifestation for a new era—a positive eugenic tool for remaking society and modern marriage.

On the eve of World War II, many of the hallmarks that would define the technology of artificial insemination in the decades after the war were already present. Sperm donation, although representing only one-third of all inseminations offered by 1941, had arrived in American society. The first studies in cryopreservation had started which would be successfully tested in the years after the war on human subjects. The idea of controlling conception was a powerful one and ready to be further institutionalized with the creation of the first large-scale fertility centers, complete with urologists, gynecologists, and endocrinologists, in the decades after the war. And importantly, an uncertainty about the role of men in marriage would reach new heights after World War II as artificial insemination became a therapy to rehabilitate war torn bodies, marriages, and the nation.
Chapter 3

Rehabilitating Bodies: Disabled Veterans, Childless Rosie the Riveters, and the Birth of Modern Cattle Breeding

In the spring of 1958 songs from the hit musical South Pacific were flooding the airwaves, Americans were marveling at the scientific triumph of the first U.S. satellite launched into space, Explorer 1, and the director of the FBI, J. Edgar Hoover, had just pronounced that “homemakers and mothers” were fighting “the twin enemies of freedom—crime and communism” by fulfilling their maternal “career.” Mrs. and Mr. H were arriving at the doors of the Rock Reproductive Clinic in Brookline, MA, one of the premier infertility clinics in the United States. The clinic was known for its pioneering work on reproductive biology. John Rock and Mirriam Menkin’s studies on in vitro fertilization had already stirred hope and speculation worldwide and his discovery of a workable hormonal contraceptive, the birth control pill would transform the landscape of reproductive health just two years after the couples’ visit. In vitro fertilization, artificial insemination, and the pill were all part of the same enterprise—controlling reproduction to satisfy patient desires about if and when they had children. This particular couple had not conceived after seven years of marriage. Dr. Rock sadly told Mr. H that a childhood case of mumps had harmed him irreparably—he could not produce viable sperm.

Mr. H was representative of one of the last generations of adolescent boys in America who had this disease before the introduction of a vaccine for the Rubalavirus.

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287 In a third of all cases of mumps in men, mumps orchitis developed, and a result could be similar to Mr. H’s—underdeveloped testicles.
1967, and who later learned that they had experienced testicular atrophy. Therefore, AI was intimately tied with the process of older diseases fading away as a site of concern with the advent of new treatments as well as the persistence of even well known disease etiologies (in this case of testicular atrophy), like gonorrhea, despite medical knowledge. In spite of the effects of mumps, Dr. Rock explained that he had an experiment in which they could take part that would give them “desirous consequences.” Following the advice of their trusted physician, the H’s visited the clinic four times in the spring of 1958 on days 14, 16, 18, and 20 of Mrs. H’s menstrual cycle, the probable (although impossible to predict) time of her ovulation. On these days, four samples of “frozen thawed normal semen (not Mr. H’s) was placed at the portio of Mrs. M.”

The ejaculates were injected through a tube into a cervical polyethylene cap placed near her cervix. The couple and physicians waited. Ten days after Mrs. H’s period was expected a Rana Pipiens frog test was performed and found to be positive. Mrs. H was pregnant.

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288 Although the reported cases of mumps dropped by 99% since the vaccine was introduced in 1967, it has not completely disappeared. In 2006, more than six thousand five hundred cases were reported. Since there is no direct treatment for mumps and because complications include meningitis, testicular inflammation in males, and inflammation of the ovaries or breasts in females who have reached puberty, permanent deafness in one or both ears as well as a potential increase in miscarriages among pregnant women who are infected with mumps during their first trimester, mumps is still a concern for reproductive health care today. For more on the contemporary status of mumps and vaccines see the College of Physicians of Philadelphia Website, The History of Vaccines, accessed March 12, 2013, http://www.historyofvaccines.org.


290 The portio is the portion of the cervix that extends into the vagina.

291 The cervix is the lower, narrow portion of the uterus where it joins with the top end of the vagina.


293 Following a normal pregnancy, Mrs. H went into labor on Dec 29, 1958 but the male infant lived only thirteen hours. Autopsy revealed a congenital heart condition, according to Rock “a relatively common malformation.” There was no evidence that this tragedy was “related to the use of frozen-thawed semen.” Although, no one was completely certain as to the side effects of experimentally freezing reproductive cells in this way. A year later, a successful case with twenty-three year old Mrs. M, married for more than two years, produced “a normal female infant, weighing seven pounds, three ounces, delivered on Jan 19, 1959.
This chapter will discuss what changes in the status of American families, clinical practice, and human and animal biological research influenced the choices made by patients and clinicians to produce an estimated 50,000 babies born using artificial insemination by 1960.\textsuperscript{294} It will question how artificial insemination was understood in a post-war and Cold War context.\textsuperscript{295} Concerns of the late 1940s and the 1950s—of homosexuality, the importance of family life, and of America’s place as a nation—shaped the interrelated and sometimes competing narratives expressed by physicians, patients, and scientists as they used artificial insemination and re-imagined it as a cutting edge technology. At this critical moment in the creation of the first generation of infertility clinics, in what is often termed “the golden age” of American medicine this chapter confronts the question: what did AI mean for a postwar society concerned with the reintegration of soldiers, the rebuilding of families, and the ability of medical technologies to conquer biomedical problems—from polio to infertility?

I interrogate this question by zeroing in on particular sites of ideological, scientific, and bodily conflict as they arose between users and practitioners of AI. Three cases exemplify the contests over the rehabilitative nature of AI during this period: the status of artificial insemination as a tool for disabled men, the intervention of psychiatry into defining desires for parenthood, normal families, and to regulating access to AI, and finally, the dramatic expansion of cattle production using AI. Taking center stage in the

\textsuperscript{294} Milton Golin, “Paternity by Proxy,” Medico-Legal Digest, May 1960.

\textsuperscript{295} By Cold War I am particularly referring to the gendered cultural politics of containment in America between the close of WWII and the early 1960s as examined in such texts as: Elaine Tyler May, Homeward Bound: American Families in the Cold War Era, (Basic Books, 2008). Carolyn Herbst Lewis, Prescription for Heterosexuality: Sexual Citizenship in the Cold War Era, (Chapel Hill: UNC Press, 2010).
story of artificial insemination, this chapter focuses particularly on how the reproductive bodies of veterans became interwoven into technological and rehabilitative narratives about artificial insemination after their return home from World War II. And, it investigates how gendered silences and concerns are articulated in this time period. Current histories portray the 1940s and 1950s as one in which women were the primary reproductive actors and biomedical subjects. By revisiting this history through the lens of AI, the post-war medical and social landscape can be recast not only as a moment in which women’s and men’s bodies were a joint object of study, but also as one where men were active actors in trying to influence reproductive outcomes. This chapter aims to reinsert artificial insemination as an important technology of reproduction during this era, which historiographies have tended to explore as a period primarily concerned with abortion and sterilization.296

I. Rehabilitating Injured Veterans

Historian William Graebner has dubbed 1940s America as “a culture of contingency” and “an age of doubt” as the traumas of war and cold war, the atomic bomb, and the murder of millions of Jews and others caused a crisis of anxiety in American culture and thought.297 As the United States shifted from a culture at war to a culture at peace new ideals, concerns, and goals emerged for men and women—centered


on the importance of family, a return to traditional gender roles, individualism and freedom, and domestic consumption. American society focused on how able-bodied men could return from the war and how the hundreds and thousands of women who had joined the war time labor force would return to the home, hearth, and motherhood. It is not surprising then, that men who did not return able-bodied and who had impaired abilities to not only conceive, but to have sex with their partners pursued alternative means by which to achieve parenthood.

For veterans, the rehabilitative ethos of the post-war era became especially loaded onto their bodies. As many scholars of disability have noted, fears of declining masculinity often center on the disabled veterans body—a symbol of what is often considered the height of the male ideal, the heroic soldier—as it becomes broken, changed, and often, dependent.\(^{298}\) Men returning from the war, with disabilities that included the loss of a limb or disfiguring injuries to the face or body, were able to for the first time rehabilitate their bodies with new technologies that emerged during the 1940s and 1950s. Historian David Serlin and has shown how the need to rehabilitate veterans bodies, to mediate the break between the public perception of the ideal masculine body and the reality of veteran’s bodies that were no longer whole, drove research and development in prosthetics, ultimately producing a new biomedical subdiscipline. Similar objectives spurred research and developments in plastic surgery that were

\(^{298}\) More generally, debility disrupts and intensifies social relations. Issues of long-term care throw social responsibilities (of mothers, in-laws, sisters, husbands, wives, etc.) into sharp relief as historian Julie Livingston has argued, “Safety nets and moral economies are tested… The deep relationship of the body to the person is exposed, both for the subject and those around her [or him].” People attempt to make sense of bodily changes by transforming their expectations and normative expectations while they incorporate new technologies into the management of their debility. Julie Livingston, *Debility and the Moral Imagination in Botswana*, (Indiana University Press, 2005), 3.
enthusiastically followed by the American press. That soldiers could be rehabilitated
with modern medicine took new arenas of biomedical inquiry, like cosmetic surgery into
the mainstream.\footnote{299}

Rehabilitative medicine more broadly was undergoing a transformation in the
years after the war. A confluence of war, politics, and philanthropy expanded the role of
rehabilitative medicine as inpatient rehabilitation programs attempted to first meet the
needs of returning veterans and national level advocacy extended medical and vocational
rehabilitation programs to civilians.\footnote{300} And although the body politics of Franklin
Delano Roosevelt were complicated by a collaboration of the press and family to present
a vision of ableness- the American nation had been led by a disabled man during World
War II and elected him to a historic four term presidency.\footnote{301} Furthermore, the intensive
media campaigns of National Foundation for Infantile Paralysis (known to most as the
March of Dimes) coupled with a rash of polio epidemics in 1944 had disability, children,
and modern medicine at the forefront of peoples minds.\footnote{302} Amidst this changing
landscape of disability, the role of medicine in American life was beginning to be
perceived as a right to which citizens were entitled and health insurance underwent
tremendous growth.

\footnote{299} Although plastic surgery research was spurred by veterans, cosmetic procedures produced the post-war
boom in plastic surgery fostered by a culture focused on beauty, youth, and consumption. For instance, JAMA published an article by Dr. Robert Potter entitled, “Farewell to Ugliness” in which the connection between veterans and beauty was explained. “The matron with too many crows feet around the eyes will have new hope and faith because of plastic surgery on wounded veterans.” Elizabeth Haiken, Venus Envy: A History of Cosmetic Surgery, (Johns Hopkins University Press, 1999), 132,137, and 155.

\footnote{300} Richard Verville, War, Politics, and Philanthropy: The History of Rehabilitation Medicine, (University Press of America, 2009), 59.

\footnote{301} For more on FDR’s disability and it public and personal management of its knowledge see Gallagher, Hugh Gregory, FDR’s Splendid Deception: The Moving Story of Roosevelt’s Massive Disability and the Intense Efforts to Conceal It from the Public, (Vandamere Press, 1993).

In such a context it would seem likely that artificial insemination by donor, making families and fathers, would be supported by the medical profession as they sought to rehabilitate the social lives and physical bodies of veterans. Contemporaries surely envisioned artificial insemination playing such a role. For instance, in a 1945 issue of Woman’s Home Companion entitled “Fathers Anonymous,” a doctor notes “The War will also increase the number of sterile men. And the big problem today...is not birth control but sterility—not the question of how NOT to have children but of how to HAVE them. The whole subject has been too long neglected...the proper study of mankind is man.” The editor went on to note that “Problems of human fertility and infertility are more important today than ever in view of the casualties in WW II, and science is giving renewed attention to one of the possible answers—artificial insemination. We are publishing this objective account not with desire to enlist support, but to inform the women of America.” Women would need this knowledge as their husbands returned from the war, who were often not physically or emotionally the same as when they had left for the front.

Most fertility specialists understood AI as a means by which to save marriages and manhood in intractant cases of male sterility (inability to perform coitus, low or no sperm count, and to avoid hereditary diseases). Yet, the trajectory of the history of artificial insemination with, what can be considered to be the penultimate group to be rehabilitated in the post-war era, veterans, differed in significant ways from the course of

other “rehabilitative” technologies, like prosthetics. Prosthetics was embraced by the Veterans Administration (VA), physicians, and medical supply companies; resulting in the adoption of new forms of bodily practice, management, and technologies. In contrast, acceptance of artificial insemination was fought for by veterans groups and paraplegics but the VA banned its adoption. This section investigates where the boundaries of the rehabilitative ethos in post-war society were created and the politics behind their creation.

In 1947, the U.S. Veterans Administration began a special research project into the fertility problems of the over 1600 paraplegic men injured in World War II. The study began against a backdrop of large changes in the structure of medicine within the Veterans Administration. The former chief Surgeon for the European Theater, Major General Paul Hawley helped to form a separate department of medicine, outpatient treatment for veterans with disabilities, and established resident and teaching fellowships in VA hospitals. For the first time VA hospitals began to affiliate with medical schools and as medical staffs were removed from civil service rules the recruitment of doctors and nurses began to intensify. The California Van Nuys Hospital, eventually known as Birmingham General Hospital, was a flagship of these new efforts in many ways. Flung up in quick order by the War Department in 1943, the hospital was a sprawling complex spread over 146 acres at the foot of the Hollywood Hills. With close to 1800 beds, it was a debarkation hospital for troops returning from Europe and the South Pacific. Seen by contemporaries as “the last word in government hospitals,” it specialized in general medicine, the treatment of syphilis and rheumatic fever, psychiatry, and the care and training of paraplegic veterans (see Photo 1).\footnote{These were veterans who, usually because of trauma to the spinal cord, were paralyzed from the waist down. Quote from audio recording of The Bob Hope Show, Van Nuys Hospital, May 15, 1945.}
Urologist Ernest Bors was chief of the services offered to paralyzed veterans at the VA hospital at Van Nuys. In 1947, he traveled to Washington D.C. to discuss with the chiefs of other VA hospitals the problems of fertility in his patients. We can get some sense of the background of the men in question from a report about a subset of the cohort who chose to enter a Rehabilitation and Education program offered at the hospital. Between 1946 and 1948 some two hundred and sixteen paraplegic men started the program, although only about half would complete their training. They were relatively young. Most were about twenty-five years old and white (almost ninety percent) although there were “Mexican, Negro, Indian, Japanese and Filipino veterans” wrote the physician-authors. They were a relatively well-educated group, with a mean of 11.1 years of schooling (almost a high school education) and they overwhelmingly came from

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305 Postcard courtesy of the California Military Museum Website, Birmingham General Hospital Page [www.militarymuseum.org](http://www.militarymuseum.org) [accessed March 12, 2013].

the Army (84%) but also from the Navy and the Marine Corp. They represented privates, non-commissioned officers, and commissioned officers. Most reported that they were single (60%) but a significant cohort were married (35%). Only 5% were divorced or separated. More generally, paraplegic veterans were being provided $480 in compensation per month, and a free automobile and home, so that they could live “near normal lives despite their paralysis” said one reporter at *The Washington Post*.  

Dr. Bors was sent to Washington, DC at the urging of these injured veterans, particularly those that were married. Bors would later note the “natural desire of patients with spinal cord injuries to have children” had motivated him to study them since “reproduction among male patients with a spinal cord injury is rare, although not impossible [because]...the percentage of motile sperm is low.” But the concerns of the physicians and the injured men were not one in the same—the former was concerned with the creation of knowledge, sexual reproduction, and a biological vision of family, the latter with achieving fatherhood by whatever means.

At the onset of the infertility project the paraplegics, likely through the auspices of the newly formed Paralyzed Veterans of America service organization, suggested setting up an artificial insemination clinic for “married former GIs who suffered a loss of natural function.” The proposed clinic would provide for “artificially transferring the male reproductive cells from the paralytic husband to the wife.” During World War II soldiers had consulted Army physicians for advice and treatment on “childless marriages” so their request was not a significant break in the relationship between

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310 *Ibid*.
military men and their care providers. For instance, the seventy-nine soldiers that visited urologist Fred A. Simmons between December 1941 and 1946 willingly provided him semen samples to test their fertility.\(^{311}\) Thus, as discussed in the last chapter, similar to their army forefathers in World War I, soldiers and veterans relied on military medical professionals to assist them with these intimate problems of procreation.

There were boundaries to this intimate assistance, however. Instituting an insemination program within the VA system, in which veterans would be helped to ejaculate and then inseminate their wives, was briefly considered but then rejected by the group of physicians in Washington DC. Medical chiefs turned down the proposal on the grounds that it was “outside the scope of a VA hospital care and treatment.”\(^{312}\) They felt that artificial insemination was a “problem” that was “too involved in controversial religious, legal, and social questions.”\(^{313}\) Their definition of the “problem” of artificial insemination reveals that physicians were not concerned with the actual request made by veterans for artificial insemination with husband’s sperm. There were no legal problems with AIH, a child conceived in this way was still the husband’s heir and a woman had not had sex outside of marriage. Instead, this shows that physicians had either already had requests to expand the proposed clinics services to include providing sperm donors or that they believed that they would in the future. Concerns about publicity—which, because of the questionable nature of artificial insemination by donor, would be radically different from the kind of laudatory lines physicians received for their work with prosthetics and plastic surgery—were a factor in their decision. The meeting, and the

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topic of a donation clinic, was covered by reporters and published in *The Washington Post*. Still a subject that evoked almost equal parts of support and disapproval, according to a Gallup Poll, in England, 23% approved of AI while 45% were against its use. Gallup reported that in the United States a slightly higher number (27%) were in favor while 31% disapproved.\textsuperscript{314} For physicians, artificial insemination could be both a reputational risk and a professional risk, since there were still no legal guidelines for the used of donor insemination. And yet, the VA hospital would seem like an answer to infertility specialists prayers, a hospital setting in which men could address their fertility problems without being surrounded by women. This was the kind of clinical context that leading fertility specialist and soon to be inventor of the birth control pill, John Rock had asked his board to institute at the Free Hospital in Boston for years. Furthermore, fatherhood in particular was seen as the ultimate means by which soldiers could reintegrate and renormalize their lives. So why then, would VA physicians deny the request of these injured men for access to artificial insemination?

One potential cause could have been the status of American medicine and the place of the physician in society. Often deemed the “Golden Age” of American medicine, new cures like penicillin (which became widely available to the American military during WWII) lifted the status of physicians to that of miracle makers for contemporaries.\textsuperscript{315} They also held a particular place in the minds and hearts of former veterans, who had turned to military doctors for help during the war. Bob Hope, in a live show for injured GI’s at Birmingham VA Hospital in May of 1945 aptly sums up the feeling of veterans towards physicians at the time.

\textsuperscript{315}Thomas Hager, *The Demon Under the Microscope: From Battlefield Hospitals to Nazi Labs, One Doctor’s Heroic Search for the World’s First Miracle Drug*, 1st ed. (Harmony, 2006).
There has been no bigger battle in this war than the medic’s battle against the casualty list. And his losses have been mighty few. Time and time again when death slips away for a touch down run, the medic nails him like an All-American end. Yes, sir, it must be a comforting thing when a soldier goes into battle to be able to say, “God is on my side, and thank God the American doctor is too.”

For physicians in this context of scientific miracles and unquestioned authority, donor insemination would not have been understood as a part of the biomedical mission of healing through research and scientific experimentation. There was little of scientific or medical value to be learned by urologists from instituting donor insemination. Donor insemination did not cure a condition. One did not learn more about a disease or dysfunction through its use—it was a therapeutic device that solved an insurmountable biological problem—the inability to biologically father a child. It cured the perceived social problem of childlessness but not the biomedical problems of sterility and impotence. This group of veterans also presented a particular problem to the method of AID, as practiced during this era. With a visible disability (lower body paralysis) that many contemporaries might have suspected resulted in sterility, the solution of donor insemination was one that would detectably break the mold of biological fatherhood and of traditional marriage when the couple announced their pregnancy. This was a secret that could not be kept.

For these reasons and others, the VA decided on a different path—they sponsored a research project that aimed to keep boundaries of marriage, biological fatherhood, and assumedly, the ability to have sex intact by “stimulating fertility” in the veterans rather than providing AID. Lead physician on the project, Dr. E. Bors directed his focus to

316 Bob Hope, Audio recording of The Bob Hope Show, Van Nuys Hospital, May 15, 1945.
“endocrine, genital, and neurophysiologic” issues and to potential links between the sympathetic nervous system and the control of temperature in the testes. Fertility specialists had established the negative relationship between high scrotal temperatures and fertility. Consequently, “sweating tests” followed by “direct observation” were performed on the veterans to see if their testes could regulate temperature. The role of infection in the prostate fluid was examined (a large concern for paralyzed men who suffered from repeated upper urinary tract infections and ulcers). Finally, the new research investigated the sex function (here defined as the ability to have an erection and ejaculate) and the sexual dreams of thirty-four veterans. Evidence of the rise of psychoanalysis in American culture and in understandings of somatic pathology, the researchers were interested in patient’s “complete” and “dry” sexual dreams. They found that there was no correlation between the dream life of veterans and either their biopsy findings or the extent of their injury. However, the study would define a new histopathology after repeated testicular biopsies. The finding, “Secondary atrophy,” was identified as a state relatively distinct to paraplegic cases and consisted of “a greatly reduced cell populations, generalized pyknosis of all cells, and complete absence of mitotic activity in any of the germ cells.”

The Bors study on paraplegics was one of the first but it was certainly not the last to investigate the fertility of paralyzed veterans. Sterility remained an issue at large in

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318 Only eighteen retained the ability to have “complete erections.”
319 They established a rubric for the sexual dreams and coded an incomplete dream as one that lacked orgasm, a complete dry dream as one with an orgasm but without ejaculations; and a complete wet dream contained both. E. Bors, “Fertility in Paraplegic Males a Preliminary Report of Endocrine Studies,” *Journal of Clinical Endocrinology Metab* 10, no. 4 (April 1950): 393.
320 Ibid, 385.
VA hospitals and in lectures to physicians treating veterans.\textsuperscript{321} Regardless, it would not be until ten years later, outside of the United States that another group of paraplegics at Tel Hashomer Government Hospital in Tel-Aviv, Israel would combine “stimulating fertility” research with artificial insemination to effect conception. These Israeli men were able to inseminate their wives after receiving intrathecal injections of the muscle stimulant neostigmine thereby inducing repeated ejaculation.\textsuperscript{322} This practice would become more widely used in assisting paraplegic patients achieve parenthood in the decades to follow.\textsuperscript{323} The VA continued to be a site of other attempts to restore not only fertility but also pleasure and sexual abilities to the so called “penile cripple.”\textsuperscript{324}

For this group of veterans in the United States, ten years in the future was too late. Their request for donor insemination exposes that their immediate desire to be a social father, even if it removed them from both sex and reproduction, was greater than


\textsuperscript{322} Note: Neostigmine was a muscle stimulant first synthesized in the 1930s. Ralph Spira, “Artificial Insemination After Intrathecal Injection of Neostigmine in a Paraplegic,” The Lancet 267, no. 6924 (May 12, 1956): 670-671.


\textsuperscript{324} Twenty years later VA hospitals were still involved in experimental research for treatment of veterans experiencing loss of penile function. However, the goal was no longer one of procreation but rather, sexual pleasure and intercourse. In a 1967 article by Robert Pearman in The Journal of Urology, this University of California Medical Center and the VA Center physician reported, “effective therapy of the impotent male patient presents a challenge in urological practice. The mechanism of copulation requires a complex co-ordination of the nervous, vascular and muscular systems… Although psychic factors are responsible for most cases of impotence, a small percentage of cases will be found which are of organic origin. As yet, external appliances are crude in design and construction, difficult to apply and usually unsatisfactory to the wearer. Sex drive and function and the importance assigned to them by each individual are as varied as his occupation. The “penile cripple” deserves as much thought and consideration as that which is given to his other deranged physiologic and pathologic functions…the prosthesis serves only as a stilt or crutch which enables the patient to insert his penis into the vagina… The patient should have a strong sexual desire, normal sensation of the penis and be able to have some semblance of an orgasm. The patient also must feel that this aspect of his life is important enough for him to assume the calculated risk of an operation and its possible complications… The results to date have been most encouraging in 5 patients.” Robert Pearman. “Treatment of Organic impotence by implantation of a penile prosthesis,” The Journal of Urology, Vol. 97, April (1967).
the pull to undergo time consuming, painful, and most likely, humiliating medical research to have the chance of conceiving with their partner.\textsuperscript{325} Private clinics were already offering this service, so what other factors might have affected the VA’s decision to bar donor services from paralyzed veterans? Again, these were veterans injured in the line of duty—that VA physicians would turn down such a request in the midst of a national culture that was incredibly focused on rehabilitating and integrating its soldiers back into an American home life was unusual.\textsuperscript{326} Especially these severely veterans, around whom so much discourse about the triumph of modern medicine and its ability to restore male bodies and masculinity, revolved.

In the public sphere, narratives about the ability of injured veterans to convalesce and conquer their disabilities using the wonders of American science and medicine, prosthesis and surgery, were widespread. Significantly, one break from this propaganda occurred in a feature film about the paraplegic men at Birmingham Army Hospital who in real life, so ardently requested artificial insemination. The social, physical, and sexual plight of these veterans was dramatically portrayed in the 1950 film \textit{The Men} starring Marlon Brando. In this, Brando’s first feature film, at his own request he spent over a month living with and learning from the paralyzed veterans at the hospital to faithfully render their feelings, trials, and how they navigated the physical world on film.\textsuperscript{327} \textit{Life} magazine documented how Brando and a few of the veterans at the hospital in a moment

\textsuperscript{325} Many of the patients retained the ability to feel testicular pain and were given anesthesia.
\textsuperscript{326} The GI Bill had just been passed by Franklin Delano Roosevelt and in the next 10 years over 2.4 million veterans received home loans backed by the Veterans' Administration (VA), a boost on the way towards achieving the American dream of a suburban home for their families. Lizabeth Cohen, \textit{A Consumers' Republic: The Politics of Mass Consumption in Postwar America}, 1st ed. (New York: Knopf ;Distributed by Random House, 2003).
\textsuperscript{327} For more on Brando at the VA Hospital see \textit{Life} magazine’s 1949 article on the actor with epic photos by Ed Clark.
of respite—Brando, standing in the sun with the script in hand and veterans seizing the chance for a game of cards.

Photo 2: *Life* Photograph of Marlon Brando at Van Nuys VA Hospital in 1949

Brando played a young paraplegic veteran, Ken, who is bitter, insecure, depressed, and full of rage. Such a portrayal of veterans was a ground breaking anti-
rehabilitative narrative. After World War II, veterans were expected to conform and be victorious, hopeful patients. When the lead physician character in the film asked a patient named Mr. Butler, “Don’t you want to be rehabilitated?” Butler replies, “No. I don’t want to be readjusted, be reconditioned, or re-anything. And, if you don’t mind, I don’t want to take my proper place in society.” The film was also unusual in that it tackled the love and sexual lives of these young veterans. Brando’s fraught relationship with his fiancé is one of the central themes in the movie. Furthermore, in one of the opening sequences of the film, Dr. Brock (the lead physician, perhaps based on the real life Dr. Bors), describes to an audience of wives and mothers what paraplegia is, what kind of care is required, and what expectations they should have. One woman stands up and asks softly at the point of tears, “Doctor, we have a little girl and always wanted to have a large family, will this be possible? For the child’s sake?,” Dr. Brocks replies, “It’s hard to say…let’s meet privately.”

One heartfelt letter, a request for access to artificial insemination, was made to Dr. Rock and provides another window into the experience of married disabled men during this period. It was penned by an Oklahoma man who had suffered a bad fall before World War II. Paralyzed from the neck down, he wished “to obtain sperm from myself for insemination into my wife for pregnancy.” He wondered if this could be done with a man in his condition. He had read in a magazine article about artificial insemination and knew that it was being more widely practiced by the time of his letter in 1945. Although

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he had concerns about cost in a private clinic, he hoped that the price “has come to within our reach and that we may even be able to obtain the service locally.” However, this man did not just consider his own needs but rather the future needs of injured veterans that were shortly to return from the frontlines. He wrote:

I believe that I am—perhaps only the first to present his wish, or problem before the various doctors the nation over, as with the war casualties we have a great many men who are married to young women who desire children, some who have one and are financially able to care and provide for more, but who are unable to provide the normal physically. From my viewpoint if this method proved satisfactory and was within reach of these physically handicapped, I think that it might prevent untold heartaches and divorces.

The stakes were clear for this man and for the veterans and their families—the ability to have children was seen as a means to prevent divorce. It was the glue that held families together and for this husband, his wife’s happiness was his central concern.

I personally think always either in sickness or accident that the ones who care for the patient are the worse sufferers for it all, in long duration cases. As in my case, I have my wife tied here for the rest of life, or hers, the first terminated, along with me, even though I can provide for her, her life is completely upset and abnormal and against natural instincts and intentions. Of course, I realize it was something that cant be helped…but I’ve often worried and sweated over it and will again and more and my thoughts are with these permanently disabled veterans and their young wives, who feel too honor bound to stick with them. …

On the close of the war, this man shared the most intimate details of his body “with the hopes of helping someone else later on. If not ourselves, my wife and I. I have no bitterness.”

During the 1940s and 1950s, Robert Murphy noted that “Paralytic disability constitute(d) emasculation of a…direct and total nature.” For men, the weakening and atrophy of the body that occurred after their paralysis “threaten(ed) all the cultural values

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of masculinity: strength, activeness, speed, virility, stamina, and fortitude.”  

At the same time David Serlin has suggested that the disability of veterans specifically, was culturally coded in the 1940s and increasingly in the 1950s as “the material proof that confirm[ed] one’s service to warfare, to the modern state, to industrial capitalism: these help to preserve patriotic values and respectable citizenship.” He argues that other kinds of hereditary disability, similarly to Murphy, came to represent a form of stigmatization of the male body as “weak, effeminate, and inimical to normative heterosexual versions of manly competence.”

Convincingly, Serlin contends that these types of disabled bodies created a continuum, and a hierarchy of values, about differently abled individuals. What the case of artificial insemination can add to this insight is that there were both real and symbolic limits to what the group at the top of the continuum could bear and still maintain its status. When paraplegic veterans attempted to solve their childlessness using donor insemination, in a way that paradoxically confirmed the values of respectable citizenship through fatherhood and the family but at the same time brought them into question, physicians resisted. Instead, doctors at the VA sought to recreate a more acceptable form of masculinity, family, and literally, (re)productivity while they simultaneously reinscribed the boundaries of appropriate patient behavior and scientific research by pursuing a study on how to stimulate fertility in these veterans bodies.

Conceivably, to these men, who were attempting to navigate a medical culture which encouraged its disabled patients to “fight it like a man” while confronting “the overwhelming, degrading conditions of dependency that belong with infancy and

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childhood” (as one Naval officer described his disabled state), artificial insemination using donor sperm represented a step towards their understanding of masculinity. Through fatherhood, they became a caretaker, rather than someone to be cared for. They also eventually, gained an additional caretaker for themselves as they aged. And perhaps, when the use of donor insemination remained unsaid, it functioned in a similar way as it did to the rest of sterile men who used it during this period, as a semblance of virility. On the other hand, those paraplegic veterans at the Birmingham VA hospital who resigned themselves to the changed nature of the study—towards the “stimulation of fertility”—were still able to achieve a certain vision of masculinity by “fighting it like a man” and becoming the ideal patient who willingly followed medical advice with a hopeful outlook. Historian Michael Kimmel has argued that one of the dominant ways to maintain manhood during the 1940s and 1950s was to cope. In other words, to “learn to live with it.” To be real men, they needed to conquer their physical and mental disabilities, they might still have symptoms of disability or fear, but they must carry on.333 In this case, with these veterans, they submitted to rehabilitative therapies and procedures that did not produce success for almost all of the veterans—a child of their own.334 Only one patient of the thirty-four enrolled in the Van Nuys Hospital study would eventually conceive with his partner.

334 Note: there are many similarities between the experiences of male polio patients of the 1940s and 1950s in their negotiation of post-World War II cultural scripts of masculinity in the context of disability and biomedicalization. For more on this topic see: Daniel Wison, Chapter “Fighting Polio Like a Man: Intersections of Masculinity, Disability and Aging,” in Bonnie G. Smith and Beth Hutchison, Gendering Disability (Rutgers University Press, 2004).
II. Healing the American Family: Artificial Insemination in Rehabilitative Psychiatry, The Fertility Clinic, and the Popular Press

When artificial insemination was considered as a means to heal the minds, bodies, and families the usefulness and appropriateness of the technology was seen in broader American culture in a much more positive light than within the VA hospital system. In the two decades after WWII, artificial insemination by donor became increasingly used in the treatment of infertility and, coupled with artificial insemination by husband, would ultimately produce some 50,000 babies during these years.\textsuperscript{335} The status of the technology was influenced by powerful pressures to conform to post-war notions of domesticity (which included having children), appropriate norms of gender and sexuality for men and women, and by the increasing place and power of psychiatry in American medicine and culture. Women and men became entangled in these pressures in particularly gendered ways as they negotiated postwar fertility care and the competing discourses they encountered of pro-natalism and psychosomatic sterility. As is the case with other kinds of scientific knowledge, scientific publications about AI were not widely read or accessible to a significant percentage of the general population. Nevertheless, knowledge about artificial insemination became widely available in film, newspapers and women’s magazines after World War II. A change in news culture facilitated this trend as social realism—in which intimate moments and human experiences were reproduced for mass consumption—lent itself well to stories of AI. More generally, human-interest stories abounded which emphasized common and gendered tropes including: American womanhood, femininity, motherhood, romance and stereotypical masculinity and held a subtext of fear about failing American masculinity, latent homosexuality, and overly

\textsuperscript{335} Milton Golin, “Paternity by Proxy,” \textit{Medico-Legal Digest} (May 1960).
powerful femininity in a wide variety of medias. In these popular accounts, patient voices and perspectives began to emerge with more regularly and an increasing number of letters was sent to fertility specialists by curious, and sometimes desperate, childless couples.

The late 1940s and the 1950s were a period of change and growth in the demography of the United States and in the research and practice of artificial insemination. Americans were having babies after GIs returned home from WW II—they were marrying earlier than their parents and were having bigger families. The average American family had 3 to 4 children, while its predecessors in the 1930s had only had 2.4. For those couples struggling to conceive, there was increased pressure to solve their childlessness with the guidance of family physicians and infertility specialists. This “baby-boom” culture placed parenthood squarely at the center of American cultural life. In this context, rife with stories of reproduction and parenting, male infertility was being studied widely for the first time, and it was proving intractable.

As discussed in the last chapter, in 1949 urologist Gerald Moench had codified the ability to count sperm, assess their motility, and morphology, but physicians still argued about what was considered infertile. Was there a benchmark of numbers or motility of sperm below which a man could never affect a pregnancy? Or, was there hope as long as there were a small number of normal sperm in a sample? These questions were widely debated by urologists and gynecologists. True azoospermia, no sperm production at all, was and is rare and incurable, oligospermia (inadequate sperm

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production) was much more common. Physicians prescribed many different therapies to cure this condition including, exercise, relaxation, lettuce,\footnote{Physicians hypothesized that since rabbits ate lots of lettuce and were highly fertile similar dietary behavior could improve the fertility of men.} wearing loose clothing, prostatic massage, and intermittent sex. Patients were told to reduce their exposure to x-rays and automobile emissions. Infertile men also received thyroid hormonal treatments derived from the extracts of bull testicles and testosterone in solution, tablet and pellet form in an effort to improve spermatogenesis.\footnote{John Rock reported on the Effect of Testosterone Proportionate in Oligospermia and stated that “since 1952...5 wives became pregnant.” Statement from “Annual Report of the Director of the Fertility and Endocrine Clinic and Laboratory, Free Hospital for Women, 1 October 1953-30 September 1954,” 1954, Box1: Folder 1, 2.} These treatments were rarely effective. Historian Marsh and physician Ronner have pointed out—unless a dietary deficiency or an infection (such as an infected tooth) was causing the problem—nothing would make a man more fertile.\footnote{Marsh and Ronner, The Fertility Doctor, 136.}

Artificial insemination, however, could increase a man’s ability to impregnate his partner. As will be discussed in more technical detail in the following chapter, by 1948 fertility specialist and soon to be inventor of the birth control pill, Dr. John Rock had developed a technique that concentrated the semen used in artificial insemination. Paired with artificial insemination, this concentration process could increase the likelihood of conception for men who did not possess enough motile sperm to conceive via coitus. This innovation enable Rock to tell a much beleaguered Mr. M.H., who had lost weight, been under dietary restrictions, and attempted various “injections”: “In two out of twelve cases such as yours I have obtained pregnancies by laboratory treatment of the ejaculate...
before placing a concentrated portion of it high in the uterus.”

Open discussion of this technique occurred between Dr. Rock and his patient as well as between Rock and the infertility specialist in New York whom Mr. M.H. had initially seen. Combined with a test that could date the endometrial lining of a woman’s uterus to discern (after the fact) if ovulation had occurred—the timing of insemination and coital attempts could now be planned with much greater accuracy.

By 1950, the Rock Fertility and Endocrine Clinics were running special Saturday morning clinics for men only. Although, apparently there were “rather reluctant husbands” according to John Rock and Dr. Walter Kerr, the number of patients was rising dramatically. From 260 in 1949 to 335 in 1950, almost half of these patients were being treated for sterility. In the clinic’s 1950 Annual Report, Rock commented that attempts to improve sperm production were ineffectual. Consequently, the fact that low sperm counts was one of the most common problems for involuntarily childless couples, Rock targeted “artificial placement of the available sperm within the uterine canal” as the “best alternative.” He continued to refine and experiment with various ways to concentrate the sperm without harming them by removing them from the seminal plasma. Similar to researchers in the animal sciences, various kinds of fluids were tried as a

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342 Rock to Mr. M.H., Feb. 8, 1946, JR-RA. As cited in The Fertility Doctor, 136. Sperm from his artificial insemination patients and donations from medical students also was recycled for use in Rock’s IVF experiments.


344 Dr. Horne was involved in testing the effects of large dosages of Vitamin A (considered essential to the functioning of epithelial tissues which produce sperm) on 12 “deficient husbands.” In collaboration with Hoffman-La Roche, Inc, and the Division of Nutritional Research of the Children's Medical Center, he was unable to document a direct benefit of this treatment. It is likely that his research subjects were recruited from the growing numbers of men attending the “Male Clinics” for the Rock Fertility and Endocrine Clinic. “Free Hospital for Women 75th Annual Report. Brookline, MA 1950,” 1950: 28.
vehicle to increase sperm speed and motility. However, physicians at the Fertility and Endocrine Clinic had access to a novel medium—amniotic fluid obtained from the Boston Lying-in Hospital. When using amniotic fluid from pregnant women to aid in preserving spermatozoa for transport during artificial insemination, Rock also found that the “activity and progression of spermatozoa were astonishingly improved.” Thus, the relationship of the Rock Reproductive Clinic to a broader range of obstetrical and gynecological services, literally from conception until birth, also allowed it to be at the cutting edge of artificial insemination research and service provision.

Research on substances to replace seminal fluid was also important to researchers studying how to safely freeze sperm for storage—a technique being refined although not widely used during this period—and the central topic explored in the next chapter. Freezing methods were not only being tested on animal and human sperm but were part of a much broader investigation in cell biology, which included the freezing and banking of blood cells. The idea of “banking,” collecting and storing human body products for future use, thus emerged relatively simultaneously for both blood and sperm. Scientists, physicians, and science fiction writers were collectively spurred to envision a world that might need frozen/preserved reproductive cells—a world coping with the effects of infertility after a feared nuclear holocaust occurred.

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345 Egg yolk, blood, milk, and various synthetic materials were also used to attempt to increase motility and act as a buffer when and if, semen was frozen.
348 As biomedical researchers attempted to freeze sperm they looked to experiments on the freezing of another bodily product—blood. This cross-fertilization of ideas across the lab bench occurred in the Rock experiments. Almost one third of the articles that British physician Parkes urged John Rock to consider from 1945-1953 as he structured his freezing experiments on sperm were actually about the freezing and unfreezing of red blood cells.
The exciting new research on freezing caused a swell of journal publications on the clinical and scientific practices of artificial insemination but, similar to their colleagues in the 1930s, ranks were split on whether physicians should comment about their research and their clinical practices in the popular press. Some physicians did not approve of press coverage because it felt too close to self-promotion and gave false ideas about the effectiveness or overly dramatic accounts of artificial insemination to the populace but their objections were overruled by new concerns of the 1950s. Now, fears about population decline and nuclear proliferation caused artificial insemination by donor to seem more palatable to postwar physicians.

In June of 1955 the American Society for the Study of Sterility approved AI as a completely ethical, moral and desirable form of medical therapy. The resolution was overwhelmingly adopted by the organization (by a vote of 79 to 8). Representing five hundred specialists in the problems of sterility their public announcement was a signal of the increasingly accepted place artificial insemination was taking in American medicine and culture. Dr. S. Leon Israel of Philadelphia contended, "unless we take the lead in supporting therapeutic insemination the courts of the nation will never pass the necessary laws [to protect physicians, patients and their offspring]."^349 They delineated three conditions for AI to be acceptable to physicians:

1. Urgent desire of the couple to have such therapy applied to the solution of their infertility.
2. Careful selection by the physician of a biologically and genetically satisfactory donor.
3. The opinion of the physician, after through study, that the couple will make desirable parents.

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Physicians finally released their collective opinion on AI in an effort to ensure that it remained within their hands—in their view they possessed superior knowledge of heredity, bodies, and the meaning of family. Thus, their private records and published professional articles also establish AI as a therapeutic practice to rehabilitate particular populations and bodies. They wrestled with their professional responsibility to a child produced this way, to society, to women and men, and their goal of relieving infertility. These debates were complicated by the ever moving definitions of who was infertile, and were dependent upon what technology could tell practitioners about sperm, about impotence, and about women’s infertility. And last but not least the debates especially during the 1950s, were increasingly informed by psychiatry.

The professional journal of *Fertility and Sterility*, founded in 1950, emerged as a new venue for considering artificial insemination across specialty and geographical boundaries. This journal provided a forum for American gynecologists, urologists, and scientists from the veterinary sciences to enter into conversation with each other and with their international colleagues. It also provided a medium for the emergent psychiatric profession to comment on the psychological aspects of infertility—which they did so profusely and across specialties. The study of psychosomatic sterility was entering its heyday under the guidance of leading psychiatrists Mandy, Kroger, Freed and others. Kroger and Fred stated “both the gynecologist and psychiatrist are becoming increasingly aware of the role of the emotions as a basic causal factor in the decreasing birth rate.” Various theories about “the hurry and flurry” of modern life, for women “fear of pregnancy in the patient’s unconscious”, or “domineering tendencies” were supposed to

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cause the “unconscious rejection of gravidity.” At the Rock Reproductive Clinic too they began to investigate the role of stress in infertility. By 1958, they began a study of the role of adrenaline in harming conception and sperm transport in women.

Men’s mental state and reproductive health also increasingly fell under medical scrutiny. Fragile men were suffering from “mental disturbances” as a result of their war service, thought psychiatrists. In a sense, they had sacrificed their fertility in service to their nation. Psychiatry was not the only profession that stepped in to rehabilitate the minds and bodies of veterans, a new sex counseling profession arose in the 1950s to help correct the war’s detrimental impact on masculinity and femininity by counseling “traditional” gender divisions. Consequently, the burden of infertility began to be more evenly born across the sexes. For the first time headlines proclaimed that “Barren Marriages Held to Upset Men: Suffering Equals Women’s Dr. Hotchkiss Tells Urologists.”

Psychiatry and Artificial Insemination in the Infertility Clinic

During the 1950s, psychiatry became increasingly used in the diagnosis and care of the infertile. Psychoanalytic discussions were widely diffused throughout both popular and medical literature in these postwar years. Freudian and neo-Freudian theories, although certainly not embraced by all infertility experts, began to enter fertility clinics and affect when, why, and to whom artificial insemination was prescribed as a therapy. When a woman or a man entered a gynecologist’s office to seek relief for their

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childlessness (still primarily women) now their minds as well as their bodies were evaluated. The incorporation of psychiatrists into the treatment of infertility was part of a broader trend from the 1950s onward to have a multi-faceted diagnostic investigation of male and female patients. Physicians in gynecology began to realize that they were not able to gain a complete picture of the wide range of possible causes for involuntary childlessness. Psychiatry entered the infertility clinic as a new diagnostic tool.

The changes to the organization of the clinic that this required were easiest to accomplish at university teaching hospitals, where medical professionals in a range of specialties were already both proximal and often collegial. For instance, prior to 1952 both male and female infertility patients were seen solely within the department of obstetrics and gynecology at the State University of Iowa Hospitals. However, by 1953 a cooperative group comprised of a urologist, an anatomist, a gynecologist, and an endocrinologist were meeting weekly to present their clinical findings and the group would collectively recommend therapies and further testing for individual couples. Now, a urologist would examine the male partner, taking a history and doing a physical exam, an anatomist could interpret testicular biopsies, a specially trained technician could perform semen analysis, a gynecologist would take the history and conduct the complete physical and pelvic exams, and an endocrinologist could carry out hormone assays and interpret endometrial biopsies.\(^{354}\) This team could now accurately perform an array of diagnostics that according to Dr. Keetel, were often inadequately or incompletely done by other referring physicians.

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Clinics, like the one at Mount Sinai Hospital in Chicago Illinois, opened to treat and investigate the new field of Psychosomatic Gynecology. In this emerging field, however, the responsibility for the psychological treatment of patients was unclear. Was it the role of physicians in gynecology and urology to seek training in psychoanalysis? Was empathy and life experience enough to understand the emotional aspects of infertility? Or, did psychiatrists need to be more fully integrated into the diagnostic team at sterility centers? Assistant Professor of Gynecology at Chicago Medical School and Director of Psychosomatic Gynecology bemoaned that, unlike the evaluation of women who were already pregnant or of potential parents seeking to adopt, when a “sterile” woman is attempting to conceive “it is surprising how often personality problems are neglected or ignored as causative factors.”

“Unhealthy attitudes and personality factors” were understood to be the primary psychological and biological causes of infertility. Sterility, understood this way, was not merely or only mechanical, endocrinological, or a disease rather, it was a physiological response of the reproductive organs to these unhealthy attitudes and personality factors. Furthermore, new research on hormones and the brain was transforming how the divide between the body and mind was understood. For example, Dr. H.B. Friedgood argued that there was a pathway from the cerebral cortex through glands to the tubes, ovaries and uterus. In other words, emotional forces directly impacted the physiological processes of the body—in cases of sterility, the reproductive organs and hormones.

Women undergoing insemination became heavily implicated as this discourse rose to prominence. Their motives for pursuing insemination were suspect. Was artificial insemination, regardless of whether it was with husbands or donor sperm, merely an unconscious attempt to “deny and conceal conflicting attitudes toward childbearing?”357 Dr. Therese Benedek, Hungarian émigré and noted pioneer in psychosomatic medicine and the psychosexual development of women, found in a study at the Chicago Institute of Psychoanalysis that these women had many unconscious conflicts to motherhood. When her finding was discussed at the American Psychosomatic Society Meeting in 1952, Dr. Kelley argued that artificial insemination should not be practiced until the true psychological status of the sterile woman was determined.

Sterile woman were often categorized in a variety of ways. Some were seen as emotionally, and thus physically immature, who instead of relating to their husbands in a “normal” way depended on them so heavily that their marriage relationship was that of a “child-parent.”358 Women who fell under this diagnosis category “because of parental overprotection…usually make poor wives and mothers, unable, because of their own exaggerated needs, to give…[only] if they continue living in a protected environment with ample domestic help…could they become loving and devoted mothers.” Women who were obese often fell into this category as well. Psychiatrists argued that because of these women’s neurotic psychological regression they “refused” to lose weight in order to resume their normal menstrual cycles. The antithesis of an “immature” woman also

suffered from psychosomatic sterility. An aggressive or masculine woman who expressed traits of competitiveness, strength, ambition, dominating tendencies, frigidity, and a successful career was thought to hold an innate resentment towards children and her frequent use of contraception was seen as a denial of her femininity.359

If sent to a psychiatrist, a woman would have undergone a battery of tests to determine which of these potential personality disorders could be contributing to her difficulty conceiving including; the Rorschach, TAT, Szondi, HTP, and Sentence Completion tests. However, some physicians attempted to forgo both integrating a psychoanalyst into their practice and sending patients out of house for psychiatric evaluations. Instead, physicians, who were already trained to take case histories discussed the need to expand this practice to include “important incidents…[that affected] patient’s attitudes toward pregnancy and motherhood…[and thus, their] psychopathology.”360 In other words, to become a “psychiatrically-oriented physician.” But other physicians held that when a gynecologist doubted whether pursuing pregnancy was a good idea for a patient they “share the responsibility [of the decision] with an analytically-oriented psychiatrist.”361 The stakes for misdiagnosing a woman who was psychologically infertile and the treating her organic sterility successfully (with artificial insemination) were perceived to be high—the child’s mental health.

When the ill-prepared and emotionally immature subfertile woman is enabled to have a child, she is apt to be overwhelmed by her unconscious psychologic reluctance. If such a woman finally does conceive, the same psychological difficulties which prevented conception, may adversely affect the child’s psychic development, and, just as in the case of the emotionally immature but fertile woman, another individual is added to an endless procession of neurotics. Therefore, the physician must be aware that apparently “successful” medical

359 Ibid, 546.
360 Ibid, 549.
361 Ibid, 530.
treatment of psychosomatic sterility without adequate psychotherapy may actually become a “hollow triumph!”362

Psychologist Rubin Bernard, summed up the views that many of his profession held—that women were merely expressing their drive to reproduce, albeit inappropriately, through their desire for artificial insemination. “There is evidence” he said, ”that drive organization in the woman is partially related to the phasic function of the ovaries. There is a psychophysiological response to the hormonal stimulation which directs the sexual needs of women toward her reproductive function. This alone gives impetus to the woman's interest in and wish for artificial insemination as a means of bearing a child.” It was this drive or wish was the real issue that needed to be focused on, he argued. Noting that in the two hundred years that artificial insemination had been practiced it had not become a social institution he asked, “is a more basic and unconscious wish being touched on which cannot be institutionalized?”363

Despite the suspicions that psychoanalytically leaning physicians and mental health professionals held towards patients actively seeking artificial insemination, thousands of couples accessed the technology in the postwar era. When they chose to use AI, women and men expressed narratives that reflected American cultural understandings of medicine, gender, race and family. For women in this era AI often represented: a means to complete their “biological drive” and what they felt was the major accomplishment of their marriage. In fact, some considered the technology a part of their marriage. Physicians and popular columnists reported AI patients viewing the technology as a help, rather than a hindrance, to their marital relationship, both in the potential arrival

of a child and in the secret they could share together. Physicians reported that the AID “strengthened” the relationship between the couple. According to medical accounts, the wife admired her husband for his “broadmindedness” and for being so considerate. After the child was born, these women would do anything to “please the man who is really responsible for the child’s being” and furthermore, that wives who pursued AID were of the very “highest moral caliber” because they had children openly within their marriages rather than having affairs to conceive.364

For men AI offered a solution to the pressure they felt to help their wives experience maternity and as one physician put it “provided the opportunity for the husband to share in the months of his wife's pregnancy and her childbirth”…something adoption did not enable. For example, one 1950s man whose wife attempted AI for 8 months, finally, with success, wrote in to a paper to announce:

We knew a baby was on the way. Never has motherhood been so proudly worn, nor a secret more closely kept. And never will a baby be more welcome or loved than this one. I don’t care who the donor may be, I don’t give a damn for the ethics of the matter- the greatest thing in the world has happened to the most loved person in my life and, if I can rake up the money, I’ll do exactly the same thing all over again as soon as possible!365

So dominant was the idea that a couple, and particularly a woman, became complete only through having children that the contract for insemination itself echoed these sentiments. The central concern for both men (and potentially the physicians who helped draft the template) was a wife’s health and a couple’s happiness.

This is to certify that of my own free will and volition I have requested Dr. ___ to artificially inseminate my wife with the sperm of a male to be selected by him. This request has been made with the full knowledge and consent of my wife___. Since it is not possible for me to procreate. I believe that our mutual happiness and the well-being of my wife will be best served by her being artificially inseminated. Whatever offspring will result from this treatment will be accepted by me as my own.\footnote{Created at the NY Marriage Consultation Center at the Reverend John Haynes Holms Community Church. “‘Ghost’ Fathers: Children Provided for the Childless,” \textit{News Week}, May 12, 1934.}

When using AI to circumvent a hereditary or other disability they possessed, the contract portrays patients as active agents in the medical dialogue who held the power to direct care. Based on an overwhelming belief in the power of artificial insemination as a “new” treatment of modern medicine to solve their infertility men and women exercised their right as consumers to purchase or access the reproductive care they desired. In fact, some exercised this right multiple times and physicians in the U.S. were satisfied providing the service. Writing on behalf of the Society for Sterility, one member notes:

\begin{quote}
From the observation over many years, the membership is impressed by the almost universal good results achieve in respect to children and the entire family unit. The fact that, in some instances, parents have returned for as many as four children by donor insemination, is further proof of the happiness it bestows.\footnote{“Artificial Insemination Gets Approval in Sterility Study as ‘Ethical and Moral’,,” \textit{New York Times}, 1955.}
\end{quote}

This statement emphasizes that the goals for the care of the infertile were changing, as they were in medical culture more broadly. Physicians expressed that the focus was not necessarily caring for a physical problem, but rather, providing requested care to their patients—the end result being satisfied happy patients and a baby.

Patient initiative and a strong consumer ethos in forwarding their own health care was a part of the experience of AI during this period. By 1950, hospital care was beginning to respond to patient expectations with a move towards “total care” at leading infertility clinics. At the prestigious Free Hospital for Women in Boston, the Chief of
Staff commented that the role of non-surgical care (including AI procedures) was gaining in importance. "Trends in medicine, like those of that portion of society at large which chooses to call itself enlightened, have for their goal the total care of individuals. At this Hospital the scope and volume of activities which are not strictly surgical reflect these trends." Others linked the rise of the concept of “total care” with patient’s rights to direct that care. For instance, in 1954 book written by a member of the clergy linked patient rights to spiritual rights. Dr. Fletcher chose to “oppose theological conceptions of morality” and considered it “high time that we brought our ethical and spiritual experience and its new dimensions of understanding to bear upon the care of the sick the same deliberate and creative way that psychology has been explored and applied for the sake of those who are ill and in need of counsel and treatment.” Arguing that AI was neither inherently nor intrinsically wrong, he went on to comment, “the patient has rights, and that he should be treated less as a “case” and more as a “person.”

One example of this trend playing out in the clinical context is that the Social Service Department at the Rock Fertility Clinic (under the directorship of Mary Whitelaw) attempted to expand institutional knowledge about the personal status and financial data of patients visiting the free hospital. The clinic began to track unemployment rates, families who were on public assistance, why and how patients purchased their health care on “the installment plan”, and even the effects of war on families as husbands and sons were called back to shipyards and factories during the

Five years later, this important change in patient care became institutionalized at the Rock Clinic in order to give patients “more personal and more private attention” including an increase in the number of clinics held per week, interviews being held in private and “examinations were conducted with the bare minimum of at most two students.” These changes in care appeared to pay off, both in patient’s satisfaction with the experience and with an increase in new patients. Two hundred and eighty new patients to Rock’s Clinic were admitted in 1954, eighty percent of them for infertility problems. Fifty-eight men were also seen at the Male Clinic, perhaps more comfortable with the private consultations or drawn in, as the Free Hospital for Women’s 1954 Annual Report read, by “publicity given the clinic by national publishers who are properly aware of how common and how distressing is the curse of infertility.”

Would-be patients responded actively to the publicity released by clinics but also to popular interest stories. They poured their marital histories into letters, all similar in the despair they felt about their childlessness and in the hope they felt AI represented. Letters also attest to the fact that newspapers brought knowledge about AI across long distances and national boundaries. The story of AI was not just a localized one to the U.S rather it was a global phenomenon. At this point, people moved to where the technology was available. For instance, a British wife writes in 1947 wrote to the Family Planning Association, ”I have seen it in the newspapers that it is done in this country. (But)…my doctor…cannot give me much information about it.” These sentiments—that the laity possessed more information and/or interest than general physicians—occurred in America as well. They reveal a disconnection occurred between gynecological and

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370 “Free Hospital for Women 75th Annual Report,” Brookline, MA 1950: 34.
urological specialists (who were aware of AI) and general practitioners. They also point to the role of patient demand and agency in the growth of AI as a practice. In fact, noted gynecologist and infertility expert in New York, Sophia Kleegman stated that she performed inseminations only “at the request of the couple.”

The requests emerged from all corners of the world from motivated patients who often crossed national boundaries and difficult situations in their search for access to AI. For instance, in 1945 a married woman in South Africa wrote to a clinic in London:

Dear Sir or Madam,

As we are returning to England very soon now I am writing to you for some advice. My husband and I have been married five years and we both very much want a family but after many consultations with doctors and specialists here we have now found out that my husband is sterile. We have read about the clinics now in England where one may have a “test tube baby” and we should very much like to know if and where this can be done. We shall be returning to Portsmouth so could you let me know if there are any clinics, where this is carried out there or the nearest one to it? I have found your address in an article written in an English magazine. Please answer as soon as you can as I should very much like your reply before we leave here.

Similarly, in the summer of 1950 an engineer from Toronto wrote into John Rock. He knew what his problem was, a swelling in his spermatic ducts, and hoped that Dr. Rock might be able to help him conceive a “little sister or brother” for their newly adopted baby. Although, both he and his wife were very happy with their newly adopted son they wanted “to make a last effort to have a child on our own” before proceeding with another adoption attempt.

\(^{373}\) Kleegman treated infertility at both private and clinic practices from 1929-1960. She distrusted general practitioners and urologists, especially in their study of semen. She was a vocal proponent of testing the husband’s sperm before any procedures, especially surgery on the wife commenced. Kleegman, “Recent Advances”, 1-10 in *Notable American Women: The Modern Period* by Carol Hurd Green, 1980.  

Dear Dr. Rock,

I am married, 47 years of age, Hungarian origin and in excellent health. My wife is 36 years old and also in excellent health. ...According to various doctors analysis I do not have any fertile cells in the scrotum. The reason is, that the passage is block by a swelling. My question is therefore as follows: have you performed any operation, which removes swelling around the testicles? Failing this we are resolved to artificial insemination if this could be properly arranged. I would appreciate if you would write me and advise me, what is possible. I realize the difficulty in advising somebody without seeing him. Therefore if you think that there is any chance, than I would be willing to come to Boston with my wife to see you. It is very difficult for me to describe to you how much happiness depends on this matter, but I hope that you will realize it and advise me accordingly.  

Doctor Rock responded to him in a timely manner but with little hope for “the surgical reestablishment of patency” in his closed ducts. It is unclear whether the couple was ever able to access artificial insemination as their last resort.

This letter and others like it from around the world were from highly motivated patients, or as I believe is more appropriate to call them, health care consumers who were willing to travel to great lengths, literally, to access artificial insemination. The letters from husbands also provide evidence that many of these men were aware of their own bodies, reproductive health issues, and had actively sought medical care for their conditions. Their voices emerge in stark contrast to existing scholarship on this period that presents men as resistant to knowing about their own reproductive health and an ancillary part of infertility practices.  

Despite the fact that only 7% of physicians in the American Society for the Study of Sterility limited themselves primarily to the treatment of male “sterility” the  

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375 The John Rock Collection, Countway Library of Medicine, Fan Mail, 1950.
treatment men’s reproductive health was an important part of infertility care. Even Rock admitted in the 1945 Annual Report for the Free Hospital for Women that 50% of his semen examinations that year found an insufficient number of spermatozoa to indicate fertility…” He argued for “ardent and prolonged research” on male fertility because in his words, “Though barrenness can be considered an ailment peculiar to women, good semen is required for its relief.” To provide this relief Rock launched a number of investigations and made important additions to his staff. He hired Dr. Somers H. Sturgis, a gynecologist and former Rockefeller Fellow at the Carnegie Institution of Washington to investigate “the factors affecting migration of sperm though the Fallopian tubes.” And gave a new laboratory to Dr. Richard Hammens of Copenhagen, an expert in sperm study so that he could “establish criteria of effectiveness of semen by investigation of a control series of fecund males.” Five years later, Rock again lamented of the common problem of “An insufficient number of good sperm in a particular mating.” Since the ability to improve sperm production proved a stubborn problem he admitted that the “best alternative is artificial placement of the available sperm within the uterine canal.” Although at least until the mid-1950s, some of the hurdles were not necessarily physiological. Rather, there were practical problems in attaining the sperm itself.

At John Rock’s clinic, men were not required, or even encouraged to provide semen samples at the clinic. Indeed, in 1951 Rock informed the readers of Fertility and Sterility that almost without exception he used semen brought to the clinic after collection at home. Home was often a long distance away from the clinic and this, together with the widely varying seasonal temperatures around Boston, caused Rock to note, “The

condition of our sperm was more often poor than good.” However, results were “good enough” when attempting to freeze semen that Rock continued to attempt to improve “the use of husband-semen.” He began to pursue research towards improving his sperm samples, which would be expanded in 1955 with an NIH Population Council grant funded study on the Refrigerant Preservation of Human Spermatozoa. In one of the first studies on the cryopreservation of sperm, Rock and his team read widely (from plant biology to zoology) attempting to solve problems of high viscosity in certain ejaculates (limiting progression of sperm) and the damaging effects of freezing on spermatid cells. By 1960 the viability of frozen-thawed sperm had been tested in the cervixes of twenty women at the Rock Clinic (over one hundred and twenty-two insemination attempts). Only two of the patients conceived (although two more withdrew from the experiment and conceived using fresh ejaculate later). Because of these results the Rock research team concluded, “present methods of freezing human spermatozoan are not of practical value.” The place of cryopreservation in artificial insemination would not change until later decades.

Contemporary nurses agreed that men were included in the process of infertility diagnosis. One nurse described her relationship with a couple seeking counseling as based on a “friendly climate” but one in which she forthrightly told couples “some 50%...
of infertility cases originate with the husband.” Thus, it was necessary to study him as well as the wife. She recalled, “Most husbands will accept this fact. But we’ve had a few who wouldn’t. I remember one man who reluctantly submitted to tests—then stormed furiously from the doctor’s office with his wife in tow when the tests showed he was infertile. Happily, he was an exception.”

Although most men would submit to testing in the post war period, the institutional site of infertility services was a bit discomfiting. Some men were discouraged from addressing their infertility because they were uncomfortable sitting in a gynecological clinic, surrounded by hopeful mothers-to-be. Infertility specialists like John Rock recognized this fact and worked to establish separate clinic facilities for men, by 1949 the Free Hospital in Boston did so. Historians Marsh and Ronner document that in the postwar period, the numbers of men receiving infertility treatments did increase, perhaps as a result.

Men’s knowledge about infertility encompassed their own bodies as well as intimate knowledge about their wives reproductive bodies. For example, one husband writes while still mobilized at war to attempt to complete a series of artificial inseminations by donor for his wife.

382 The public face of male reproductive research and care at the Rock Clinic however, seemed to be that of Dr. Fred A. Simmons. As early as 1945 he gave lectures to the National Committee on Maternal Health on the “Clinical Evaluation of Semen Analysis” and on “Sterility” to a conference of Planned Parenthood Group in Boston. By 1950 he was publishing regularly on male sterility. In that year alone he published a chapter on “Diagnostic Technique and Treatment of the Sterile Couple” Meigs and Sturgis, *Progress in Gynecology II*. 246-253, 1950; RC Sniffen, RP Howard, FA Simmons, and Albright. “Testicular Deficiency: A Clinical and Pathologic Study,” *J. Clinical Endocrinology*, X: 2, Feb 1950; Fred A. Simmons, “Treatment of Female Infertility,” *Chicago Medical Bulletin*, 32: 39 March 1950; Simmons; “The Treatment of Male Sterility” *J. Fertility and Sterility*, May 1950. Last but not least, Simmons gave many talks to young medical school students on the subject including: “The Investigation of the Sterile Marriage to Fallon Clinic in Worcester, Sterility in the Male,” (Talk given to Cushing Veterans Admin Hospital in Framingham, MA); “Human Semen Appraisal” (Talk given to PostGrad Course at U of MN School of Medicine), “The Management of the Infertile Couple” (Talk given to Post grad Course at UMN School of Medicine); and “The Diagnosis and Treatment of the Sterile Marriage” (Talk given to Newton Medical Club, Wellesley, MA).
I am writing on behalf of my wife and myself. [We] are very anxious to have a youngsters and with this end in view, my wife visited a specialist in Glasgow and artificial insemination was administered to her, but without the desired result. At present I am serving on the Continent but am expecting to be de-mobilized in early Sept. and we should like, if at all possible to have this matter satisfactorily dealt with as soon as possible. I have gone into the subject closely and have kept a record of my wife’s periods, for the last two and a half years… the time when it would be necessary to visit a specialist would be easy to ascertain. We should both be grateful to you…if you could achieve the desired result.

As expressed above, a powerful sense of urgency define the letters written at the end or shortly after WW II. The matter was so vital to this particular couple that the husband implies he would like his wife to be pregnant before his return from the war front. Again, home became particularly resonant to the generation bearing children in the post-war as many had been far from their own homes for years and the dream of that home with children was an important part of rehabilitating to post-war life.

Patient requests, from men and women at every corner of the globe and from veterans groups, show both the powerful emotions and need that would cause couples to breach the bounds of privacy that comprised the social norms around AI and sex. However, patient interviews in magazines after successful inseminations and physicians reports on clinical practice reveal that after access to AI and hopefully, a successful pregnancy was achieved, patients and physicians would go to great lengths to reconstruct the boundaries of family, masculinity, and heredity that infertility had broken.

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385 David Serlin in Replaceable You notes that as individuals attempted to reconcile their secret selves to their public ones. Artificial insemination follows a similar trend as families were incredibly private and secretive about their use of artificial insemination in order to present a public (and even familial) vision of a traditional genetically related family (visible pregnancies)—one that adoption would break. Policing the boundaries of the genetic family during this period was also related with the emergence of somatotyping, a theory used to confirm biological basis of social organization (i.e. ectomorph, endomorph, etc) and the promulgation of these theories in the boom of marriage counseling centers, like the American Institute of Family Relations. This included the rise of psychometrics that measured beyond intelligence into domains.
contrast to narratives, which suggest a top down model of scientific and medical knowledge influencing patient’s choices/action, both stories provide evidence of a more interactive, and perhaps bottom up narrative. One in which infertile couples possessed knowledge about AI and actively pursued physicians and centers that might have provided the technology when and how they wanted it.

_Breaking or Rehabilitating the Fruitless Marriage?—The Flexibility of AI in the Press_

In the immediate aftermath of WW II soldiers flooded seaports, railways and airports in the United States and abroad, returning home to their families. Artificial insemination grabbed headlines as it resonated with commonly held fears about the status of these families, reunited after years apart, and the trouble of wayward women on the home front. Expressing these fears, a series of stories ran in papers across the United States that focused on children conceived using AI during the war and their suspect paternity. In 1945, a “Synthetic Baby” gave a “Divorce to [an] Ex-Soldier.” Frank Hoch age 27, testified he did not believe the story his wife Lorraine told—that the child she bore while he was in the army had been conceived by artificial insemination. Similarly, Army Private, Jesse King, a resident of Chicago, accused his wife not only of lying about having AI, but also that if she truly had conceived the child using artificial insemination by donor (AID), she had done so without his consent. Readers followed the trial in papers across the United States and England as his wife, Mrs. Irene King, then in her eighth month of pregnancy, met him in divorce court to hear the reading of his testimony. Married in December of 1943, King testified that while he was in Europe his

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wife wrote him July of 1944 that she no longer wished to live with him and when he returned in July of 1945 from the service he discovered his wife was expecting a baby.  

Medical professionals also read stories of women using AID without informing their husbands. In the *British Medical Journal*, prominent physician and AID practitioner, Mary Barton, reported on why patients requested AID. Stating that many women were “too impatient to submit to [other] treatment”, she thought that this state of affairs was relatively “common in fecund women married to sub-fecund men.” Some women had demanded AID without their husband’s knowledge claiming, “paternity would save his self-esteem.” She relented at the end of her publication that many of the women she saw were good and “devoted wives” who have merely “longed for children for many years of marriage.”

A longing for children was portrayed as normal for men and women in post-war America and pronatalist messages were expressed in academic publications, popular magazines, self-help books and feature films. As historian Elaine Tyler May pointed out, by not participating in the baby boom middle-class women in particular, were labeled “neurotic, selfish, and “downright un-American.” Men too, were regarded with suspicion if they were childless—in the words of one 1950s psychoanalyst, “in the majority of cases a man is sterile through psychological reasons… his subconscious mind revolts against becoming a father…I have helped cure many a sterile husband by seeking

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388 Mary Barton (First Asst. Fertility Clinic, Royal Free Hospital), Kenneth Walker (Genito-urinary Surgeon, Royal Northern Hospital), and B.P. Wiesner (Consulting Biologist, Royal Norther Hospital), “Artificial Insemination,” *British Medical Journal* (January 13, 1945): 40-43.
out their hidden fears and subconscious conflicts.”\textsuperscript{391} The power of the cultural script that motherhood and fatherhood were the completion of male and female sexuality gave such pronouncements added weight. Historian Stephanie Coontz has discussed how in the postwar years, “for the first time, men as well as women were encouraged to root their identity and self-image in familial and parental roles.”\textsuperscript{392} Beyond being a marker of good citizenship, maturity, and heterosexuality, fatherhood offered an opportunity to participate in the culture of productivity that boomed during the post war years. The editor of Better Homes and Gardens, for example, wrote how the arrival of a child could help a young couple transition to stability, societal engagement, and happiness.

\begin{quote}
The young fellow who lives in the little house with the vines…used to be quite a “stepper.” He didn’t change his ways much when he married his little redhead. Nor, for that matter, did she…We don’t worry about this couple any more. There are three in that family now…His father is thinking, not about an evening with the ‘boys,” but away-off in the future—about the kid’s schooling, about the sort of country and the sort of world in which the lad will live someday.
\end{quote}

The editor concluding lines summed up the central refrain that physicians, mental health and social workers, and cold war rhetoric sang: “Perhaps there is not much more needed in a recipe for happiness…we become complete only thru our children.”\textsuperscript{393}

One physician who had championed the use of artificial insemination in the 1930s became instrumental in shaping the role that artificial insemination would play in the postwar years. For Dr. Frances Seymour, she saw potential for artificial insemination to rehabilitate families, men, and national populations during World War II and its immediate aftermath. She worked to enlist support among her colleagues on the


\textsuperscript{392} Stephanie Coontz, \textit{The Way We Never Were: American Families and the Nostalgia Trap}, (NY books 1992), 27.

\textsuperscript{393} Frank McDonogh, “Are Children Necessary?” \textit{Better Homes and Gardens}, October 1944, 7 as quoted in Elaine Tyler May’s \textit{Homeward Bound}, 126.
importance of AI to societies experiencing tremendous upheaval and population losses, particularly of their young men. Presenting to the Medical State Society of NY at the New York Academy of Medicine in 1944, Dr. Frances Seymour shared the results of 110 cases in which artificial insemination had solved “husband’s physical or psychical shortcomings.” Offering complete case records to her colleagues—which included dates of inseminations, notarized affidavits agreeing to inseminate, letters from patients and doctors, as well as birth notices in the papers—Seymour argued that the children born from these unions with donors were “the finest argument for eugenics thus far advanced.” She envisioned a rehabilitated social landscape in America when AI came into greater use as “one cause of divorce [childlessness] is removed.” In other words, couples would no longer divorce because of infertility problems. Furthermore, the children’s heredity would enable them to have “a longer life expectancy and also a better chance to make their way in the world against competition” and they would be “less likely to need community or institutional care.”

Eugenic perspectives persisted in physician’s dialogues, even after the war, as society struggled to confront the destruction and human suffering that had resulted from both “positive” and “negative” eugenic attempts to control populations. Despite reports of disturbing accounts of medical experiments involving artificial insemination at

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395 Eugenics advocates the manipulation of human heredity in order to create more perfect human beings and, therefore, improve society. Eugenics proponents have argued that it is a social responsibility to create populations that are better (in better health, smarter, more successful, etc.), to relieve the suffering of the abnormal or inadequate, and to preserve the resources and energies of the “eugenically fit" for things other than increased levels of care of “the unfit”. Physicians, scientists, social reformers and governments have used a wide range of methods to achieve eugenic goals. These include “positive eugenic” projects such as selective breeding, birth control, in vitro fertilization, artificial insemination by donor, genetic counseling, genetic engineering and “negative eugenic” projects like forced sterilization or the killing of the “unfit.” In state sponsored eugenic programs, like those instituted by the Nazi’s or the sterilization programs in the United States, those designated as “unfit” were often the mentally handicapped, physically handicapped, racial and ethnic minorities, and homosexuals.
Auschwitz concentration camp, the 1950 founding issue of The American Society of Sterility’s journal, *Fertility and Sterility*, unequivocally stated that eugenics was still a guiding principle within American reproductive medicine. The idea however, was now marshaled under a new banner of dread, overpopulation. Thus, in an era in which the world was beginning to contain “too many human beings” *Fertility and Sterility* editor Tompkins Pendleton pronounced that the “duty of medial men, and particularly of those physicians interested in fertility, to discover not merely how more, but how finer people, can be bred....To improve the quality of man, not to increase the number of human beings should be the ultimate goal of all investigations of fertility and infertility. This journal is founded to further that design.”

Eugenic discourse did not stay confined to physician’s journals, it traveled widely in popular forums as well. As the post-war baby boom began to draw to a close, for the first time fiction and film became important vehicles of information about AI. In this context, artificial insemination emerged as a eugenically informed theme in feature films. Although multiple fictive and even theater productions had been written and performed prior using AI as central part of their plots, two productions stood out in the late 1940s and 1950s—A 1948 “educational” film entitled “Test Tube Babies” and the first full length feature film about AI in 1958, “A Question of Adultery.”

The two films portray very different visions of artificial insemination. The first, “Test Tube Babies” presents AI as a means to conquer male sterility under the care and guidance of a confident fertility doctor. Artificial insemination saved a young marriage

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and ushered two innocent new spouses into adulthood vis-à-vis parenthood in post-war America. In contrast, the second film “A Question of Adultery,” depicts a wife whose desperation for motherhood forces her husband to acquiesce to donor insemination, rocking the very nature of marriage and fidelity. Their portrayals of AI can be used as markers for changing societal concerns and expectations across the fifteen years following WW II in America. From the fears about failing male bodies and effects of childless marriages on society in the immediate post-war years, to rising concerns about overly powerful women and medical ethics in the mid and late 1950s.

“Test Tube Babies” was released in 1948 and was reissued multiple times in the next five years under various titles including “Blessed Are They”, “Sins of Love” and by 1951 in Sweden as Provrörsbarn. It emerged in a particular moment of film history, in which the Hays Production Code restricted taboo subject matter—sex, drugs, violence, nudity—in Hollywood productions from major studios. “Test Tube Babies” was not produced by a major Hollywood studio, nor shown in the usual movie houses. Rather, it was a part of the exploitation film industry, which circumvented the Hays Code in order to show audiences revelatory depictions of forbidden subjects such as, syphilis, eugenics, sterilization, the evils of marijuana use, abortion, and artificial insemination.

Exploitation emerged as a genre in the 1930s and was distributed in burlesque halls during the summer months, in small-town theaters that could not always afford the block-booking required of Hollywood productions, or even in tents erected on the outskirts of towns. Road agents would often travel the country, with a single print in hand and screen it after a town had been papered with fliers or with advance trailers at other productions. “Test Tube Babies” employed both methods. The screen trailer for the film titillated
potential audiences stating, Coming…Here is a story that will arouse your enthusiasm and interest…Out of Today’s Headlines comes “Test Tube Babies”. He loved his wife, but couldn’t give her the one thing she desired Most! Then, with jazz playing hopefully in the background a white-coated physician came on screen to tell the worried couple “if you have decided against adoption then I might be able to help.”

Spectators viewed the film in sex segregated audiences (separate viewings were held for men and women) and in addition to the information the film provided them about artificial insemination, the screenings included a break in which an “expert” would discuss and sell sex advice/sexual hygiene manuals. Thus, the educational framing of the film, in this case co-produced by the National Research Foundation for Fertility in Neconset, NY, would have provided a viewing space in which information and questions about such a sensitive topic as male sterility and donor insemination could emerge with less public consternation than in popular film houses filled with mixed audiences of men, women, and potentially, children. As historian Susan Lederer points out in her article on “Repellent Subjects: Hollywood Censorship and Surgical Images in the 1930s” films exhibited outside mainstream theaters enabled audiences to enter the increasingly off-limit medical spaces of physicians offices and surgical rooms. These films were on the frontlines of the regulation of medical knowledge and as Lederer aptly notes, state sensors and courts agreed that “The teaching and demonstration of many facts may be necessary to the classroom of the law school, the medical school and clinic, the research

laboratory, the doctor’s office, and even the theological school, which are not proper subject matter for the screen.”

What did audiences learn about artificial insemination, eugenics, sterility, and American families from “Test Tube Babies” and “A Question of Adultery?” The earlier film, “Test Tube Babies” introduces newlyweds, Kathy and George, as they go shopping for all the necessaries of post-war wedded middle-class life—a small home and a washing machine. These were the very items that would be enshrined as symbols of attaining the suburban capitalist American dream in the famous “kitchen debate” between Vice-President Nixon and Soviet premier Nikita Kruchev. The model suburban home that Kathy and George, and the domestic washing machine that so delighted Kathy signaled the successful attainment of the ideal heightened gender distinctions of a woman employed in domesticity and a man employed outside the home, supporting his family. However, for the protagonists of Test Tube Babies, the family had not arrived after a year. The audience is privy to Kathy’s attempts to seduce George to “start planning now” for a baby, and his willingness to follow her lead into their bedroom. However, nothing seems to produce a pregnancy despite Kathy’s transparent efforts and so the young couple decides (based on Kathy’s mothers advice) to go to a fertility specialist. Kathy is checked first, and then George. After his exam, the physician gives George and the audience an explanation of how urologists determine sperm numbers and motility using a microscope. He then pronounces his diagnosis, “You are sterile.” George fearfully questions, “I can never become a father?” After Kathy is finally told of the situation, she tells George that she does not want a “ready-made family” using adoption.

The physician then steps in and reads a letter from a wife who was artificially inseminated. “Does this appeal to you?” he asks the worried couple as he describes how the mother never sees the donor, that male fluid is stored under refrigeration and a syringe or capsule is used, how a donor is chosen—often with trait selection in the child as the guideline, and he even gives a lesson in hereditary models and discusses work with artificial insemination in livestock. Finally, the couple acquiesces and he brings in his private donor files for review. From here, Kathy and George did what couples were asked to do in most physicians offices in the U.S., they signed a waiver of responsibility, they learned with relief that they were not alone in their predicament because 5-10 percent of married couples have this problem, and are told to keep the procedure a complete secret. The end result is Kathy chirping “Well daddy, are you happy?” as five years later George smokes a pipe, sitting in his armchair in their middle class living room with 3 beautiful children playing at their feet. The film closes with baby heads floating on a background screen and a rolling educational end script for the audience:

We hope this story has convinced you that a fruitless marriage, caused by the lack of children, can be saved? Any reputable obstetrician will explain that pregnancies initiated by the Artificial Insemination Method do not differ from pregnancies or deliveries in general. Childless couples should consult their family physicians, to discover for themselves the achievements made by medical science and research to insure their domestic happiness.402

Eugenics and the power of medical science provided a veil that seemed to overshadow the use of donor sperm within marriage during the 1940s. Daddy was happy, and so was Mother with her scientifically produced “test-tube baby” in the years after the war. However, by the time of the release of the next feature length film in the 1950s, the

cultural intensity and weight of marriage in Cold War American life seemed too important to risk and worries of AID equating to adultery emerged more regularly.

In 1958 the first full-length feature film about AI was released, entitled “A Question of Adultery.” In this drama shot in England by a California production company, a couple (a hot-tempered, although sterile, race car driving husband and his wife) is desperate for a baby. The wife urges her husband to agree to the procedure, but he changes his mind after the deed is done. They file for divorce but eventually reconcile, following an emotionally wrenching court trial, and go onto become wonderful parents to their AID child.

The Californian-born star of “A Question of Adultery,” Julie London, was a successful singer and actress in the 40s and 50s and represented a specific potential user of artificial insemination. She was the “sexy mother” of the 50s—both with her two children in real life and on screen. London was similar to other “professional women” of the 40s and 50s, the glamorous models whose agencies stated that having a baby would “improve a girl’s disposition, her attitude toward her work, her looks and even her figure” or such red headed bombshells as 1950s icon Lucille Ball whose television and real-life pregnancy and birth was a media event that boasted the largest TV audience ever assembled in its era. London’s reviewers noted that she had a “come hither smoky voice” and was known for her charm and friendliness as well as her flaxen hair and blue eyes. She had all the physical attributes, emotional and social traits that would have coded her as white, “well-bred”, middle to upper class and in the eyes of many physicians and citizens, made her the perfect symbol of 1950s motherhood and in so doing, a prime candidate for AI. Physicians did not usually see people of color, single women, or those

403 For more on motherhood in film during the post-war era see May, Homeward Bound, 126-129.
who stepped outside the bounds of gender normativity as appropriate candidates for having “test-tube babies” or for donating sperm. Only the Julie London’s of America were meant to access this technology. Accordingly, the history of artificial insemination supports recent historical arguments that push the history of eugenic ideologies beyond the 1930s and link them as a factor in creating the postwar baby boom.404

III. Rehabilitating Reproduction Across Species

To comprehend Mr. H and Dr. John Rock we must understand how research on reproductive physiology and the cryopreservation of sperm was informing both Rock and his potential patients. Human bodies and populations were not the only bodies that needed to be rehabilitated as part of the war recovery effort. Animals are an important, and often overlooked, part of this history. However, John Rock and his professional contemporaries as well as a broad segment of the American public were aware of scientific industrialization of animal reproduction occurring after World War II. During the 1940s, phenomenal growth occurred in the use of AI, particularly in the cattle industry.405 Much of the research on sperm, particularly on freezing, emerged in the animal sciences where physicians actively attempted to draw conclusions and employ methods of insemination that were being used on cattle, horses, sheep and chickens. One

405 Many procedures developed in the United States were established worldwide. As early as 1938 an AI cooperative was established in New Jersey, followed by one in New York. The development of the New York Artificial Breeders, Cooperative, Inc. in Ithaca, New York was one of the first close collaborative endeavors between farmers and researchers. Based out of Cornell University, over the course of the post-war years they conducted experimental insemination of hundreds of thousands of cows and published widely on sire selection, testicular evaluation, semen collection, evaluation and processing; and fertility testing. Denmark was also an important site for research. For more on the early history of agricultural use of AI see Robert Foote, “The history of artificial insemination: Selected notes and notables,” *American Society of Animal Science*, (2002).
researcher advocating for the international exchange of semen noted that AI “would be of
great help in improving herds, particularly in the case of those nations which suffered
most from the war.” Those who were part of the animal industry knew that a central
concern to the welfare of all nations and peoples was the scientific principles of
reproduction that underlay how future generations of farm animals were produced. As
Professor of Agriculture at Cambridge, John Hammond stated in Copenhagen in 1952 to
his peers at the Second International Congress of Physiology and Pathology of Animal
Reproduction and of Artificial Insemination “the supply of milk and the cost at which it
can be produced for the benefit of mankind, the whole world over, depends in no small
measure on our efforts to combat sterility in the dairy cow and in the efficiency of our
methods of artificial insemination for the mass improvement of dairy cattle.” Closely
followed target animal populations were sheep—for the meat and wool industries. The
development of the technique for the storage of semen and the improvement of air
transport set the backdrop for the movement of frozen semen across national borders.

The Wall Street Journal echoed the horrible conditions of economies and
agricultural production abroad after the war. “The recent war left the Polish economy
deep, deep in the red.” Prior to the war Poland had the most horses in Europe, 3.9 million
but this was reduced by more than half by the end of the war. One hundred thousand
horses, rated as good breeders were sent as part of the relief effort after the war along
with a plan to improve cattle stock by opening “20 artificial insemination centers, to

and of Artificial Insemination, Copenhagen, Denmark, July 1952: 1 as found in John C. Rock personal and
professional papers, 1918-1983. H MS c161. Harvard Medical Library, Francis A. Countway Library of
Medicine, Boston, Mass. Box 13: Folder 35.
of “The Second International Congress of Physiology and Pathology of Animal Reproduction and of
The Near East Foundation, working with the UNRRA, was also concerned with “rehabilitation and permanent reconstruction” in Greece. This rehabilitation came in the form of livestock improvement, the training of peasants by “agronomes” (rural experts), and in “helping war-disabled civilians find useful occupations.” However, the milk cow was seen as the crux of rehabilitating Greece by international relief agencies. Writing to the audience of the *Christian Science Monitor*, a staff writer described why the mission to set up dairy artificial insemination stations to introduce the “best types of foreign stock” was so important to Greek culture.

“The main food [in Greece] is bread, olives, cheese, onions and sour milk. The cow helps prepare the field for wheat and onions and provides the material for the cheese and sour milk.” The cow is “indispensable” and “a number of American schools and churches…have helped in this [insemination] project.”

Bovine semen had been shipped since the end of the war from America to New Zealand, Australia, Great Britain and elsewhere. Mr. Bondanno proudly mentioned to his

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409 The United Nations Relief and Rehabilitation Administration (UNRRA) was an organization created by the Allies to assist refugees who were displaced as a result of World War II and to aid countries in poor economic shape due to the war. Established in November 1943, it was run largely by representatives from the United States, Great Britain, the Soviet Union, and China. The UNRRA council held its first meeting in mid-November 1943, at which committees to deal with finance control, agriculture, health, rehabilitation of industry, welfare, and displaced persons (DPs) were created. Until the war ended in 1945, the UNRRA was unable to accomplish much in the way of restoration and rehabilitation. When the war ended in 1945, the UNRRA was faced with overwhelming responsibilities. Millions of homeless refugees and DPs were lost in Europe and needed care, both physical and emotional. Based on agreements with the American, British, and French authorities in Europe, the UNRRA was put under the control of each country's military command in the zone it occupied. The UNRRA also provided food, clothing, raw materials, medical supplies, farming machinery, and more to various recovering countries and regions. These included Czechoslovakia, Yugoslavia, Italy, Poland, Austria, the Ukraine, Belorussia, Albania, Greece, China, the Dodecanese islands, and to a smaller extent, Finland, Hungary, Ethiopia, and the Philippines. By 1948 the UNRRA closed its remaining offices in Europe, Asia, Australia, and Central and South America. Source: Shoah Resource Center, The International School for Holocaust Studies.

audience at *The Second International Congress of Physiology and Pathology of Animal Reproduction and of Artificial Insemination* in Copenhagen that he had personally carried out “three importations of semen (between 1947 and 1948) from the State of New Jersey to Italy, resulting in the birth of several animals all of them on active production.” He went on to outline imports of semen from Argentina and Uruguay in 1948 and ones to Spain and France’s Centre of AI, Châteua-de-Leuilly-Laon, a few years later.\(^{411}\)

Not all countries were keen on “non-native sperm” being used to rehabilitate their herds. The initial efforts to open AI stations across Europe after WW II, stalled as roadblocks emerged from livestock merchants and countries carrying out extensive breeding programs to produce mass sales of stud animals. Extensive integration of AI would drastically lower the number of studs needed. In order to control the growing practice, many governments began to produce national legislation regulating export, import, labeling and disease management. Most countries empowered their national breeders organization and ministries of agriculture as the central authorities to establish rules of collection, storage, distribution and sale of semen. From the period of 1938-1956, countries passed these laws protecting their “national zootechnical property” and preventing “speculative misuse” by non-scientists of AI—Italy (1938), The Netherlands (1939), Turkey (1940), Switzerland (1944 and 1950), Great Britain (1946 and 1947), France (1946 and 1948), Ireland (1947), Belgium (1948), Finland (1949), Sweden (1950 and 1951), and Japan (1956). Thus, the international regulation of AI evolved in such a way to protect national economies and genetic heritage. Breeders codified what animals

\(^{411}\) Methods and values of AI were transmitted internationally not only through the venue of conference and journal publications but also through film. Productions included, C. Polge’s *The Freezing and Thawing of Living Cells*, Robert Cassou Derniere’s *Contributions du Centre Francais de la Loupe a la Technique de l'Insemination Artificielle*, and A.C. Baltzer’s *The Right Semen to Produce the Right Calves.*
were part of a national agricultural identity and strove to rehabilitate their herds as they helped their economies. All of this was achieved by barring individuals from accessing a market for sperm. Only nations and professional communities were deemed trustworthy enough to guard the national rehabilitative project within its borders.  

In conclusion, comparing contests over the rehabilitative potential of artificial insemination in the decades after WWII offers a more positive and flexible imagining of the role of artificial insemination in mid-twentieth century society than a focus on legal and religious debates. Foregrounding the narratives of patients enables husbands to emerge as agents in the shaping and interpreting of artificial insemination in the practice of health care. It also exposes new sites of conflict—like between the VA physicians and would-be users of AI, disabled veterans. Consequently, the definition of not only who is a patient (commonly perceived of as women) shifts as well and male bodies resurface in the story as visible actors.

Similarities emerged across the narratives—from physicians, men, and women as they envisioned the rehabilitative potential of artificial insemination in a Cold War world of booming babies, bombs, and agriculture. The importance of ideas about genetic inheritance were omnipresent: for physicians, in order to produce fewer but better babies for their worthy patients and for the nation; for mothers, in matching their husbands

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hereditary characteristics to preserve the illusion of genetic inheritance (and perhaps even improve upon it a bit); for sterile men (as a paradoxical means to regain but at the same time threaten their masculinity). How much agency a person should have to make choices about their body and bodily products was a site of continued contestation and negotiation. Operating in a society experiencing a huge expansion of consumption practices (including products for the home, office and body and the use of credit to acquire them)—patients often wanted a broad interpretation of when, how and why they could use their bodies and bodily products in their health care experience and their right to do so when paying, or being paid, for a service. At the same time, the medical profession strove to make sure that their own professional expertise and authority mediated choices. In spite of that, those in the medical community were also aware that they were providing a market service for an elective procedure. Legal authorities attempted to control what bodies were being used and produced in ways that served the states goals (whether agricultural, eugenic, pro-natalist, or the legal regulation of marriage and inheritance). Last but not least, as the concept of using AI as a means to conception was negotiated, the popular media, including fiction and film, took on new significance as they carried out educational tasks that were separate and perhaps even more important than scientific publications in pushing artificial insemination into medical practice.

The practice of artificial insemination in post war and Cold War America in many ways reflected the confusing, conflicting, and fearful place of gender, sexuality, and reproduction in American life. It was both a means to restore marital happiness but, also a potentially adulterous act. AI could rehabilitate families and psychologically scarred
men after the war but was not a fit technology for use in a VA hospital. It was a symbol of scientific authority and medical power but also exposed the nascent patient and consumer rights movement.

Although the rehabilitative potential of artificial insemination would not be a ethos that persisted into the decades after 1960, the contests over patients right to access artificial insemination would continue as new research on cryopreservation and the AIDS crisis produced a host of new fears about safety and regulation of artificial insemination. In the next era, one often associated with the birth control pill and the legalization of abortion, artificial insemination is swept up into debates about women’s reproductive rights. The number of AI procedures grows exponentially, ultimately producing an estimated sixty-five thousand babies annually by 1980. The next chapter considers these developments in the context of new science of cryobiology, men pursuing cryopreservation to preserve their future fertility in the face of reproductive failure, and governmental debates about disease risk and the responsibility to regulate the first commercial sperm banks.
Chapter 4


“Seminal Gelation”

What kind of worm
Would chill his sperm
And, like a demon,
Save his semen,
Refrigerated,
Labeled, dated,
Til Time is free
For progeny?
What human weed
Would freeze his seed,
Packaged, please
Like Bird's Eye Peas,
So the Junior League,
To avoid fatigue,
Can spawn its fetus
Without coitus?


During the 1960s and 1970s, at the same time as American society, with the release of the birth control pill, was struggling to understand a radically new means of limiting reproduction, there was an exponential growth in fertility clinics practicing artificial insemination. As this chapter will demonstrate, the proliferation of modern contraception and the development of artificial insemination followed different paths. By the late 1970s six to ten thousand babies would be born annually from artificial insemination. Physicians and patients during these decades regarded this as one of the only techniques that would help severely oligospermatic men to impregnate their wives and new methods of washing, freezing, and concentrating semen were developed to
increase the viability of artificial insemination by husband. But for some, the increased use of artificial insemination, particularly when coupled with new techniques in cryopreservation, came to represent unwanted changes in the status of women during second wave feminism and immoral medical interference into sex and the timing of children. As Dr. Ayvasian wrote in his poem response to an article on artificial insemination published in JAMA in 1968, even “Junior League” traditional, white, middle-class wives, were now postponing childbearing using the birth control pill until “time is free” and putting their own pursuits ahead of sex with their husbands “to avoid fatigue.” Men, he thought, were not without guilt in this reprehensible undoing of women’s primary purpose—motherhood. Using cryopreservation to “chill” sperm and save it “refrigerated, labeled, dated” and packaged like a product, in this case Bird’s Eye Peas, was a failure of proper masculine authority, a disgusting commodification of the sacred acts of sex and reproduction.

Throughout this period fears about the decline of the American family, and women’s control over reproductive decisions using the birth control pill and abortion were vociferously debated in news and politics. Set amidst these debates about contraception, pregnancy, and women’s rights, this chapter explores what place a technology that enabled reproduction without sex had in an era that marked a large shift in the ability to have sex without reproduction. It traces the complicated interplay between the politics and discourse about artificial insemination and the two reproductive technologies that are most often understood as having defined the 1960s and 1970s, the birth control pill and abortion. In order to understand how artificial insemination was transformed in the charged reproductive politics of this era however, also necessitates
analyzing how the development of cryopreservation methods unfolded during these decades. Consequently, along with an examination of how physicians tested and debated the medical risks and effectiveness of using frozen semen in artificial insemination, this chapter also focuses on the establishment of new intermediary institutions to manage the recruitment of donors and freezing of their donations—university and commercial sperm banks. New institutions brought an expansion of the potential users and uses of artificial insemination. The need for donor sperm to help married couples conceive persisted but a new attention to the fragility of men’s reproductive bodies in the battle against cancer also produced a new temporality of decision-making about having children. Sperm banking facilities offer insurance of “future fertility” in the face of pending reproductive failure thereby widening the scope of infertility.

What follows is a broad investigation of the forces shaping the growing practice of artificial insemination during the 1960s and 1970s—the evolution of cryopreservation methods and institutions, debates about reproductive autonomy with the advent of the pill and legalization of abortion, a new understanding of reproductive technologies as consumer products, and novel clinical reasons to pursue the preservation of semen.

I. Freezing Cells

*Chilling Life in the Lab*

Throughout the first half of the twentieth century an incredibly wide range of biomedical actors—from gynecologists and urologists to animal breeders and experimental biologists—experimented with the methods and applications for freezing sperm. These experiments were part of a long line of scientific investigations in the
culturing of cells. Sociologist Hannah Landecker has described them as “a series of realizations of cells’ abilities to withstand and live through a variety of rude manipulations, from extracting them from their bodily context to fusing them together artificially.” Sperm, as opposed to other kinds of cells, were particularly useful in cyrobiological research because they offered a highly visible manifestation of their ability to survive the process with all of their functions intact. In other words, if sperm that had been frozen and then thawed could still fertilize eggs then an experiment was a success. The first investigations attempted to understand how injuries to spermatozoa cells occurred during and after freezing. Scientists, including Jesuit priest Basil Luyet and French biologist Paul Becquerel, measured cellular health and explored spermatozoa motility and the ability of eggs to be fertilized and hatched. By 1940 the first book dedicated to the study of the emerging field of cryobiology was published—*Life and Death at Low Temperatures* by Luyet and Gehenio. The germ cells of mammals, amphibians, and insects were used to study the effects of cold. However, the cooling and freezing of spermatozoa, and cells more generally, proved to be no simple process. As the experts discovered, when biological tissues, composed of 80% of water, become colder than 0°C, the water within and around them begins to freeze. Ice crystals formed inside of the cells and caused injury while outside the cells (extracellular crystallization) caused dehydration during slow freezing. Few sperm cells could survive this process with their motility much less their fertilizing capacity intact.

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414 Landecker, 11
The first major breakthrough in cryopreservation occurred in 1948 by chance rather than by scientific method. At the National Institute for Medical Research Laboratory in London, Mr. Chris Polge, biologist Dr. Audrey Smith, and physiologist Dr. Alan S. Parkes were studying how different kinds of mediums (the liquids that surrounded cells) could protect cells during the freezing process. More specifically, they were investigating levulose (fructose) as a cyroprotectant for fowl semen. They had not been having much luck. As Smith recalled later, ‘there seemed little prospect of any progress in the use of low temperatures for the prolonged storage of cells.’

Into this scientific stalemate an accident intervened. During one of their experiments, a bottle whose label had fallen off in the refrigerator was inadvertently mislabeled as their preservative. It was placed in the refrigerator being used to store their testing solutions. When the researchers returned a few months later to test the results of the freezing and thawing only one sample solution had almost completely preserved the motility of the fowl semen. At first they attributed the success to the mold that had grown on the sample but when they tried to identify how the mold had interacted with the fructose they discovered that there was absolutely no sugar in the solution. Confused, they turned to an analytical chemist, Dr. D. Elliott to attempt to identify what the solution actually was. After an anxious series of tests with what little of the solution that remained at the bottom of the bottle, Eliot was able to classify the solution as Mayer’s albumen (a mixture of glycerol and protein used by microscopists when fixing sperm samples for morphology examinations).

From there, the researchers quickly identified

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416 Smith (1962), 10 as cited in Parry, 402.
417 Polge, 1968, 47.
glycerol as the active ingredient in the freezing process as they shortly announced to the world in *Nature* in 1950.\textsuperscript{419}

Mr. Polge and Dr. Smith based their experiment on the premise that some organisms survive exposure at low temperatures (and can continue to thrive and grow after thawing) but found that this ability was dependent on “preventing the formation of intracellular ice crystals.”\textsuperscript{420} They also were drawing directly from the work of Columbia University physician L.B. Shettles in his 1940 study in which he described how he had put small tube containing semen specimens from six men in liquid nitrogen and liquid helium. Although, the motility rates were very low upon thawing (all less than 10%) the study proved that rapid rates of cooling could be effective.\textsuperscript{421} Polge and Smith worked to understand the boundaries of glycerol as a suspension fluid to protect the sperm against extremely low temperatures (-80°C). They tested a wide range of sperm, including fowl, horse, bull, and human with the new medium. Glycerol modified the process of ice formation so that increased pressure did not harm the cells. Yet, this did not enable an immediate adoption of a standard for freezing all spermatozoa. Different species’ sperm, and even different human samples, required different concentrations of glycerol and a unique protocol needed to be developed for each. For instance, human sperm, which according to Polge and Bunge, was “exceptional,” withstood freezing (at the


\textsuperscript{421} L.B. Shettles, “The respiration of human spermatozoa and their response to various gases and low temperatures,” *American Journal of Physiology*, 128 (1940): 408–415. This is the same Dr. Shettles who would attempt in vitro fertilization in the 1970s.
temperatures of solid carbon dioxide, liquid nitrogen and liquid helium) even without
dilution whereas, bull or goat sperm needed at least 15% glycerol in a citrate buffer
solution and a slow cooling cycle to remain viable. Horse semen proved even more
delicate. It required the sperm to be centrifuged, then suspended in a phosphate buffer
solution of 5% glucose and 30% glycerol and even then, only 25% of the sperm resumed
motility upon thawing.

In many ways their experiments mirrored early twentieth century research on
tissue culturing. In tissue culturing the scientific goal was to find and test a variety of
mediums that would sustain cells and provide nutrients in vitro. From plasma to
embryonic tissue extracts, researchers attempted a wide range of mediums to promote the
growth of tissue cells. For cryobiological researchers working on how to stop cell
growth and decay completely rather than promote it (what Dr. Parkes would deem
“suspended animation” and reanimation after thawing) a wide range of substances and
combinations were also tested as mediums. The use of glycerol however, proved most
promising and was rapidly expanded to freezing research outside of reproduction. It was
used on a variety of cells, tissues, and even organs—as research that needed large
amounts of cultured cell lines for testing, namely cancer and viruses like polio, were
heavily invested in during the post-war era. The ability to freeze cells freed researchers
from the tedious task of maintaining tissue cell lines in animals and from constantly
culturing fresh samples with its attendant worries of contamination, deterioration, and

422 Landecker, 75-78.
423 Various combinations of glycerol with other substances were tried to try to improve the survival rate of
gametes including: lecithin, egg yolk, egg white, milk, glucose, fructose, mannose and other sugars, and
loss.\textsuperscript{424} In sum, the discovery of an effective cryoprotectant launched the emerging field of cryobiology and made “cryopreservation” as we understand it today, possible.\textsuperscript{425}

However, this first huge step in the freezing of living cells still left many questions for researchers in reproductive science and medicine. Were the harmful effects to sperm that occurred during freezing and thawing the central problem to focus research on? What about changes inside of the cell itself? What effects did the chemical glycerol actually have on sperm? Since the late 1920s cytologists had determined that cells interchanged fluid with their surrounding medium.\textsuperscript{426} If the chemical either changed the cell walls or entered the cell there might be questions of safety for the fetus. There did not appear to be side effects in chicks produced this way but there could be unknown toxic effects of the solution, thought researchers.\textsuperscript{427}

The discovery of glycerol caused great excitement in the scientific community and within the short space of four years were pursued by a number of scientists—B.J. Luyet and P.M. Gehenic focused on the action of glycerol on chicken embryos; RG Bunge wrote a second article on glycerol that explored its ability to prevent damaging salt concentrations from occurring during freezing and thawing; and at the State University of Iowa College of Medicine urologists J.K. Sherman and RG Bunge published a piece on

\textsuperscript{424} For more on the evolution of the role of cryopreservation in these other areas of research see Landecker, 153-162.

\textsuperscript{425} Note: This affected not just the storage of human sex cells for reproductive science and medicine but also was the basis for the imaginative science of cryonics (the preservation of whole mammals) and more importantly, the ability to preserve human tissue and cells for the study of diseases and transplantation.\textsuperscript{426} For more on this see Landecker’s discussion of Warren Lewis and his experiments with pinocytosis in 1929, 116.

novel specimen staining methods and the freezing of human sperm. As the next section will discuss, the latter actors would successfully produce the first full-term pregnancies using frozen human sperm. In a pattern that would repeat itself with human work on cryopreservation, this would occur even before important work answering questions about safety would be completed.

By the early 1950s fundamental techniques had emerged to manage the basic scientific obstacles to cryopreservation. For human sperm, a workable cryoprotectant solution had been found, the rough parameters of the rate at which sperm could be cooled had been worked out, the pivotal temperature for successfully storing frozen sperm was discovered (-80 Celcius), and a warming rate that was fairly rapid had been proven to be effective. More exact knowledge about why these techniques worked was less clear, however.

Cryopreservation in Reproductive Medicine

As cryopreservation moved from the lab benches of experimental biologists and into the offices and laboratories of fertility clinics it was considered as a means by which to conquer a wide array of time related problems with semen samples. Cryopreservation

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430 Experimental work eventually began to focus more on the role of cryoprotectants. How much, at what concentration, by what method of introduction to the cell or removal after thawing were the central questions of this research.
would eventually transform both the practice of artificial insemination and the institutions that offered artificial insemination. However, even before the advent of glycerol as a cryoprotectant important work on human germ cell preservation was taking place, which would inflect early practices of sperm cryopreservation. These preservation techniques were not performed to accomplish what we think of today as the process of freezing sperm samples—one ejaculation sample frozen into a single straw or vial. Instead, they reflected the clinical needs of husbands with poor sperm samples and physicians stretching the use of donor samples. Low temperatures (although not initially freezing temperatures) were applied with the goal of splitting individual (donor) semen samples for multiple insemination attempts on a body/bodies and to attempts to concentrate multiple (husband) samples into one. Returning to the clinic of John Rock and then to a new site, the University of Iowa this section considers the politics and biological problems that jointly produced the first human zygotes and then, the first babies, born of cryopreserved sperm. It also examines the role of technical problems of refrigeration, storage, and transportation that affected how widely freezing technologies were used as the first generation of physicians began, ever so slowly, to incorporate cryopreservation into their practices.

To highlight how the use of frozen semen changed the practice of artificial insemination a brief sketch of what the use and storage of fresh semen samples entailed for physicians practicing artificial insemination is in order. Practitioners in the nineteenth and early twentieth centuries were primarily concerned with keeping semen warm rather than cold. Every physician had his own method. Gerard made a special water incubator to keep the sperm container and his instruments warm. J. Marion Sims did not extract his
post coital semen samples until his instruments had warmed to body temperature within the vaginas of his patients. However, by the late 1950s, after the rise of donor insemination and concerns of anonymity resulted in the need for samples to travel short distances from sites where so called “friction samples” were produced to clinics, time rather than temperature had become a greater worry for clinicians. For instance, New York gynecologist Sophia Kleegman had her samples delivered via taxi to her consulting room to speed the time between ejaculation and insemination (as well as to protect the anonymity of all involved). When Dr. Alan Guttmacher queried a number of physicians on how quickly they used their samples: thirteen used them within one hour, seventeen within one and a half hours, five within two hours, and seven used samples that were two and a half hours old. The American Society for the Study of Sterility set the bar lower than these physicians however, and recommended that semen not be more than four hours old and that samples should be collected in a dry, and “if possible” sterile jar.431

Before cryopreservation, the imperative to use a specimen within an optimal time window meant that the interactions between the gynecologist and their patient were under additional strain in the clinic. There was little time for discussion after a sample arrived at the consulting room. Accordingly, the woman and often, her husband, were advised to “make ready” well before the delivery of the semen. What this necessitated for women seems to have been an unknown amount of time in the stirrups or on the operating table with a speculum inserted and their pelvis elevated above their rear. After the arrival of the specimen, the woman remained in this position while the gynecologist examined the sample under the microscope for quality. Despite problems of time, transportation, and patient discomfort in clinical practice—some of the first experiments with freezing

431 Schellen, 124-126.
human sperm cells focused on the time issues of *in vitro* inseminations (laboratory tests in petrie dishes) rather than the clinical time pressures of *in vivo* insemination. Nevertheless, *in vitro* considerations would blend into *in vivo* ones, and in the meeting a new process of sperm concentration would be born.

As early as the mid 1930s John Rock began to collect publications from and make contacts in the agricultural sciences. He focused on the methods, biological mechanisms, and practices of biologists in the dairy industry as they experimented with preserving spermatozoa at low temperatures. His initial interest was not to freeze sperm for use in artificial insemination attempts. Instead, he needed “suspensions of sperm with fertilizing capacity” to be quickly accessible for use with his experiments on *in vitro* fertilization (IVF)—the fertilization of eggs outside the human body. The recovery of ripe, fertilizable ova could happen unexpectedly during his routine gynecological surgeries (hysterectomies, etc.) and rather than calling in a sperm donor at odd hours, Dr. Rock wanted samples on hand in order to conduct his fertilization attempts. By 1944 these attempts would lead to the first successful *in vitro* fertilization of a human zygote, and eventually (and famously) to the new clinical application of *in vitro* fertilization as a revolutionary method of infertility treatment for women with blocked or absent fallopian tubes and other reproductive problems. But in this, the early phase of John Rock and his assistant Mirriam Menkin’s IVF research, their experimental work intersected with clinical work occurring at the clinic—artificial insemination. Rock and Menkin needed readily available sperm samples. Although Rock destroyed all of his patient records, it is

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safe to assume that as men came in to produce samples for artificial insemination attempts with their wives, for fertility assessments, and potentially as sperm donors for AID—some of their samples ended up in a new project to preserve sperm for IVF attempts.

The IVF research also necessitated an understanding of a particular samples likelihood of producing a conception. And even though the study of men’s sterility was not his primary objective, Rock’s unusual background in urology and a broader interest occurring in Boston at the time in investigating male fertility, led him to work the IVF question from both sides of the equation. In other words, he worked to understand the role of ova and spermatozoa in conception equally. Samuel Meaker, professor at Boston University, had just published his groundbreaking book, *Human Sterility* under the direction of Robert Dickinson and with the funds of the National Committee on Maternal Health (NCMH). The NCMH took research on male fertility and the establishment of treatment standards in infertility as serious goals. Thus, Rock’s research on sperm was part of a broader trend toward investigating the causes of infertility in America. Assisted by a grant from the William F. Milton fund, Dr. Rock and Dr. W. Williams began to establish morphological classifications for the sperm they acquired from almost 120 donors. They counted the spermatozoa and cells, made observations on agglutination, the percent of motile sperm, and how active they were. And, in what must have been quite adept social maneuvering, recruited six unmarried donors who had normal sperm counts (as opposed to the 120 sub-fertile samples from the donors seeking infertility treatment) to regularly and repeatedly make donations. Next, they began looking to cutting edge research on cooling rabbit semen. Following in the steps of researchers Walton and

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434 See Marsh and Ronner, *The Fertility Doctor*, 120.
Hammond, Rock lowered the storage temperature of the sperm specimens to between ten and thirteen degrees Celsius, “the temperature of running tap water.” Rock found that this allowed sperm to survive longer, as did the replacement of ejaculate fluid with sterile human semen after the specimen had been centrifuged. With these findings Rock could reliably have on hand cooled sperm for his IVF fertilization attempts.

Dr. Rock’s interest in preserving spermatozoa continued throughout his career—well into the 1960s. His focus evolved over the decades and new potential clinical applications became more important to Rock than using chilled sperm samples in laboratory research or for preserving donor semen for AID. Dr. Rock’s use of new cryopreservation technologies during the 1950s and 1960s reflects its status not only, or even primarily, as a science meant for anonymous sperm donation. Instead, in the hands of Catholic physician Rock, a man who saw both artificial insemination and the birth control pill as tools to be used within marriages, it developed as a means to help oligospermatic husbands (men with low sperm counts and low spermatic activity) achieve fatherhood. Marsh and Ronner aptly note that this perspective was indicative of Rock’s larger practice. They argued that Rock saw research as “a means to an end, not an end in itself. He wanted to find solutions for the problems of reproduction that beset his patients and the millions of men and women around the world who joined them in suffering either from infertility or repetitive childbirth.” It is not surprising then, that Rock would pivot his research on sperm preservation from IVF to help the increasing

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435 The experiments on rabbit spermatozoa showed that cooling rabbit it to temperatures of 0-40 degrees Celsius enabled the samples to remain motile (at 40-50%) for 72 hours. These experiments were performed by Walton and Hammond in 1930.
436 “Report to Milton Fund on Sperm Freezing Experiments,” 1940 1939. Note: Doctors Rock and Williams had concerns about contamination of their specimens affecting their fertilizing capacity, even when donations were made in sterile jars. Their concerns were justified when they discovered that twenty-nine out of thirty-five specimens showed staph or other kinds of bacteria.
number of men seeking his help for problems of sterility in the decades after World War II.

John Rock helped to pioneer a method with F.M. Hanson of centrifuging semen in order to increase the sperm concentrations of sub-par ejaculates. Rock and Hanson put fresh ejaculate into a centrifuge tube, spun it for 15 minutes, poured off supernatant liquid, added Locke’s solution and repeated, until the sediment at the bottom of the tube was concentrated and thus, ready for insemination.\(^{438}\) E.J. Farris was another early researcher and advocate of this method. He estimated that when the ejaculate of around 4.5cc was centrifuged to a volume 1cc the sperm counts increased from 44 to 113 million and their activity increased from 18 million to 33 million.\(^{439}\) Many AIH practitioners adopted this method in their practices. For instance, the gynecologist who was pivotal in expanding the use of artificial insemination in Great Britain, Dr. Georgeanna S. Jones, performed just as many A.I.H procedures using this method as she did donor inseminations.\(^{440}\)

As new research on cryopreservation began to be released in the 1950s, concentration methods began to be combined with freezing—enabling two new methods of “pooling” semen. Sperm pooling, in which sperm from multiple ejaculation samples from an oligospermic husband is combined, became a widely used method during the 1950s and 1960s. Some physicians like Rock, took three or four samples collected over the course of two to six weeks, spun and froze them, and then combined them with one last fresh sample on the day of ovulation—the day of insemination. Consequently, it is

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\(^{440}\) Georgeanna S. Jones, personal communication with Schellen, 91.
not surprising that when Rock heard about Parkes’ breakthrough discovery of glycerol as a cryoprotectant, he immediately wrote his colleague for reprints on his “thrilling” research and to congratulate him. Rock noted that Parkes’ “prophecy” on the ability to freeze and use sperm was finally, “gradually materializing.” The impact of this discovery was so important to the care of the infertile via artificial insemination that Rock himself wondered, “what are we coming to?”441 Rock’s research on concentrating semen would soon fall by the wayside and be replaced by cryopreservation research in the late 50s and early 60s. Whether because the influence of his research team and their interest in developing cryopreservation techniques or because of the low rates of success, at least two couples were offered a place in an experiment testing the use of frozen donor semen, and were “aware and desirous of the possible consequences.”442 Clinics began to use semen concentration, albeit for a brief time, and incorporated cryopreservation as part of the concentration process in novel ways.

There were alternative techniques to freezing concentrated sperm donations to assist men with low sperm counts/motility. For instance, the “split-ejaculate method” increased semen concentrations by having an oligospermic husband ejaculate the first third of his sample into one container and the rest into a second. The number of sperm per cc and their motility were often distinctly better in the first sample (an average of 116 million sperm per cc) versus the second portion (average of 61 million per cc). Coupled with the new cryopreservation techniques, several of these split ejaculates could be

442 By 1959 Rock and his team would conduct experiments on freezing that explicitly used donor sperm on two women who had azoospermatic husbands. In the eyes of the researchers—there could be no question of fertilization occurring outside the experiment. Cano Fernandez, MF Menkin, C. Garcia, and John Rock, “Refrigerant Preservation of Human Spermatozoa. I. Factors Influencing Recovery in Euspermic Semen: Clinical Applications,” Fertility Sterility, 15 (July 1964): 390–406.
frozen to further increase the concentration and thus hopefully, the potency of the sample. By 1968, readers of The Washington Herald and Chicago Sun-Times could learn that this technique of concentrating frozen sperm samples was available for husbands to help “sire their own children” at the Tyler Clinic in L.A., a clinic that specialized in artificial insemination. Dr. Edward Tyler optimistically told reporters that his clinic was able to increase sperm counts by as much as four hundred percent. Others in the field also commented on their success with the method. For instance, Wayne H. Decker, surgeon in chief of the NY Fertility Research Foundation, treated one hundred and fifty-five women by AI after pooling and freezing the semen of their oligospermic husbands and eighteen percent became pregnant. While Satti Gill Keswani of Livingston, NJ froze and pooled the oligospermic ejaculates of thirty-one of her patients and reported that although these patients had initially been referred to her for donor insemination in her private practice, sixteen percent became fathers through this method. This method of pooling cryopreserved sperm for concentration, rather than the split-ejaculate method, produced the first four pregnancies from frozen sperm.

Cryopreservation In the Clinic

The two researchers who became the first to use frozen sperm to treat infertile couples successfully, also came to dominate the medical and policy literature on the clinical use of cryopreservation for the first decades of its use. Dr. J.K. Sherman began

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445 Finegold, 76.
his career and research at the University of Iowa with Dr. Raymond Bunge. He did not stay in Iowa long before accepting what would be a life long position within the Department of Anatomy at the University of Arkansas’ School of Medicine-Little Rock. His colleague, Dr. Raymond G. Bunge, a graduate of University of Michigan Medical School (1936), returned to the site of his former residency at the University of Iowa College of Medicine in 1946 after serving as a captain in the U.S. Army and receiving a Diploma from American Board of Urology in 1943. The thirty-eight year old physician shortly attained Assistant Professor status in the Department of Urology of the College of Medicine. However, it was his work on artificial insemination and cryopreservation that would help to secure him his status as a full Professor of Urology in 1953. Bunge was uniquely prepared for research on artificial insemination and cryopreservation. He had a background in tissue culturing and was a member of the American Tissue Culture Association and the Society for Experimental Biology and Medicine. Work on tissue culturing was rapidly expanding, standardizing and commercializing after World War II. Consequently, Bunge would have been exceptionally aware of the wide range of exciting research emerging on cryopreservation but as a physician, with an eye towards providing new services. This research on tissue culturing and freezing was not something that general practitioners offering infertility services would likely have been aware of.\footnote{The study of how sperm could be frozen and thawed successfully was part of a growing literature that was investigating low temperature biology. However, relatively few gynecologists and urologists were conducting research on cryopreservation (John Rock, Bunge, Farris, Colton, Iizuka and Sawada were the most prominent exceptions) and they generally needed large university research hospitals and research spaces to support them both technically and organizationally in their cryopreservation research. For instance, John Rock had a team of researchers and international connections that were engaged in gathering research from an array of fields—microbiology, botany, veterinary science, engineering and medicine. This was to change however, in 1964 when a new society for cryobiology and a new journal \textit{Cryobiology: International Journal of Low Temperature Biology and Medicine} were founded in which these discussions could be had across disciplines.}
In 1953, Doctors Sherman and Bunge jointly published an article announcing that three of their women test subjects had become pregnant using frozen sperm. Little is known about the women, beyond that they were married and unable to conceive with their partners. Dr. Bunge refused to disclose any information on their identities, whether or not donor sperm or husbands sperm had been used, or what circumstances would cause them to agree to attempt pregnancy via a means that carried an unknown degree of risk for birth defects. The perception of the procedure as risky was evident in newspaper coverage of the pregnancies as x-rays of “the foetal skeleton” were carefully described as seeming to be developing normally. The babies, a boy and two girls, were born one after another in Iowa City, Iowa sometime in December 1953, and January and February 1954. Both urologists withheld any information on the births until April of that year.

Some of their reticence to discuss the births had to do with fears about birth defects and the necessity of determining whether the children were normal. “The longer I know these kids, the better off we will be in seeking to answer that important question” said Dr. Bunge. The authors stressed that further use of frozen thawed sperm treated with glycerol needed to wait “until normal embryonic development has been observed and the progeny are declared normal.” Other more social questions also remained about the mothers and added to the need to carefully control information about the experiment. Journalists asked if these women had become pregnant via this new frozen method—or had conception miraculously and finally occurred naturally within their marriages? Or perhaps, was extramarital sexual activity the cause of the pregnancies?

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Dr. Bunge attempted to squelch these comments, that both implicated his research and the moral status of the new mothers. He said emphatically that both mothers and the one mother-to-be were women “of high integrity…and the source of the conception was valid.”

Questions about safety were not the only ones raised by the news regarding the ability to freeze sperm and conceive. Dr. Parkes and others pointed out that the profound disruption of the usual lifespan of biological cells and human bodies raised disturbing ethical and philosophical questions about life and death. Shortly after the team at the London National Institute for Medical Research announced their findings about glycerol Dr. Parkes told *Time* magazine that society needed to think about the possibility of animals and men begetting progeny after their death. Were men now mere “germ plasm containers” he wondered before pondering if “time [had] lost its significance.” Parkes comment was predictive of much of the general public’s reaction to the news that human sperm could be frozen for insemination. For instance, within two months of the announcement *Time* magazine took this idea to the extreme in an article entitled, “Daddy’s 3,000 Years Old.” In its pages the response of one indignant English woman to the news read:

Listen—I married because I love a warm living human man; my heart and soul wanted to make a warm living human home and grow in it babies, babies made by my husband and me ... Can a putrefied Charlemagne or a mummified Pharaoh protect and love and guide a living child? 'My daddy's three thousand years old. Yeah, we go to see him in the museum sometimes....”

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452 “Medicine: Daddy’s 3,000 Years Old,” *Time*, October 1, 1951.
Fears about the potential for immortality using cryogenic technologies would continue to be a part of discourse as sperm began to be frozen for longer periods of time. An emerging realm of study, cryonics (the freezing of whole bodies/body parts) was also enveloped by such apprehensions, producing tension within the cryobiology community.

These first four conceptions using frozen semen were part of a much larger investigation by Bunge into the success rate and risks of using frozen sperm. Over the course of two and a half years between 1952 and 1955, Bunge and his associates saw one hundred and eighty-five couples at their infertility clinic. All were patients who had experienced infertility for over 16 months and often had been referred to the clinic by other physicians. Fifty-eight of these couples conceived and thirty-four couples received artificial insemination. Twenty conceived using artificial insemination; eleven with fresh semen and nine with frozen semen that had been cooled in an insulated box with dry ice. Twenty-six couples received frozen donor semen, three times per cycle, eventually producing nine conceptions. With only a 34.6% success rate with frozen semen, Bunge returned to the use of fresh donor semen (placed in a cervical cap) by the winter of 1954 with the twenty remaining women who had not yet become pregnant. Of these women, eleven became pregnant after three or four more cycles of AID with fresh samples.453

Ironically, the physician who began the use of frozen semen in artificial insemination considered the pregnancy success rate with cryopreserved semen to be too low to regularly continue with the method and chose to use fresh semen samples in his practice.

The perception that frozen sperm was less efficacious than fresh became widely held. Physicians criticized the clinical usefulness of cryopreservation in treating sub-

fertile male patients. Urologist John McLeod noted that the pooling oligospermic individuals’ semen made little sense since oligospermic semen samples froze less well. But even more importantly, the idea of freezing this or any other sperm in human semen banks was not necessary “when the fresh specimens are readily available.” Some donors contacted gynecologists in their area *themselves*, knowing that fresh sperm donations were needed after reading about sperm donation in the pages of newspapers or magazines like *Playboy*. One sperm donor admitted “working” for over six doctors and eventually two or three sperm banks.⁴⁵⁴ Social mores, whether against artificiality or the commodification of a “gift” with long-term storage, also played a role in delaying adoption of the cryopreservation in the clinical care of the infertile. McLeod went on to note that "[O]ne must also consider the question of good taste in such matters and semen banks do not seem to this author to fall into the category mentioned."⁴⁵⁵

Beyond a few pioneering fertility specialists, most physicians shared Macleod’s opinion about the value of freezing sperm. However, research on the freezing of human sperm cells continued, notably in the hands of urologists. In an attempt to refute statements like those from MacLeod, in 1958 two urologists at the Wistar and Farris Institute for Parenthood in Philadelphia began a large study about preserving human sperm at low temperatures. Funded by the Samuel S. Fels Fund, Drs Sabin W. Colton and Edmond J. Farris recruited one hundred men to donate semen samples. The study was not geared towards achieving any pregnancies. Its purpose rather, was to understand what happened to sperm of different levels of motility when they were frozen and thawed. Even so, Colton and Farris had a clear eye towards clinical applications and

⁴⁵⁴ Plotz, 44.
recommended to their readers in the *Journal of Urology* that only men who fell into the highly fertile category (of three) were good candidates for simple freezing, thawing, and insemination procedures. With 20 million motile sperm per cc as the benchmark for conception, they recommended that men who fell into lower groups, groups 2 and 3 (Average- and Sub-fertile, respectively) could only be candidates if samples were pooled together. For the “average” group two samples were deemed sufficient for concentration attempts. While for the sub-fertile group (those with only 15 million/cc pre-freeze and 5.6 million post-thaw), and the group in which many potential AIH candidates would likely have fallen, the authors noted that four specimens would have to be combined to achieve sufficient numbers of active sperm.\(^{456}\)

In 1963 a new and simple technique for freezing sperm replaced the dry-ice method. Dr. Sherman was again pivotal in this change in scientific practice as would, in his words an “accelerated interest in the clinical advantages...of stored semen from husband or donor.”\(^{457}\) After the birth of the first babies from frozen sperm Sherman pioneered experiments in freeze-drying sperm (vitrification), but his work on the effects of liquid nitrogen on sperm preservation had a greater impact on the practice of artificial insemination.\(^{458}\) With the liquid-nitrogen-vapor freezing method semen could not only be cooled much more quickly than in air but would also freeze and store samples at very low temperatures (-190 to -196°C). The standard solid carbon dioxide storage method at

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the time cooled samples at −79°C. This shift was driven by new research findings, new storage container technology, and practices in the animal breeding industry as well as the need to address the new and alarming research emerging that biological changes actually occurred to sperm that was stored at the commonly used temperature of −79°C. With the new method of freezing at a temperature of −196°C, all apparent changes in the sperm ceased.

A physician or clinic would have weighed these findings against their own needs, their availability of donors, and cost. The new method had a higher start-up cost. The liquid nitrogen storage container (see Photo 2 of LNR-25B) cost to the tune of $450 and about $5-$25/month to refill the 25 liter liquid nitrogen tank. In contrast, for many medical practices operating on a small scale, the older method of using dry ice (solid carbon dioxide) was judged by many to be sufficient—it required only a $100 investment in a Styrofoam container plus approximately $8/month in dry ice costs. Labs storing sperm needed to frequently resupply their solid carbon dioxide stocks. And although, initially liquid nitrogen using the existing tanks had its own inefficiencies (the tanks could not adequately insulate for the degree of cold afforded by the new freezing substance) the possibility for technological improvement was there. However, it was the animal breeding industry, rather than the medical industry, that not only adopted the liquid nitrogen freezing method almost a decade prior to its use in medicine but also funded and provided the solution to refrigeration technology problems and in so doing, launched the technical foundation for the modern cryopreservation industry.

459 Liquid nitrogen was also becoming more widely used in other medical contexts in the late 1960s; cryogenic knives enabled bloodless surgery in ophthalmic surgery, as a means to kill affected brain cells in the treatment of Parkinson’s disease, and the freezing of blood. See CR Baker and TF Fisher “Industrial Cryogenic Engineering in the USA,” in Scurlock, History and Origins of Cryogenics, Oxford, 1992, 241-2.
460 Sherman, “Improved Methods of Freezing,” 57.
The American Breeders Service (ABS) invested heavily in developing commercially viable cryopreservation protocols and supporting technologies. The first calf born of dry ice cryopreserved sperm was born in England in 1951 using Polges’ method.\textsuperscript{461} It was shortly followed by the birth of “Frosty,” at the ABS in 1953, the very same year of the first human births from frozen semen. Shortly after the birth of the first American calf, J. Rockefeller Prentice, president and sole owner of ABS retained Chris Polge to work on improving refrigeration technologies. Within three years, Mr. Prentice had funded and worked with the Linde Division of Union Carbide to invent improved, more efficient liquid nitrogen containers.\textsuperscript{462} Linde was a leader in the industrial gas industry, making purified nitrogen, oxygen, and aragon for use in the steel and aluminum industries, the new frozen food industry, and the NASA space program. Linde was not only interested in developing storage and transport containers for cryogenic liquids in the animal breeding industry. The use of liquid hydrogen in cold war NASA and Department of Defense research on hydrogen-fuelled chemical rockets, aircraft and nuclear rocket development had driven Linde first into building large hydrogen production plants and then to improve insulation for transport of the product. Thus, Linde was investing in both fundamental and applied research, of which the animal cryopreservation industry was only a small part. By 1956, Linde released a significantly improved insulated tank for agricultural field use, the Linde “Thermos-like” Liquid Nitrogen Storage Container.\textsuperscript{463}

The tank represented a leap forward in insulation (the invention of multilayer insulation

rather than evacuated powder insulations) and it conducted fifty times less heat than its forerunners.\textsuperscript{464} It held a large number of glass ampoules filled with bull sperm, let inseminators easily transport their product from farm to farm, and could capably keep samples frozen for up to two weeks. A larger “biological freezer” was released shortly thereafter for use in medical research and clinical applications for frozen spermatozoa.\textsuperscript{465}

Consensus about rates of freezing and thawing and the freezing temperature did not happen overnight, however. There continued to be debates over these issues in the medical literature for, as J.K. Sherman noted, cryosurvival of human spermatozoa occurred in a wide spectrum. In 1969, Behrman published a review of current literature on methods and success of frozen sperm in human insemination attempts.\textsuperscript{466} He found that publications recorded concentrations of glycerol ranging from 5-10% and frozen storage temperatures from -70 to -196 degrees Celsius. Some practitioners cooled their specimens slowly others did so at medium, or fast speeds. The warmer storage temperatures and faster freezing methods produced 9 pregnancies (a 35% success rate). But, by 1964, a year after the liquid nitrogen vapor freezing method was forwarded for use on human specimens in \textit{Fertility & Sterility}, the literature shows a shift towards colder storage and slower cooling speeds. The success rates with this method showed a distinct, if not overwhelming improvement to 43% in all of the AID series. Although, success rates for AIH, even using the new freezing method, remained largely unsuccessful.

\textsuperscript{464} FG Brickwedde, EF Hammel, and WE Keller, “The History of Cryogenics in the USA: Part 1—Cryoeengineering” in Scurlock, 382.
Shermans’ former colleague Bunge attributed some of the lack of success not to the effectiveness of the methods themselves but rather to human error. In this, the first decade of use of human cryopreserved sperm Bunge chastised clinicians for compromising the survival of the sperm in their frozen specimens with four “indiscretions.” He listed that: they used “home refrigerators” for storage, they added glycol in bulk, they froze specimens at different temperatures than they stored them at, and they placed specimen tubes directly on the dry ice.467 Most banks used paillettes or plastic straws (as opposed to glass ampules) as vessels for freezing and storage after they were carefully sealed by heat. Glass had a tendency to break—a serious problem for unique and difficult to obtain samples. Thus, physicians again drew from the animal sciences for a solution.

Danish biologist Eduard Sørensen, at The Royal Veterinary College in Copenhagen, Denmark had begun using oat straws for packaging animal semen in 1940 and, after watching his daughter sipping punch with cellophane straws at a birthday party he adapted cellophane straws for use in the dairy industry. A French company commercially produced the straws by the mid 1960s.468 In medicine, after insertion into the straw human semen was diluted with an egg yolk citrate extender and sometimes treated with antibiotics but, was also used “raw” or undiluted.469 In the 1970s most inseminations were performed using “raw” semen. General agreement amongst

practitioners was reached that glycerol provided the best means to protect the samples during the freezing process and most physicians had shifted to using liquid nitrogen (for both freezing and storage). Similarly to the early methods deployed at the University of Iowa, clinicians used frozen sperm only in tandem with or as a supplement to the use of fresh sperm. Even with the improvements of the technology frozen semen was still deemed less effective than fresh sperm. Behrman & Sawada stated that the frequency of pregnancies that clinicians could expect from frozen sperm “remains approximately two-thirds of that expected using fresh sperm.”

Stepping away from the technical aspects of artificial insemination and their negotiation, the next section turns towards placing the use of artificial insemination in the broader social and cultural context of the 1960s and 1970s. It will focus on how the heated politics of reproduction over the rights of women to control when they became pregnant and if they remained pregnant (with the birth control pill and abortion) shaped the emergence of a technology that aimed to provide the ability to conceive to women and men.

II. The Tangled Politics of Reproductive Technologies: The Birth Control Pill, Abortion, Cryopreservation and Artificial Insemination

Reproduction and women’s bodies became a site of particular cultural concern from the late 1950s on. In the mid 60, the effects of accelerating global population growth rates began to provide cultural pressure to limit births for both environmental and economic reasons. The 1968 book Population and People by Edward Stockwell, Paul Ehrlich’s The Population Bomb (1968) and organizations like Zero Population Growth

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(with 3000 members by 1969) also gave impetus to the childfree movement. The idea of a “population bomb” was omnipresent in American popular, political and scientific discourse on reproduction. With explicit racism and blaming the poor, scientists and politicians presented overly fertile women in developing countries as the culprits for causing overpopulation, hunger, and political volatility. Closer to home, rhetoric targeted poor, unmarried, and reproducing black women as sites of particular concern to policy makers and demographers. By the 1960s the growing feminist movement also focused on reproduction as the key issue in battling women’s oppression. Consequently, in contrast to the immediate post-war years when even the mention of pregnancy was taboo in public forums, fertility during the 1960s became visible in public discourse, on TV, and in daily life. As historian Matthew Connelly has written, the 1960s thru the 1980s were a moment of worldwide movement to plan population growth. There were campaigns in East and South Asia, Africa and the Americas which swept up feminists, environmentalists and a host of others who aimed to as Connelly put it “change the way people considered their sexuality, their families, their place in the world, and their collective future.”

Reproductive technology was a defining feature of these conversations. The release of the birth control pill in 1960 and then the decision of Roe v. Wade, legalizing abortion in 1973 and the subsequent rise of an anti-abortion movement in the United States all focused on how, when, and if women should manage sex, conception, and pregnancy. The result, as historian Rickie Solinger and others have pointed out, was that reproductive “choice” became linked to understandings of women’s autonomy and full

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These changes in the relationship between public policy, women’s reproductive bodies and choices, and the medical profession shaped not only the adoption of the birth control pill by American women, or the location of abortion provision and care, but they also affected the structure and contours of an emerging market for artificial insemination.

As soon as the FDA approved the birth control pill in 1960, contraception and reproduction were heated topics of debate. People’s positions on the pill ran the gamut—from Pope XXIII strenuous objections that it was interfering in a sacred act, to Margaret Sanger’s resounding support of a feminist agenda she had helped bring to fruition, to politicians and academics arguments about the pill as the solution to overpopulation and the cure for poverty. The pill hit the market at the tail end of the postwar baby boom and demographers have pointed out that shortly afterwards, midway through the 1960s, was the moment in which a new pattern of fertility emerged in America. Men and women began to marry later and have smaller families. More women delayed childbearing until after they turned thirty. The birthrate would fall from 23.7 per thousand in 1960 to 18.4 in 1970 to 15.9 per thousand in 1980. The causes for the decreased birthrates are debated among historians, economists and demographers. But, the advent of the pill, a 50 percent decrease in industrial productivity from 1965 to 1970 and the accompanying loss of blue collar jobs, and the Vietnam war all coalesced at the same moment that the largest cohort of young people, some 63.5 million baby boomers, began to enter both marriage and the workforce. Into this foment of change came the rise of feminism and the emergence of a counterculture who found many of the life choices of work, family, and

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472 Solinger, 165.
militarism that their parents had made abhorrent. For conservatives, reproductive technologies became a primary scapegoat for changing social mores. “Is the U.S. Family Failing?” asked the Chicago Daily News Service. The article highlighted the use of “today’s reproductive technologies,” namely, birth control, artificial insemination, artificial lactation and perhaps “extra-uterine gestation” as potential reasons why families were getting smaller, why “boys and girls are no longer differentiated by sex,” and why the family had given up the care of the sick and elderly to insurance and Medicare.474 Despite conservative protests, strong antinatalist sentiments rose in the United States.475 Historian Elaine Tyler May argues that they were a reaction against the platform of domesticity and focus on the nuclear family that dominated the immediately preceding post-war years.

Ellen Peck’s The Baby Trap, published in 1971, represented one strand of this new move away from parenthood in American culture. Peck argued that motherhood destroyed personal growth, good sex in marriage, and stunted adult adventures. “A woman caught in the Baby Trap has less time to spend with the man she married,” said Peck. While the man, is forced to look outside of a joyless marriage that existed only for the obligations of fatherhood, in order to find excitement.476 Selling over 10,000 copies in ten days, the book was a hit and its influence resulted in a spate of similarly argued tracts in the years following its release.477 Support groups like the National Organization for Non-Parents (NON) coalesced around the idea that to be a good parent one needed to

475 Marsh and Ronner, The Empty Cradle, 211-212 and May, Barren in the Promised Land, 189.
477 May, Barren in the Promised Land, 189.
be constantly at home and on call, if this could not be managed, then parenthood was not a viable option.

The economic downturn of the 1970s and 1980s made this vision of childrearing unattainable for many couples. Historian Elaine Tyler May argued, “it was almost as though the ‘togetherness’ ethic of the postwar nuclear family had a new incarnation among the childfree baby boomers, geared more toward the “couple” than the “family” and focused on a different style of leisure and consumerism.” Amidst the growth of antinatalist attitudes and associations like NON, women and men could now make the choice to refrain from having children with less stigma than earlier generations. Consequently, the number of women and men who chose to be childless began to increase in the 1960s. Individuals who turned away from parenthood argued that being childfree was actually a superior lifestyle than being tied down financially and physically while increasing the burden of resources on the planet. At the confluence of the feminist movement, the environmental movement, zero population growth, the movement for choice in reproduction, and a backlash to the baby focused culture of the boomer years—childfree individuals began to have a greater voice and space in American society.

For those who were involuntarily infertile in the late 1960s and 1970s, the greater acceptance of childlessness offered little solace. Many reported feeling that they found little support or empathy for their plight. Gynecologists and urologists specializing in the treatment of infertility also experienced the effects of the cultural trend towards limiting population growth. What right did a profession have to dedicate its time, expertise, and the personal and public expenses of couples and society to the creation of more children during a moment so concerned with a population explosion? Sophia Kleegman, a pioneer

in the field of artificial insemination by donor and husband attempted to counter this question stating, the profession itself was based on a very American ideal, respect for the individual, an ideal that made the deep need felt by involuntary childless individuals—a need that should be met. 479

The needs of women who wanted to prevent rather than augment their ability to get pregnant were being met, and in record numbers. Within two years of its release, two million women had prescriptions for the pill in America, a number that would quickly rise to over six and a half million women by 1964. 480 America had become “a contraceptive culture,” reported the well-known team of sex researchers, Masters and Johnson. 481 However, the arrival of the pill also brought healthy women into closer contact with their physicians. The pill required regular check-ups, monitoring, and a medical script. The pill, and subsequently, abortion were technologies and services held strictly in the hands of the medical profession. At the same time, patients gained new authority over demanding access to prescriptions and, as the feminist movement gained momentum, over declaring their right to have the government protect their well being by regulating the pharmaceutical industry. In the context of infertility however, the pill catalyzed a particular relationship between the American public and reproductive health providers—one of strong medical control and of consumption.

It is not to say that the changing status of abortion, the pill, or artificial insemination were only, or even primarily “consumer driven” technologies. As anthropologist Rayna Rapp has pointed out, such technologies embodied the needs and

interrelated perceptions of too many actors—physicians, legal advocates and scholars, religious leaders and believers—to be so narrowly defined. At the same time, it is indisputable that the ability to access these technologies was intimately tied, albeit in different ways, to the ability to pay for these technologies. Although this might seem to be an overly simplified statement—an individual always pays for a technology/medical service—placing the historical trajectory of these technologies into a comparative and international context demonstrates that this is not always the case. The technologies of abortion, the pill, or artificial insemination operated very differently outside of the free-market economy of American healthcare, where access was not only mandated by law, but also offered free of charge or with a nominal fee within socialized medical healthcare systems. Within the United States, a regulated and controlled process of consumption began for the birth control pill and the consumer relationship between patients and providers of artificial insemination mirrored it. Women needed to consult with their physicians, who then would write them a prescription for the birth control pill. Couples seeking artificial insemination were interviewed by physicians or psychiatrists as “suitable candidates” before they were allowed access to the technology. At this point women were not trusted to be at will consumers of either the pill or artificial insemination. In the first years of Enovid’s release many authorities questioned whether women had the ability to make rational choices about buying and using the pill. Physicians blamed women not only for not making good choices about when to be sexually active but also for misreading the drug packaging or disobeying pill regimen

instructions. Similarly, physicians and psychiatrists blamed women for wanting access to artificial insemination for inappropriately gendered reasons (i.e. to hide their masculine behavior). Nevertheless, within two years of its release, close to two million women held prescriptions for Enovid and by 1967 state welfare agencies were required to distribute birth control under the Social Security Act. Finally, Planned Parenthood became a beneficiary of federal funds for the first time.

The link between artificial insemination, birth control and abortion was further tightened by the location of service providers. By 1962 one of the foremost researchers and champions of artificial insemination in America and renowned gynecologist, Dr. Alan Guttmacher (Director of Obstetrics and Gynecology at Mount Sinai Hospital in NY, Professor at Columbia University, and President-elect of Planned Parenthood Federation of America) had published a family planning guide that revealed that one of the first steps many infertile couples took in their diagnoses was a visit to a sterility clinic at their local Planned Parenthood office. In the United States, Puerto Rico, and Canada Planned Parenthood clinics offered fertility assessment services and referrals to local sterility specialists for treatment. Couples could also receive information and referrals from the American Society for the Study of Sterility’s secretary or their local community hospital. Artificial insemination was one of the services that Planned Parenthood (PP) staff gave referrals to local specialists for. Guttmacher devoted an entire section in his *Consumers*

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Guide to the reasons for and means to access artificial insemination, by husband and donor.\textsuperscript{484}

Some linkages between Planned Parenthood and artificial insemination services were even more direct. For instance, Dr. Wilfred J. Finegold of Pittsburgh was an in-house physician for Planned Parenthood (head of the Division of Sterility at PP, Pittsburgh) and would refer patients from PP to his private practice with the University of Pittsburgh’s teaching Hospital, of which he was a faculty member of the UP School of Medicine. He maintained a booming practice for insemination services and was the author of a book on artificial insemination that went into four editions from 1967-1980.\textsuperscript{485} His book offered hope and information for “childless couples” on artificial insemination, based on his experiences with the “hundreds of couples” who consulted him about the procedure.\textsuperscript{486} A registered nurse and midwife at the Margaret Sanger Research Bureau for fourteen years and colleague of Dr. Sophia Kleegman pointed out there were also fiduciary reasons for Planned Parenthood to function in this way. Planned Parenthood Clinics were not financially viable in their early years. Every patient “represented a deficit” and the more patients that the clinics saw, the bigger the deficit. But the infertility service was different. Instead of the nominal and sometimes waived $5 fee for normal services, infertility counseling had a much higher fee scale. In 1956, the PP clinic saw a couple for six months of tests and treatment and charged them $100.

\textsuperscript{485} Wilfred Finegold, \textit{Artificial Insemination with Husband Sperm}, (Springfield Il: Charles C. Thomas, 1980).
Begun at the behest of Dr. Stone in the mid-1940s, the infertility services were hotly debated by both the board of Planned Parenthood and by Margaret Sanger herself. Sanger did not approve of the infertility services. She felt that private physicians should handle this aspect of reproductive care and PP should emphasize birth control. However, infertility made it easier to operate the clinics and especially, to raise money for them. Describing why this was the case, Arnold said that

[Treating infertility] opened up doors and was a threshold to respectability. You know, wanting people to have a baby, you’re going to help them, the Catholic Church, the whole orthodoxy, the rabbis and all became very interested in that. So it was easier in one way to get money for infertility sometimes, even from pharmaceutical firms. Because a lot of medication was involved with that.487

Planned Parenthood fliers from the time corroborate this and infertility services were prominently displayed in their folds. Funding for research was also more accessible when it was spun as part of treating and understanding infertility. For instance, Dr. Stone and renowned physiologist Dr. MacLeod did important research on sperm at the Margaret Sanger Research Bureau laboratory and attracted funds in this way. In so doing, they surreptitiously learned about contraception. As Arnold noted, through basic studies about infertility they were better able to understand the timing of ovulation and drugs that controlled it. In her words, “that’s how they really got to the pill.” Specifically, using highly motivated patients who came very early in the morning to the clinic week after week after week attempting to conquer their infertility, physician-researchers tracked changes in vaginal secretions to understand ovulation and conducted post-coital exams to understand how long sperm lived inside a woman’s reproductive track and how quickly it migrated to the uterus. This knowledge was vital to the use and development of

contraceptives. Consequently, the sites of practice and of knowledge creation about contraceptive and conceptive technologies were often one and the same. Judicial decisions would connect these technologies in other ways—by the rights associated with them and the social concerns they raised.

The Supreme Court decision in *Griswold v Connecticut* in 1965, striking down the Comstock Law against distributing contraceptive material marked the formal legal creation of the constitutional right to privacy in reproductive decisions. A privacy that, within a state sanctioned marriage encompassed the right to both learn about and use contraceptives. As Justice William Brennan would so eloquently opine in 1972, “If the right of privacy means anything, it is the right of the individual, married or single, to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child.” What this meant for technologies controlled by the medical profession, from artificial insemination to abortion (with *Roe. v. Wade*) was that access to these privacy-protected acts of conceiving, aborting, and bearing a child would be mediated, now legally, by physicians.

Preceding this federal decision, there were already numerous legislative statutory decisions that prescribed the use of the artificial insemination solely to physicians. For instance, in 1964 the state of Georgia made it a felony for anyone besides a licensed physician to perform an artificial insemination. Oklahoma too, passed a statute in 1968 that not only could artificial insemination only be performed by a licensed physician, but

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489 In fact, artificial insemination using a diaphragm was one of the therapeutic uses upon which the argument of ordering, prescribing and fulfilling prescriptions for a “contraceptive” devise was argued in this case. See *Griswold v. Connecticut*, 381 U.S. 479 (1965). Reply Brief. File Date: 3/26/1965: 4.

490 Emphasis my own.
the husband and wife had to execute consent to the procedure in front of the judge in their
district who held jurisdiction over the adoption of children and the written consent had to
be confidentially filed with the court. Although, not all courts held that artificial
insemination needed to be performed by a physician. In Kansas, artificial insemination
was able to move beyond physicians hands because the statutory decision did not define
artificial insemination as a medical practice and therefore subject to the rules of
physicians. Instead, Kansas deemed it a “sexual practice” and accordingly ruled that AI
“needs no more licensing or medical supervision than copulation itself. By the start of
the 1980s, fifteen states had statues that mandated the legal status of AID children to be
legitimate and six stipulated that the procedure had to be performed by a physician.

By reading these rulings on artificial insemination and legislative and judicial
decisions regarding abortion and contraception from the perspective of potential users
behavior, a picture of reproductive technologies as services and products to be bought
rather than just legally available materializes. Historians Andrea Tone and Rickie
Solinger have shown that economics, whether commercial or illegal, have been integral
to reproductive technologies ranging from condoms and abortions to the pill. Tone has
traced the boom of a bootleg trade in contraceptives during interwar America that
emerged in a context of no governmental regulation or approval of products. While
Solinger has argued that economic wherewithal became integral to defining who had the
right to choose to become a mother in the 1970s. As opposed to the mythic welfare

492 The following states adopted artificial insemination statutes: Alaska, Arkansas, California, Florida,
Georgia, Kansas, Louisiana, Maryland, New York, North Carolina, Oklahoma, Oregon, Texas, Virginia
Donor,” 14 Family Law Quarterly, 1, 2 No. 2 (1980).
queen, white, middle-class, increasingly employed, women “earned the right to choose motherhood” and control it with the pill, and in so doing, according to Solinger many Americans “redefined the right to reproduce as an economic right.”

By 1980, the primacy of the market in reproductive choices became codified in law by the *Harris v. McRae* decision, which affirmed that women could have the right to decide whether to have an abortion but also ruled that the government was not responsible for funding it. Essentially, this made access to medical abortions out of the reach of poor women since they then had to be purchased at high costs. Similarly, anthropologists have argued that one of the reasons sperm banks initially did not take off in the United States was because it was too expensive. There were higher success rates with fresh semen samples than with frozen and thus, sperm banking required more attempts (at a higher cost) to be effective. If a physician ordered sperm from one of the first commercial sperm banks for his patients, he would be charged somewhere around $125 at the close of the 1970s. The increased bill was likely passed onto the patient. “What the doctor charges the patient is up to the doctor,” reported Cryo bank director A. Morris in 1980. “We don’t do donor searches for individuals, only doctors,” he added. There were no federal or state regulations for controlling the cost of donor specimens or AI procedures. Insurance reimbursements might have alleviated cost concerns but, they also made couples uncomfortable since they laid a paper trail for such a private procedure. For those who did want to use insurance to ally costs, a few private health insurance companies agreed to cover semen analysis but few included in their benefits the other new tests needed for

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artificial insemination attempts, namely genetic testing. “Private practice (read smaller clinics with fresh sperm) [provided]...the most favorable context for discretion and a personalized case-by-case approach,” stated anthropologist Simone Novaes.495

As discussed in the last chapter, privacy was considered an integral part of the practice of artificial insemination. Abortion and contraception were private matters, not openly discussed as a personal experience for many women during the 1960s and 1970s. These technologies often implied that the boundaries prescribed for women’s sexual behavior had been crossed—whether sex outside of marriage, multiple partners, or even the right of women to have sexual pleasure. But, in the practice of artificial insemination an individuals’ privacy metamorphosed into a wider secrecy about the practice itself. The difference between the two ideas in this case, was the lengths to which reproductive actors would go to erase knowledge about the technology. Again, patients and physicians silence was not necessarily to protect their personal privacy or doctor-patient privilege—it was the suppression of discussion about the practice itself. Why was this the case with a conceptive technology while abortion and contraception moved out into the public sphere?

Abortion emerged from the shadows of illegal practice and into the limelight during the 1960s. Two reproductive health threats and a growing rhetoric of reproductive rights were integral to changing many Americans understanding of why abortion should be a choice for some women. An early 1960s rubella epidemic and the prescription of thalidomide for nausea in pregnant women, both of which caused fetal abnormalities, brought reproductive choice into sharp relief for many in this era. Furthermore, a new

reproductive technology, amniocentesis brought a new means of choice regarding abortion to women in the mid 1970s. With amniocentesis physicians were able to detect chromosomal abnormalities (generally Down’s syndrome) from the amniotic fluid of pregnant women. Women could now choose whether or not to terminate a pregnancy if fetal chromosomal problems were discovered. At the same time, as Rayna Rapp has pointed out, sonograms were also giving physicians a new power within the physician-patient relationship. No longer were women’s self reports of pregnancy sufficient, now a veritable “window” on a developing fetus allowed physicians to determine the presence and status of a pregnancy as well as the sex of the fetus. 496 Collectively, the increasing movement of women into the workforce, a feminist movement and feminist health movement, the outcry from groups like Zero Population Growth, the rising cost of educating children, climbing divorce rates, and the changing perception that women’s autonomy depended on their ability to control their own fertility collectively helped cultivate public opinion (and the stance of the medical and legal communities) in favor of both abortion and contraception technologies.

Nevertheless, even the need to circumvent hereditary disease or Rh incompatibility did not produce a similar effect in the public rhetoric about artificial insemination as had rubella and thalidomide with abortion. The first popular articles about using artificial insemination as a means to circumvent hereditary diseases did not emerge until 1982 for Huntington’s disease, a brief mention of Rh-factor incompatibility in 1958, and no mention of cystic fibrosis, hemophilia, or muscular dystrophy in popular

forums. And yet, by 1979 thirty-three percent of artificial inseminations were practiced in order to avoid the transmission of these diseases (most commonly Rh-factor incompatibility).

Instead, physicians continued to manage and suppress information about artificial insemination in popular forums and in their practices. In 1960 Alan Guttmacher instructed fellow gynecologists to “forget signed papers” for artificial insemination using donor sperm. He said, “contracts…are unnecessary, and simply act as a permanent reminder of something which should be forgotten as quickly and completely as possible. In the ideal case, by the time the patient reaches term, the woman, the husband and the doctor have to think twice to remember that the pregnancy is physically not the husband’s, for psychically it has become his.” In the late 1980s the American Fertility Society recommended, “there is no benefit and considerable risk to informing relatives, friends, ministers and offspring of this procedure.” Physicians guaranteed donor anonymity by deliberately keeping inadequate records or mixing the sperm of multiple donors in a single insemination attempt reported one 1976 study. When queried why they continued to practice this level of subterfuge the physicians reported that they were fearful that their records could be compromised since courts had recently ordered adoption agencies to open their records.

What made artificial insemination so different from abortion and the pill? All of these technologies endeavored to control reproductive health and enable choice about

when, how, and if individuals would become parents. However, artificial insemination had one key difference from abortion and the pill in the 1970s. While the abortion and the pill were discussed as a woman’s right to choose, artificial insemination offered reproductive choices more directly to men. A parallel rhetoric about male “choice” and reproductive rights never emerged. Discussing men’s choice to use artificial insemination, whether AIH or AID, implicated notions of virility and masculinity. In some ways artificial insemination was similar to another reproductive technology, the male contraceptive pill, in its lack of funding, public discussion, and shaming of male users.\footnote{Nelly Oudshoorn, \textit{The Male Pill: A Biography of a Technology in the Making}, (Duke University Press Books, 2003).} As a result, neither men nor women claimed a legislative “choice” (the broad right to access) with this technology, although after screening they did ultimately choose whether or not to use donor insemination. The result was that at the same time that abortion and contraception began to be understood as primarily a woman’s choice, choices about why and for whom artificial insemination would be available remained firmly a physician’s prerogative.

Sociologist Reva Siegel has pointed out that the provision of abortion and contraception were governed by power relationships of race, class, religion and gender in a “social organization of reproductive relations.”\footnote{Sigel as quoted by Solinger, 186.} In other words, because all of these technologies occurred within the same realm—that of private medical decisions about reproduction made within the social space of physicians offices, social and cultural beliefs and biases affected the provision of care. With abortion, these decisions often included presumptions about race, class and promiscuity and with the pill around concerns of unmarried college coeds illicitly accessing the technology. In the case of
artificial insemination, couples needed to embody masculine and feminine ideals and engender confidence in physicians’ minds that their marriage was stable and they would be appropriate parents. An odd position indeed, and one not classically under the banner of the medical profession. Physicians acknowledged the seriousness of this evaluation. For instance, in the leading gynecological teaching text of 1970, Novak’s Textbook of Gynecology, the author encourages physicians to remember that the service is “a grave responsibility.” A physician is effectually “placing an adopted child in a home and in so doing must be sure that this home is worthy and capable of contributing happiness and security to the child.” Esteemed gynecologist Georgeanna Jones, recommended three to six months of interviews to determine a couples individual and marital stability.\(^{503}\) Dr. Finegold, felt that once their suitability had been established and that “the couple are above average in intelligence” then and only then could physicians not only offer the couple artificial insemination but could even allow certain special patients more power in the procedure. Finegold would allow the impotent or hypospadiotic husband of such a couple to artificially inseminate his wife at home. “We teach the husband the simple process and apprise him of the female anatomy…[and also] we supply the couple with the appropriate equipment.”\(^{504}\) Some artificial insemination directors’ biases were more overt. At Robert Graham’s Repository for Germinal Choice, mothers would not be accepted to be sperm recipients unless they were members of Mensa, the high IQ society.

The biases of physicians and medical care workers did not only affect which couples were considered acceptable candidates for artificial insemination with donor sperm but, also the selection of donors. Sociologist Rene Almeling interviewed one of

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\(^{504}\) Finegold, 57.
the founding physicians of a large sperm bank operating in the 1970s. He reported that although he generally did a donor history targeted at the donor’s health, upon occasion women who worked in his office would reject a donor because of his physical appearance, rather than his “health.” Donors who were deemed “ugly” or “unappealing” by the female staff were eventually screened out. Ameling also found that laboratory technicians similarly intervened. “Anybody that was butt-ugly, there was something wrong with his semen analysis [laughs]. We tried to keep them average- to good-looking.” By the 1980s, nurses and receptionists would sometimes share their views or perceptions about particular donors to encourage patients to choose one donor over another. Although again, the “social organization of reproduction” could be taken to an extreme and only select donors based on a particular achievement, as was the case with the “Genius Sperm Bank” and its first Nobel laureate donors.

Choice became the idea upon which women could base their reproductive autonomy and citizenship. They were no less a woman or a mother when making reproductive choices. In fact, the right of couples to privacy also provided a legal basis for the absence of restrictions in the use of AID. Still, the history of artificial insemination reveals that when the idea of choice collided with men’s reproductive health rather than women’s reproductive health, it did not yet find purchase. In fact, physicians reported that men did not want to choose a donor or argue publically about their choice to use artificial insemination (with or without a donor) to achieve fatherhood. Instead, it would take a more critical health episode in a man’s life than impotence or sterility, to begin to reframe “reproductive choice” as a man’s right—it would take a diagnoses of

505 Anonymized interviews in Ameling, 28.
506 See interview with donor insemination mother Samantha about bank worker Julianna McKillop and donor Coral in Plotz, 67-69.
cancer and a subsequent loss of fertility after chemotherapy for some men to begin openly choosing artificial insemination—and in so doing, push cryopreservation into use and poise artificial insemination on the precipice of new and larger market growth.

Creating a Commodity and Market for Frozen Sperm

Making sperm into a consumer product was not a matter of solving scientific and technological barriers to cryopreservation. To code a part of the human body, as a product, something to be bought and sold, was also not a matter of merely removing sperm from male bodies. Rather, both men and their parts, needed to be understood in a new and desacralized way. As many scholars have pointed out, when something is understood as sacred, it is not considered appropriate for market exchange because it is unique and without a price. As long as sex, conception, and yes, marriage were overwhelmingly seen as sacred then sperm could not become a commodity. However, America’s relationship with sex and sexual acts was changing rapidly during the 60s and 70s and it did so in a particularly capitalist way. For one, sexual acts were available for consumption in a novel way with the birth of the modern pornography industry. And as semen and its ejaculation became the climactic moment around which the porn industry based its narratives, the “the Money shot” (i.e. the moment of climax and ejaculation)

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508 An interesting comparison between sperm banking and egg banking has recently revealed that the cultural strictures around the sacredness of motherhood have shaped the use of donor eggs into a practice understood by its actors as a gift while sperm donation is more commonly understood as a transaction or job by its actors. See Ameling, *Sex Cells*. 
explicitly linked the production of semen and the market. Sexuality too was undergoing monumental upheaval in the hands of a new generation. This generation argued that sex was primarily for pleasure rather than for reproduction, and with the advent of the pill, the two could be divorced from one another in a reliable way. Ironically, the removal of reproduction from sex shifted portrayals of sperm as a part of a sacred act used within marriage and instead linked its production with sexual pleasure. Finally, a growing and visible gay rights movement argued that a person’s identity could be based upon desire, pleasure, and community.

Collectively, these cultural trends demystified and desacralized both the act of intercourse and the production of semen and sperm. These trends, when coupled with the fact in the 1970s, when a man received a diagnoses of male infertility there were few therapeutic measures that could be taken, made artificial insemination, whether with pooled husband sperm or with donor, one of the most effective means to achieve fatherhood. Beyond attempting to control behavioral and environmental factors (like hot baths and tight underwear, diet, weight, exposure to radiation) in the 1970s, men were often prescribed thyroid, testosterone, Vitamin E, synthetic androgens, gonadotropins, bromocryptine and artinine, Clomid, cortisone, and caffeine to stimulate sperm production. Others underwent surgery to correct undescended testes or other congenital problems and varicocele. The lack of effective treatment options for men in this period was in stark contrast to the treatment of women’s reproductive problems, which was being transformed by the release of Clomid and Perganal, effective hormonal stimulants

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to induce ovulation. A high percentage of anovulatory women, who would never have conceived naturally, were now able to conceive with this major therapeutic advance.

Consequently, in this biomedical and cultural context sperm was poised to make some of its last steps towards commodification. It was soon to be removed from the bodies of men for a fee, stored with new cryopreservation technology, and coded as a product for purchase. This was a trend which ova too would follow, but because it is easier remove sperm than ova from the human body the female equivalent, egg donation, would not yet emerge into a market. Political Scientist Cynthia Daniels has argued that cryopreservation was the central catalyst in the commodification process for sperm. She notes that with cryopreservation semen could be more readily turned into a commodity since it could now be stored in perpetuity and the psychological and physical distance was increased between the patient/users and the donor.\footnote{Daniels. \textit{Exposing Men}, 88.} This is absolutely true in contemporary American fertility markets. Yet, as this chapter has shown, semen had been frozen for artificial insemination since the mid-1950s. Indeed, even as late as the 1970s frozen sperm was not yet the consumer product it would become after the mid-1980s. For one, patients did not purchase the sperm directly. They did not select qualities of the donor, they did not contact banks, and in fact, they did not want to know what their fertility provider was acquiring on their behalf. Economist Deborah Spar described this historical landscape of sperm banking as “an entirely a nonmarket operation; it was only a step in the process of artificial insemination.”\footnote{Spar, 36.}

The tenants of the nascent consumer rights movement begun in the mid-1960s were overpowered in the arena of donor insemination by other, greater concerns. Some
physicians and patients felt uneasy about the idea of sperm banks because in their minds the connection between donors and patients was greater using outside frozen semen services which created a paper trail between the semen repository and the AID practitioner, rather than merely a fresh sample given to the physician to be used immediately. Physicians performing inseminations were still selecting the donors personally whereas; a bank would have a few notes and a photograph of a husband to attempt a match with a donor. Although this additional step might at first glance seemed to provide an extra degree of separation and thus, privacy between the donor and the eventual recipient, many physicians saw this as another link in the donor-doctor-patient chain and thus, a reduction in the potential anonymity of the participants. Furthermore, a commodity is generally advertised and the medical service of artificial insemination was not actively advertised throughout these eras. Advertising the product itself, semen, to the public did not truly occur until lesbians began using the first feminist health clinics to offer AI and until the founding of the Bank for Germinal Choice in 1980, ie. The Genius Sperm Bank (the subjects of Chapter 5). At this point in the development of banking, flying against trends in the consumer rights movement, the power to make decisions about AID still largely lay uncontested in the hands of physicians. So if the availability of the technology of cryopreservation, even if it was a very integral part for turning semen into something to be directly purchased by infertile consumers, was not the catalyst then what was? Were there steps taken towards the process of direct consumption of donor specimens during the 1960s and 1970s?

Indirect consumption via a “donor bureau” rather than a sperm bank, best describes organizations offering cryopreserved semen throughout the 50s-70s. In 1969
there were fewer than 10 such organizations in the United States. In contrast, by 1973 there were sixteen including three banks that commercially sold semen to physicians. These three banks had a combined total of seven branch offices. The trend was mirrored in the United Kingdom, or perhaps even led by it, as by 1968 AID officially became a service available through the National Health Service. This large increase in banking led some physicians in the early 1970s to believe that they were on the cusp of a large growth in the use of frozen sperm. Their opinion was bolstered by a noticeable change in the tide of public opinion about artificial insemination (by husband) more generally. By 1966, gynecologist Sophia Kleegman could write that “people greeted AID first with horror, then rejection, then curiosity, then study and finally with acceptance.”

In 1969 *Life Magazine* ran a poll about artificial insemination, 62 percent of women and 49 percent of men responded that they regarded AIH as ethical and reasonable. However, 66 percent of men and 62 percent of women rejected the idea of using AID under any circumstance. Donor insemination would remain highly controversial. In 1978, a poll conducted by *Parents* magazine revealed a slight softening in attitudes when almost half of the respondents believed that people should have the right to choose AID for themselves when a husband was sterile. But, the slippage was not much—78 percent of them said they would never use it themselves.

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The Stymied Growth of Cryopreservation

Concerns of the 1960s and 70s seemed to support the potential usefulness of frozen, rather than fresh, sperm. It was much easier to time multiple insemination attempts, which was de rigueur by this point, with ovulation during a cycle when frozen sperm matching the characteristics of the father (i.e. particular hereditary characteristics or an unusual blood type) could be ready at a moments notice. Research on the concentration of multiple frozen samples from an oligospermic husband was being lauded as an effective therapy. The ability to store and move samples more quickly with the increased frequency and speed of air travel made the possibility of “a system of centralized banks supplying physicians throughout each state, and between states and countries” a real possibility, said Dr. Sherman.

Beyond the still strong discourse about improving the “germinal choices” of infertile parents and those fertile parents wishing to “improve” the “genetic constitution” of their offspring, a new discourse about banking was emerging that reflected the deep cultural impact of the space race on American culture. During JFK’s frontier decade of the 1960s with the Apollo 11 landing and Neil Armstrong walking on the moon in 1969, some physicians thought sperm banks had a new role to play in America. As American astronauts pushed new boundaries into space and as mothers joined the nuclear peace movement, the long-term storage of semen offered the possibility of protection for mankind from the potential “genetic danger of man’s exposure to radiation on earth and in space.”

Not only humans, but also animal and plant “germplasm” needed to be

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517 United States National Committee for the International Institute of Refrigeration. The Integrity of Frozen Spermatozoa: Proceedings of a Round-table Conference Held on April 6-7, 1976, at the National Academy of Sciences, Washington, D.C., Under the Auspices of the U.S. National Committee for the...
catalogued and preserved in order to preserve “genetic diversity” in many species. Thus, by 1976 two divisions of the National Academy of Sciences—the Assembly of Life Sciences and the National Research Council—established a committee on germplasm resources. Their findings encompassed the important role cryobiological preservation and cryobanking would take in this effort, reducing the need to maintain animal breeding colonies.\textsuperscript{518} This was a process mirrored by the Cell Culture Collection Committee of the National Cancer Institute in 1959 which coordinated a national program for “characterizing and preserving animal cell strains and to establish a repository and distribution center for reference cultures.”\textsuperscript{519}

Nevertheless, the most important need upon which a new business of human banking would be built thought contemporaries, would be for married couples. Specifically, couples who chose to use vasectomy as a form of birth control in an era in which abortion was illegal and the pill still fraught with controversy. In the mid 1960s, confidence in the safety of the pill was waning after the Thalidomide controversy and Barbara Seaman’s landmark publication, \textit{The Doctors Case Against the Pill} in 1969. Consequently, some couples turned to other forms of birth control including vasectomy. When used in tandem with sperm banking however, the decision to use vasectomy no longer completely removed the “promise of future fertility” for a couple or a man. Artificial insemination and cryopreservation offered a greater chance for fertility maintenance than surgical vasectomy reversal and it was significantly less invasive and

\footnote{\textit{International Institute of Refrigeration, in Conjunction with the Food and Drug Administration and the Naval Medical Research Institute}. National Academies, 1978.}

\footnote{The committee noted that that cells could be stored for “a millennium” unchanged, and that the only source of concern would be “back ground radiations and high energy cosmic ray protons.” But even these damaging elements would take 3,000-20,000 years to damage most mammal cells. \textit{Assembly of Life Sciences Resources (U. S.) Committee on Germplasm}. \textit{Conservation of Germplasm Resources: An Imperative}. National Academies, 1978, 81.}

\footnote{Landecker, 2.}
painful. This sort of “prevasectomy storage” was the central service of one or two commercial cryobanks by the late 1970s. For $55 in lab expenses and $25/year storage costs, even a man who was almost sure he did not want children could purchase “peace of mind” through artificial insemination, reported Chicago’s Cryo Laboratory Ltd, Director in Chicago Illinois.

Despite this cluster of factors that could have heightened the use of sperm banking and the commodification of its central product, the rapid growth of frozen commercial sperm banks did not develop in the United States during the 1970s, as depicted in Table 1. Instead, planned openings of new cryobanking branches were cancelled and some existing branches closed. From the 16 banks in operation in 1973 the number decreased to twelve at the end of the decade (three commercial and nine non-commercial university or private). Still, there were approximately fifteen smaller cryopreservation services that were offered at infertility clinics. According to experts at commercial cryobanks, one of the most important factors that stymied the growth of the industry was that the acceleration of prevasectomy storage of semen never materialized at the pace they had anticipated. Why did cryobanking not develop when so many potential reasons, uses, and the technology itself was widely available? What pressures shaped its almost static growth during this decade?

In 1977, University of Wisconsin’s Genetic and Gynecology departments conducted a nation-wide randomized survey of the 12,848 members of the American

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520 United States National Committee for the International Institute of Refrigeration, 81.
523 United States National Committee for the International Institute of Refrigeration, 83.
Congress of Gynecologists and of the American Fertility Society in an attempt to earn how widely artificial insemination was being practiced in the United States, how successful it was, and what methods and criteria were being used in the procedure.\textsuperscript{524}

Their survey provides a window into the practice in the late 1970s. They concluded that between 6,000 and 10,000 children were born annually via the method. The wide range of the estimate itself is interesting and points towards the lack of reliable data and record keeping of the practice. Over ninety percent of doctors performing inseminations still selected the donors. In other words, an overwhelming majority of patients still had no opportunity to choose a specific product (a specific donor). Donors were recruited from the ranks of hospital staff, primarily medical students and hospital residents (62%), from collegiate and graduate students (10.5%), and from a mix of both populations (17.8%). The last and smallest populations from which donors were obtained were from military academies, the husbands of other obstetric patients, and personal friends of the physician.

On the eve of the AIDS crisis, approximately three out of ten physicians used frozen semen in their practices but many of them used frozen sperm less than 10 percent of the time. Of all of the physicians surveyed, only a little more than one in ten physicians used frozen sperm in most of their inseminations. Of this relatively small percentage of physicians who used frozen semen, whether often or occasionally, they all tended to use their samples fairly quickly. Almost forty-three percent had never stored semen over three months, and eighty-seven percent had never stored it over two years.\textsuperscript{525}

Cryobanking was not yet a market.


\textsuperscript{525} \textit{Ibid.}
There were many reasons for the delay in implementing cryopreservation in artificial insemination. The central factor that thwarted the expansion of cryopreservation was that freezing techniques could not solve the problem of reduced fertility rates with frozen versus fresh sperm. Gynecologist Rudi Ansbacher of San Francisco’s Letterman Army Medical Center articulated this problem in 1978. “The early enthusiasm for using frozen semen has been tempered in the past 2 years, mainly as a result of the lower conception rates achieved as compared with those achieved with fresh donor semen. The ideal method for freezing gametes has not yet been found, and the commercialization of sperm banking has not developed as previously publicized.”

Physicians continued to report they had difficulty predicting which frozen samples when thawed would enable conception and furthermore that changes to the structure of thawed semen and a twenty to fifty percent reduction in its motility.

Future fertility storage for pre-vasectomy patients never emerged in part because as soon as its supporters voiced their opinion on the subject Planned Parenthood and the American Public Health Association challenged them. In 1973, the National Medical Committee of Planned Parenthood-World Population denounced using cryobanks for pre-vasectomy “future fertility.” They stated that the procedure was still highly experimental and that "the promise of fertility insurance to be achieved by storing semen might be misleading. Moreover, it could lead to the persuasion of immature or poorly motivated

individuals to undergo vasectomy. The committee was concerned that if the merits of cryopreservation were the crucial factor in overcoming male anxiety about undergoing vasectomy, patients might be deluded about their likelihood of future fatherhood. The committee strongly stated that support of cryopreservation for future fertility was immorally taking advantage of human emotions because the promise of fatherhood did not necessarily correspond to its reality. As detailed further below, there was no way to predict how various samples would respond to the freezing/thawing processes and thus the “insurance” that frozen “future fertility” insured, was not reliable. With such fears ringing in their ears, it is not surprising that leaders in the field of cryobanking, like Cryo Laboratory Facility Ltd in Chicago, reported that only two percent of their total activity was for prevasectomy storage in the late 1970s.

Cost too, was raised as a potential problem. In an era in which fertility services were covered out of pocket, the additional cost of the institutional arrangements could be too high for many couples to pay, argued detractors. These concerns became apparent in later decades when the use of frozen sperm was widely adopted. One author estimated an approximate doubling of the patient's cost of treatment, which in tandem with diminished rates of conception still produced “an ethically troubling increase in physician income.” It was not until the late 1980s that state laws mandated some assisted

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530 Novaes, 581.
reproductive procedures for insurance coverage. Enthusiasm for banking was also subdued by the possibility of mistakes being made in the identification of samples; a concern that would be echoed in decades to come. And yet, advocate of insemination, Sophia Kleegman felt that the “search for donors is a heavy burden” and that this burden outweighed the potential negatives. As early as the First World Congress for the Study of Sterility (1953) she had called for “a donor bureau” to be set up in every large city. On the contrary, for other practitioners the need to “individually handle” this procedure remained too important. To abrogate this right, they thought, in the form of a semen bank could be a danger to society. But most importantly, throughout the 1970s there were still concerns about the safety of frozen sperm both within the medical community and within the broader public.

In 1972 the task force committee of the American Public Health Association and the Planned Parenthood-World Population publicly cautioned about the possibility of birth defects after using frozen sperm. Within the medical literature there did not appear to be evidence for DNA alterations or chromosomal changes. Clinically, there did not seem to be an abnormal rate of spontaneous abortions or birth defects in the children born from cryopreserved sperm. But other questions remained about the technology and became more pressing over the course of the decade. Specifically, whether, how, and to what effect sperm aged while it was frozen. Controversies, stemming from data about an increase in spontaneous abortion from bull and ram spermatozoa that had apparently aged while in frozen storage, raised fears for physicians and patients.

533 Schellen, 120-121.
Dr. Sherman attempted to allay these concerns by publishing the successful use of cryopreserved sperm, stored for long lengths of time. Pregnancies had occurred with sperm stored for thirteen months in Japan, five years in Denmark, and ten years in United States. However, these lengths of time were in no way representative of the average length of time that sperm was stored before use. An overwhelming majority of the 1500 births that Sherman considered in his study used frozen sperm stored for less than one year. Sherman acknowledged that more programs of study were necessary to adequately weight the risks of prolonged cryobanking in terms of the potential fertilization capacity of the sperm, early embryonic mortality and most importantly, the incidence of birth defects. It was the latter that would be tipping point in the banning the use of sperm stored for long lengths of time he surmised. In 1974 the American Public Health Association continued to warn that "the biologic potency and genetic adequacy of human sperm which has been frozen and stored over a protracted period of time and then thawed remains to be established." Social commentators of the time also noted that such warnings were not well or even ever communicated to prospective users.\(^5\)

Notwithstanding these important questions of risk and safety of the technology for long-term use, what seriously hindered large-scale research in the United States were the same factors that made “donor bureaus” suspect namely, concerns with privacy and social stigma.\(^6\)


\(^6\) Note: This did not appear to be the case in Japan. Hiroaki Wako tested the potency and risk of frozen sperm (up to 800 days old) on over 150 sterility patients who visited the Planned Parenthood Consultation Clinic in of the OBGYN Department Keio University Hospital in Tokyo. He added the drug ATP to samples and after 11 successful pregnancies discussed beginning a “semen bank” Hiroaki Wako, “Male Infertility Status of Treatment, Prevention and Current Research,” *JAMA* 160, no. 2 (January 14, 1956): 91–97.
As the risks of using frozen sperm continued to be debated for infertile couples using concentrated husband sperm or donor sperm—one unexpected new use began to slowly propel growth in cryobanking. It would come from an unexpected arena, oncology, a remarkably understudied aspect of the history of cryopreservation. Similar to pre-vasectomy storage in its goal of insuring future fertility, cryobanking became a new means to preserve fertility for men who anticipated drastically decreased virility and/or sterility after undergoing chemotherapy.

In the 1970s, powerful new institutions such as the National Cancer Institute, the U.S. Public Health Service, and the American Cancer Society were fighting a national “war on cancer.” Early screening, chemotherapy, and surgical advances were expanding the number of cancer survivors as individuals learned in earlier stages of the disease of their status and their options for treatment. The National Cancer Institute estimated that there were three million cancer survivors in 1971 and that that number would more than triple in the next thirty years. The higher rates of survival for male chemotherapy patients during this era meant that for the first time, the long-term reproductive health of survivors was an issue of increasing import for clinicians and their patients.

Spermatogenic cells were particularly vulnerable to the chemicals used to treat cancer. The cells are characterized by rapid turnover, similar to the rapid growth of cancerous cells, and thus were affected by the drugs administered to slow or stop cell growth. By the mid 70s studies had documented azoospermia in the recipients of chemotherapy for malignant lymphomas, the absence of spermatogenesis in men receiving cyclophosphamide (used to treat lymphomas, some forms of brain cancer, and leukemia).

and those on hemodialysis for chronic renal disease. For the majority of these men, despite apparently normal libido and potency, they never regained normal spermatogenesis and had partial or complete testicular failure.

Patients and physicians had new expectations however, for a full and satisfying life for survivors. Patient groups published advice on maintaining relationships, an active sex life, and family life. Cryopreservation provided a solution to one of the major drawbacks produced by the very therapies that enable survivors to survive. It enabled men to become fathers after they experienced reproductive failure. By 1975, physicians would recommend that the long-term storage options available in sperm banks were a solution to the problem of chemically induced sterility. In spite of this, as a consequence of the politics of artificial insemination, and male sterility more generally, only certain patients were told of the option of cryopreservation prior to treatment. Doctors Schein and Winkour informed their readers that only a “young patient with a good prognosis” should be given the “special consideration” of this treatment.537 By focusing on these men, rather than older or sicker ones, the thorny ethical question of what to do with the sperm of a donor who dies, could be circumvented as much as possible. This was a question that banks had different answers to during this period; whether using, destroying, or releasing sperm of deceased men to their wives.538

The selective offering of these services to particular patients was also embedded in the medical community’s assumptions about race and class. Unlike the archetypal cancer patient of the 1950s or 1960s, a white middle-class woman who conscientiously

538 In a 1988 survey almost half of the banks stated they destroyed banked sperm upon a donors death unless there were specific instructions not to, while half actively sought out the widow of the donor to learn her wishes on the matter. *OTA Survey*, 63.
used two new methods of diagnosing cervical and breast cancer (the pap smear and the breast self exam (BSE)), cancer patients of the 1970s were increasingly portrayed as members of marginalized groups including African Americans, children, and the elderly.\textsuperscript{539} On the heels of the civil rights movement, inequalities in health care, living, and working environments were at the center of debates about racial gaps in survival rates to cancer. New studies began reporting “a sudden sharp rise in cancer deaths in Negroes” and especially, in black men.\textsuperscript{540} The diagnosis and treatment of cancer were at the center of patient’s rights movement that struck against the authoritarian politics of the medical profession and the health care system. With this context in mind, coupled with a contentious politics of race and reproduction emerging from the population control movement, it remains an open question how widely these future fertility services were offered to young black patients.

Other young men were explicitly targeted as good candidates for this new kind of “future fertility insurance.” In 1961 Muller recommended that men entering the armed forces, who might foreseeable be exposed to excessive amounts of radiation, have access to sperm banking services.\textsuperscript{541} Regardless of which men used these fertility services, a critical change towards the commodification of sperm and a new role for individual men to direct the practice of artificial insemination emerged as a result. In 1971 Robert Eresek said, “Our policy is that we do not own semen, we are just a humble storage facility. The semen remains the property of the client and only he, through his doctor,

\textsuperscript{539} Wailoo, \textit{How Cancer Crossed the Color Line}, 85, 142.

\textsuperscript{540} “Cancer in Negroes,” \textit{Newsweek} (May 29, 1972), 47 as cited in Wailoo, 134.

can authorize its use.”

Thus, this monumental shift occurred in the idea of banking not because women and couples purchased donor sperm but because an individual man gained a right to freeze, own, and make usage decisions over his own sperm. By 1982, the few larger commercial banks reported that eighty percent of their activity was for storage before a chemotherapy treatment. In contrast, only eighteen percent of Cryo Laboratory Facility Ltd. In Chicago’s activity was for donor insemination reported president, Alfred Morris.

A host of other risks beyond the effects of freezing on sperm fertility or progeny started to attract attention in the fertility community. As questions of patient consent to donation, practices of genetic and sexually transmitted disease testing, and minimum standards for the selection of donors and patients gained traction, a few fitful starts at regulating artificial insemination and cryobanking emerged which will be explored in greater length in the next chapter. They did so in constant tension however, amidst the powerful rhetoric of consumerism, a growing health rights movement, and the pressures of the potential for profit.

The growth of cryopreservation services was neither a linear process nor one driven by the ability to freeze sperm. This chapter demonstrated that it developed in fits and starts as concerns about the safety and efficacy of artificially preserving sperm cells, the power of doctors over choosing donors, and the meaning of reproductive rights were debated in American society and reproductive medicine. The increasingly anti-natalist sentiments of this period decreased public empathy for the trials of the infertile as the

birth control pill and then abortion became technologies used to control when, how, and if a woman became a mother. In tandem with a growing feminist health movement that distrusted a medical profession after the scandals of thalidomide, DES, and a high dosage birth control pill that caused side effects in some women, women were claiming their right to control their reproductive lives. The lens of the history of artificial insemination, another potential reproductive technology that was ripe for society and the women’s movement to seize, highlights the limits of this emerging ethos of reproductive rights. Unlike the pill and abortion which were grasped by many women and their partners as a symbol of control (as a woman and consumer), liberation, modern sexuality, and autonomy—artificial insemination and its sister technology, cryopreservation were much more characterized by silence, shame, lack of choice (of donors), and dependence. Although historians debate the overall impact of the pill on the changes that accompanied the sexual revolution, the historiography agrees that the 1960s and 1970s were an era of radically changing sexual mores and reproductive practices. Thus it is no small matter that the history of artificial insemination during these decades was not one of rupture or intense change but rather, a history characterized by continuity.

The seeds for changing the status of artificial insemination in American medicine and culture were, nevertheless visible just under the surface and would grow at an astoundingly rapid pace in the last two decades of the twentieth century. Cryopreservation had matured as a science and the ability of scientists to protect, freeze, and thaw frozen sperm had been refined, increasing the number and motility of

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cryopreserved samples. Questions about the safety of freezing sperm had been raised that continue to trouble potential users of cryopreserved sperm. A new landscape of ethical questions had been posed about the ability to preserve a human germ cell beyond a body’s normal reproductive life and normal lifespan. On the eve of the foundation of the modern fertility industry, men and their doctors were forging new avenues of fertility care and a new symbolic politics of commodification by choosing to purchase the possibility of becoming fathers in the future. These men decided to preserve their sperm at commercial sperm banks in the face of fears of radiation, chemotherapy, and vasectomy.

The next chapter will consider how a host of new users of artificial insemination—lesbians, single women, transgendered persons, and IVF patients—would shatter the relative stasis of the artificial insemination in medical practices and American culture and transform the central goal of sperm banks. The purpose of cryobanking would dramatically change from a service offered solely to physicians to the development of a new commercial institution that competed on an open market for buyers, by offering a diverse sperm product that had to meet an individual or couples’ minute criteria. Amidst the politics of the gay liberation movement, the women’s health movement, and the AIDS crisis and the development of extraordinary new assistive reproductive technologies (IVF and intracytoplasmic sperm injection (ICSI)) the next chapter analyzes the forces that unexpectedly remade the landscape of assisted reproduction. It argues that queer collaborations and LGBT politics were critical elements to first opening up new spaces for artificial insemination (private homes and women’s health clinics). Paradoxically, they and a new business of eugenics were also the driving forces behind
the re-medicalization and further commodification of artificial insemination in the 1980s. The result would be the transformation of the legal and cultural understanding of parenthood in American culture but also, the institutionalization of new inequalities (socioeconomic, racial, and geographic) within the modern fertility industry.
Table 1: Early Sperm Banking Programs (Private, University, and Commercial)

<table>
<thead>
<tr>
<th>Program</th>
<th>Founded-Closed</th>
<th>Physicians/ Funding</th>
<th>Type/Services</th>
<th>Number of Pregnancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock Reproductive Clinic Brookline, MA</td>
<td>1938?-19??</td>
<td>John Rock, Miriam Menkin (funded by research grants from US Public Health Service)</td>
<td>Private</td>
<td>2 pregnancies, Frozen, 2 women, 30 donors</td>
</tr>
<tr>
<td>University of Iowa Medical School—Departments of Obstetrics and Gyn and Urology</td>
<td>1952-1955</td>
<td>RG Bunge, JK Sherman, WC Keetel, JT Bradbury</td>
<td>University Frozen and Fresh, AID and AIH</td>
<td>58, 51 births, 185 couples</td>
</tr>
<tr>
<td>Tyler Clinic, Los Angeles CA</td>
<td>1955?</td>
<td>Edward T. Tyler</td>
<td>Private Frozen (one of the first adopters in 1955) and Fresh, AIH and AID</td>
<td>23 pregnancies by donor insemination by 1956.</td>
</tr>
<tr>
<td>Foundation for Experimental Biology in Shrewsbury, MA/Department of Obstetrics and Gynecology Keio University School of Medicine, Tokyo, Japan</td>
<td>1958</td>
<td></td>
<td>Private</td>
<td>11 pregnancies, 11 births, 150 inseminations</td>
</tr>
<tr>
<td>Bank in Program Reproductive Biology and Reproductive Endocrinology at U. Texas Medical School, Houston</td>
<td>1962-1971</td>
<td>Dr Keith D. Smith Dr. Emil Steinberger</td>
<td>University Liquid Nitrogen storage of Human Sperm, artificial insemination (fresh and frozen)</td>
<td>71, 59 Births, 74 Women 207 donors.</td>
</tr>
<tr>
<td>Albert Einstein Medical Center, Philadelphia PA</td>
<td>1964</td>
<td>Dr. William H. Perloff (in collaboration with JK Sherman)</td>
<td>? LN Frozen Sperm (shipped from Arkansas)</td>
<td>6, 4 Births, 6</td>
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</table>


<table>
<thead>
<tr>
<th>Institution</th>
<th>Year</th>
<th>Individuals/Techniques</th>
<th>Source/Institute</th>
<th>Count/Outcome</th>
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<tr>
<td>Department of Obstetrics and Gynecology and the Center for Research in Reproductive Biology, University of Michigan Medical Center, Ann Arbor MI</td>
<td>1966</td>
<td>The Ford Foundation, NIH and US Public Health Service)</td>
<td>University</td>
<td>23, 17 births, 32 women</td>
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<tr>
<td>Department of Obstetrics and Gynecology, The Ohio State University, Columbus Ohio</td>
<td>1969</td>
<td>John Trelford and Frederick Mueller</td>
<td>University</td>
<td>Pregnancies reported (unknown #), 9 donors, Frozen sperm (LN).</td>
</tr>
<tr>
<td>Idant Corporation (New York, Baltimore, Ann Arbor, and Minneapolis)</td>
<td>1971?</td>
<td>Dr. Joseph Feldschuh and others.</td>
<td>Commercial frozen</td>
<td>200,000 sperm samples by 1990,</td>
</tr>
<tr>
<td>Washington University School of Medicine, St. Louis</td>
<td>1971- at least late 1980s</td>
<td>Ronald C. Stricler</td>
<td>University</td>
<td>Avg. of 50 new couples/year, uses medical center staff donors</td>
</tr>
<tr>
<td>Iatric, Corporation (New York)</td>
<td>1971</td>
<td></td>
<td>Commercial</td>
<td></td>
</tr>
<tr>
<td>Chicago</td>
<td>1973?</td>
<td>Cohen</td>
<td>Physician run bank</td>
<td></td>
</tr>
<tr>
<td>Little Rock, AR</td>
<td></td>
<td>Sherman</td>
<td>Physician run bank</td>
<td></td>
</tr>
<tr>
<td>San Francisco Bank</td>
<td>?-1971</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xytex Corporation</td>
<td>1975</td>
<td>Roy Witherington, M.D., Dr. Armand M.</td>
<td>Commercial (Originally a clinical diagnostic lab affiliated with Medical College of</td>
<td></td>
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<table>
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<tr>
<th>Facility Name</th>
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<th>Notes</th>
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<tr>
<td>Cryo Laboratory Facility Ltd. in Chicago</td>
<td>1977</td>
<td>Alfred Morris</td>
<td>Commercial</td>
<td>125 Active Donors by 1980</td>
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<tr>
<td>Bank for Germinal Choice</td>
<td>1980</td>
<td>Robert Graham</td>
<td>Commercial/Private</td>
<td></td>
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Chapter 5

The Birth of Banking: Race, Sexuality, Regulation and the Business of Conception

The beauty of artificial insemination is that we can do it ourselves, no matter what laws they might pass. But we’re still up against the problems of how to survive and raise healthy children. Though often we feel we are barely surviving, our goal is to find ways to fight back.

–Mary and Sarah Anonymous, Woman Controlled Conception (1979)

A host of new users of artificial insemination emerged in the last three decades of the twentieth century—lesbians, single women, and gay men. Their appearance as sperm bank consumers was deeply rooted in the politics of the gay liberation movement, the sexual revolution, the women’s health movement, and indeed, the dramatic transformation of medicalized reproduction as IVF and amniocentesis became widely used practices. The politics of homophobia barred lesbians from both accessing assisted reproductive services at most sperm banks in the late 1970s and early 1980s and also denied queer parents (primarily lesbians but also gay men, some of whom were using surrogacy) the right to retain custody of their children or legally become the parents of their partners’ biological children.

The first segment of this chapter (Techno-legal Landscapes of Parenthood) examines early legal battles over gay parental rights and particularly, those cases that considered artificial insemination in relation to parenting rights (whether queer or not). This was the legal landscape that shaped how, when, why, and importantly, where a lesbian couple or single woman used artificial insemination. However, in these cases not only the ability to care for children was on trial—rather, the very meaning of sexuality and marriage in American culture was being decided in these debates. As a new class of
professional women entered the workforce in the 1980s their right to “do it all,” have a career and a baby (without marriage and sometimes with artificial insemination), was under fire.\textsuperscript{556} The rise of the conservative far right, the fatherhood movement, and the backlash against feminism made the choice to bear a child outside of heterosexual marriage one of heated public debate. This section considers how public discourse about single motherhood and lesbian motherhood combined around the practice of artificial insemination during the Reagan years. It also focuses on the first legal cases that jointly considered artificial insemination and homosexuality, including a 1985 alimony suit (\textit{Karin T. and Michael T.}) in New York in which transexuality, artificial insemination, and lesbian motherhood are contested. What the public and legal discourse about lesbians and single women using AI reveals is the emergence of new kinds of family formations and a more contractually based vision of parenthood to support them amidst fears about the decline of fatherhood in America.\textsuperscript{557}

The second section (Lesbian Alternative Insemination: New Spaces in Homes and Women’s Health Clinics) turns to how artificial insemination was used in practice in the late 1970s and 1980s. Interrogating feminist health records, radical lesbian periodicals, and the testimonies and grassroots “how to inseminate” leaflets from the Lesbian Herstory Archive uncovers how lesbians and gay men collaborated to produce conception via artificial insemination outside of clinical supervision. In this brief window of time

\textsuperscript{556} Note: while some women were attaining powerful positions in corporations, professions, and other institutions many found their economic situation worsening during the 1980s. Women tended to occupy the lowest paid, least stable positions and coupled with a large rise in rates of divorce, many were attempting to support children on a single (low) salary. For more on this trend see Judith Stacey, \textit{Brave New Families: Stories of Domestic Upheaval in Late-Twentieth-Century America}, (University of California Press, 1990), 12-17.

\textsuperscript{557} In the Karin T v. Michael T. the courts confusion over the relationship between biological sex and its correlating legal parenting responsibilities was part of an evolution of the legal and social understandings of motherhood/fatherhood to the more contract based and gender-neutral parenthood.
prior to the AIDS crisis, artificial insemination became a bridge between the often-divided lesbian and gay communities and in so doing, produced a new non-consumerist model for artificial conception—“Alternative Insemination.” Ironically, the power seized by lesbians and gay men in crafting the experience of donor insemination outside of clinics during this era, laid the foundation for what would blossom as a new consumer practice inside the first pioneering feminist health clinics like Boston’s Fenway Community Health Center. By the end of the 1980s, these new users helped to build a new commercial sperm banking industry—namely, the direct patient acquisition of sperm based on a donor profile. Although the window of collaboration between lesbians and gay men would close as the AIDS crisis made cryopreservation (enabling the testing of donors and sperm over a six-month period) the safest way to practice artificial insemination, the pioneering model of donor profiling remained—to be transformed and further commodified in the form of the donor catalog.

Following the practice of direct donor profiling and selection, the next section considers how lesbian alternative insemination and a new and highly publicized sperm bank together pushed the idea of choosing donor sperm into American culture and the implications of this practice for race and gender. “Race, Sexuality, and the Commodification of Sperm Banking” focuses on Robert Graham’s Bank for Germinal Choice (aka the Genius Sperm Bank) as an innovator, although a highly problematic one,

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Note: Because of fears about disease transmission, the use of sperm from gay men would decline both inside and outside of clinics during the 1980s. The result was that, for a time, “alternative insemination” declined as well. In the twenty-first century the possibility of a woman bringing in a known friend or relative for sperm cryopreservation we have seen the reemergence of gay men as donors in sperm banking. However, this arrangement usually comes with significantly higher fees than using unknown donor recruited by the clinic. Gay men families are the newest permutation of some of these interactions. For instance, see Judith Stacey, “Chapter 2: Gay Men and the End of Paternity as We Know It” in Unhitched: Love, Marriage, and Family Values from West Hollywood to Western China, (NYU Press, 2011) for more on how gay men in are planning for reproduction and family in contemporary Los Angeles.
in transforming the role of consumer choice in banking. Therefore, it highlights the
collection and rapid dissemination of the “sperm donor catalog” as the most important
symbolic and practical artifact of the rise of the modern commercial sperm banking
industry. More generally, it interrogates the embedded eugenic, racial, and gendered
politics that drove the donor decision out of the hands of physicians and into that of users.

The final section focuses on why the politics of reproductive choice that were the
catalyst for changing the practice and institutions of artificial insemination also lay the
groundwork for a peculiarly hands-off regulatory framework for artificial insemination in
the last decades of the twentieth century. “Regulation and the Politics of Reproductive
Choice” traces the chances met and often missed to regulate two types of risk that are
associated with the practice of donor insemination—risk of sexually transmitted and
hereditary diseases and social or societal risks. Therefore, this section looks at how
physicians, patients, donors and regulators acted when confronted with new types of
 genetic testing and sexually transmitted infections (particularly HIV). An odd
confluence of radical feminist and lesbian politics, neo-eugenic ideals, and a powerful
conservative right that promoted a “free market” anti-regulatory style of government
transformed the expectations of choice for a much wider set of heterosexual users of AI.

Consequently, this chapter considers why social, societal, and familial risks were
paradoxically the greatest spur to regulatory action while simultaneously the primary
obstacle to regulation. Such risks ranged from those that emerged when doctors held too
much power over donations (as in the case of “The Sperminator”) to when donors formed
new and unintended ties to others (cases of too many half-siblings threatening the
boundaries of precariously created families to heightened worries about unintentionally incestuous unions).

I. Techno-Legal Landscapes of Parenthood

Between 1980 and 1988, the rise of a new conservative right made the status of the American family its central concern. The percentage of single mothers in America increased from twenty to twenty-four percent during these years and the number of women in the workforce with children under age three rose from forty-one to fifty-four percent. Dan Quail’s public attack on the television character Murphy Brown for becoming a mother outside of wedlock and without a male partner epitomizes the conservative political backlash to this trend and its perceived effect on the “traditional family.” Quail said in 1992, “It doesn’t help matters when prime-time TV has Murphy Brown, a character who supposedly epitomizes today’s intelligent, highly paid, professional woman, mocked the importance of fathers by bearing a child alone and calling it just another lifestyle choice.” Thus, not only “the family” but also a new generation of women who entered the workforce, and especially those, like Murphy Brown’s character that gained powerful positions or professional status, were targeted as problems. In 1980, the percentage of women holding professional or managerial jobs who had a child outside of marriage was 3.1 percent. By 1990, this figure rose to 8.2 percent.

559 As cited in Stacey, Unhitched, 14-15.
Amidst such changes in the American family new kinds of users began to contemplate using sperm donation to create their own networks for conception—lesbian women. Reports at the beginning of the 1980s estimated that approximately 1500 single women conceived through AID every year. Of those, one hundred fifty were lesbians.\textsuperscript{562} By the end of the decade, comparatively, there was a “baby boom in the lesbian and gay community.” In 1988, between 1,000 and 3,000 children in the United States and Europe were born annually to lesbians using donor insemination.\textsuperscript{563} This number would skyrocket by the end of the century. We know this to be true because of the increase in the number of clinics accepting lesbians and the visible rise of lesbian families in communities and the media. However, there is no hard data on how many lesbian women created families using artificial insemination inside and outside of sperm banks.\textsuperscript{564} In order to understand how this exponential increase could occur one must examine the biomedical and legal landscape of infertility and family in which lesbians and single women negotiated ideas about parental rights and roles, accessed donor sperm, as well as the perils and obstacles they faced as they forged new forms of kinship.

In vitro fertilization (IVF),\textsuperscript{565} the rise of egg donation and surrogacy, the widespread use of clomid and other fertility enhancement drugs, and by the early 1990s

\textsuperscript{564} For more on the politics that have resulted in a startling lack of knowledge about the scope of lesbian AI see Agigian, \textit{Baby Steps}, 13-14. Later in this chapter I will consider the broader lack of data about AI practices regardless of sexual orientation.
\textsuperscript{565} IVF is a technique in which an egg, or eggs are fertilized by sperm (donor or otherwise) outside of a woman’s uterus. It differs from artificial insemination in this respect and is often used when AID fails to produce pregnancy. In order to produce an egg a woman will take hormones to control the ovulatory process. Eggs are retrieved via surgery from a woman’s fallopian tubes and then fertilized (producing a zygote/fertilized egg). The zygote is then placed in the patient’s uterus in the hopes of successful implantation and pregnancy. It is much more invasive and expensive than AID.
the new technique of intracytoplasmic sperm injection\(^{566}\) brought the hope (although to many not the reality) of success within reach for men and women experiencing reproductive failures. Individuals who would have previously been untreatable or might have pursued AID or adoption—primarily, those diagnosed with severe male factor infertility or with fallopian tube problems—now had new options for treatment.\(^{567}\) Even as the women’s health movement and rising anti-natalist sentiments relaxed the hold of the medical profession on women’s bodies during the 1970s, IVF was a breakthrough that could only be accomplished with a team of reproductive specialists. Although the first IVF baby, Louise Brown, was born in England in 1978, it was in New York state that IVF was first attempted in the U.S. In 1973, Dr. Landrum Shettles achieved a successful IVF for the Del-Zio’s at Columbia Presbyterian Hospital in New York City. Unfortunately, before the zygote could be implanted in Mrs. Del-Zio a hospital administrator learned of the experimental procedure and destroyed the zygotes—eventually resulting in a successful lawsuit by the potential parents. *Del-Zio v. Vande Wiele et al.* made headline news during 1974, as did the couple’s million-dollar settlement for the emotional distress caused by the destruction of their fertilized eggs.

IVF was immensely important in raising public awareness about all forms of assisted reproduction including artificial insemination. Throughout the 1980s for lesbian

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\(^{566}\) Intracytoplasmic sperm injection (ICSI) is a procedure in which a single sperm, using micromanipulation, is injected into a mature oocyte (egg). Used in combination with IVF, it was developed in 1991 and became available in the United States in 1992. A new technique, cleared by the FDA in 2006, now enable researchers to not merely select a single sperm at random (which had raised concerns about the health of sperm) but actually identify sperm that bind to an artificial gel that is similar to the outer layer surrounding the oocyte. Such sperm have been proven to be more mature and possess fewer DNA strand breaks than those selected at random.

\(^{567}\) Note: by the mid 1980s, IVF-ET was being used to treat male-factor fertility in ten to fifteen percent of cases. See Irvin Hirsh, William J. Gibbons, Lipshultz, Kvar Rossavik, Ronald Young, Alred Poindexter, Melvin Dodson, and William E. Findley, “In Vitro Fertilization in Couples with Male Factor Infertility,” *Fertility & Sterility* 45, no. 5 (1986).
couples and heterosexual couples with male factor infertility, artificial insemination was the cheapest and most available option. The public was exposed to ideas about non-traditional families formed using donor insemination in a number of articles published during this time. For instance, in 1980 the New York Times published an article entitled “New Frontiers in Conception: Medical Breakthroughs and Moral Dilemmas” which announced, “AID requires only a woman, a syringe and some sperm.” The author stated that sperm would be relatively easy to access as there are “17 frozen sperm banks in this country with at least 100,000 sperm samples for sale.”\(^{568}\) The fact that artificial insemination was stressed as a simple and widely available technology is striking when compared to rhetoric about its new sister technology of IVF. Echoing a concern that had historically been raised against artificial insemination, the Federal Department of Health, Education and Welfare reported that data from surveys and public hearings revealed that IVF was seen as a danger to the family “by reducing the human act of reproduction to an artificial or mechanical laboratory procedure” and encouraging extra-marital families by using donor eggs and sperm.\(^{569}\) Conversely, it was also widely received and hailed as one of the most important miracles of modern science and medicine.

Historically homosexuality and parenthood seemed a contradiction in terms, an oxymoron, since heterosexual behavior was required in order to achieve pregnancy. “Lesbians” as Betty Friedan put it, “for whatever reasons, have repudiated two aspects—sexual feelings for men and child bearing.”\(^{570}\) In spite of this, the rising visibility of artificial insemination, alternative insemination, and gay and lesbian parents caused a


\(^{570}\) As cited in Thompson, 37.
reconsideration of such characterizations. As American society felt the impact of the gay rights movement, the courts became a central site in which contests about queer identity, legal protections, and parenthood were enacted. In a custody or child support case, a homosexual identity almost always introduced additional contestation into a courtroom.\footnote{Armano 1973 and Lin 1999 as found in Law & Society Review, 36 (2002): 285.} Custody cases involving lesbians and gay men seeking parental rights after leaving a heterosexual marriage had been fought since the late 1960s, although largely unsuccessfully. However, most of the cases related to the growing use of artificial insemination in the gay community in the 1970s and 1980s involved lesbian mothers. Traditionally, mothers were often seen to be primary parents and won custody of children when families divorced. But, when motherhood and lesbianism were embodied in the same individual, conservative pundits, religious groups, and judges brought a broad host of accusations to resist such an identity formation. For instance, in 1980 the second White House Conference on Families specifically excluded homosexuals from their definition of family.\footnote{See Flippen, J. Brooks, Jimmy Carter, The Politics of Family, and the Rise of the Religious Right, (University of Georgia Press, 2011), 270-73.} Another instance of punishing lesbian mothers is \textit{Bennett v. O'Rourke} (1985), in which custody was revoked from a lesbian mother based on the belief that her child would "model" her sexual behavior and become a lesbian. On the other hand, judges in \textit{S.N.E. v. R.L.B.} (1985), citing 16 expert witnesses, rejected the notion that a child could "catch" homosexuality from his lesbian mother.\footnote{Law & Society Review, 36 (2002): 7. For more on lesbian custody cases see, Daniel Rivers, “‘In the Best Interests of the Child:’ Lesbian and Gay Parenting Custody Cases, 1967-1985,” Journal of Social History, Vol. 43, No. 4, Summer 2010: 917-953.} Others argued that homosexuality made people incapable of nurturing children or able to possess the attributes of good parents, that they were likely to be pedophiles and emotionally
irresponsible. As a minority defined primarily by its sexual practice, LGBT individuals were stereotyped as “overly sexualized and promiscuous to the point of depravity.” All these traits were deemed antithetical to good parenting practices. More broadly however, it was simply the fluidity of such families that made social and institutional recognition difficult. Not patterned on conventional biological or marital ties, but rather on social identity, friendship and emotional commitment, as anthropologist Weston has shown, lesbian and gay families did not fit the conventional family structure of a legally married couple that biologically produces a child. Consequently, cases contesting the parental rights of LGBTQ persons began to enter the courts in ever increasing numbers in the 1980s.

There are several general categories of claims that emerged about LGBTQ parenthood during this era. They were framed by a new landscape of family law with the inception of no-fault divorce (the Uniform Marriage and Divorce Act) and the correlating rise of the “best interest of the child” standards for custody. The first type of cases were divorce cases in which one parent of a heterosexual couple came out as gay or lesbian and their rights to custody or visitation were questioned. These kinds of cases did not normally involve debates about reproductive technologies. In the second and third types of cases, however, assisted reproductive technologies often sat squarely in the center of the creation of these families and the judicial judgments about them. The second category of cases involved either adoption cases in which a single gay or lesbian

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574 Rivers, Ibid, 917.
577 For more on these changes in family law and their impact on lesbian mothers see Thompson, 56-84.
person or same-sex couple wanted to adopt a child, or so called, “second-parent adoption” in which the non-biological parent of same-sex couple wished to adopt. Second parent adoption in particular was (and remains) a difficult and often, very expensive endeavor. The third sort of cases were “Lesbian split” cases (divorce cases would require the ability to legally marry) and often had the non-biological mother/parent attempting to gain the custody or visitation rights that the biological mother possessed as the only mother recognized by the law. The last category especially, caused heartbreak for lesbians who had created and/or parented a child together and tremendous amounts of anxiety for those who wished to become parents. One of the first, which was highly publicized, occurred in 1980 in Alameda County, California. In Loftin v. Flourney, the lesbian couple in question had used Loftin’s brother’s sperm for the insemination of Mary Flourney. Loftin had been listed as the father on the birth certificate and her surname was given to the child. However, when the couple divorced the biological mother, Flourney, denied visitation rights to Loftin. The courts eventually found that Loftin was the “psychological parent” of the child and entitled to visitation rights. Most other courts found that the non-biological mother had no parental rights at all since to recognize them might open up a child to multiple “non-parents” claiming custody of the child.

For lesbians wishing to access insemination, whether in the clinic or outside of it, the above cases had to be read in concert with legal cases and medical practice recommendations that spoke more narrowly to sperm donor rights and rights to

580 For more on non-biological motherhood status and the law during this period see Thompson, 73-78.
insemination access/provision. By 1977 the first of these cases, involving a woman who
had used a known donor pursuing child support in New Jersey, was decided.\footnote{C.M. v. C.C., 377 A.2d 821 (NJ. Juvenile & Domestic Relations Court, 1977).}

However, the more typical case involved a known donor who, after agreeing to relinquish
parental rights, pursued custody and or a greater relationship with the child. For instance,
in the case of Michele and Beth who had collaborated with a gay male couple to produce
their two children. Initially, the men had only wanted to be donors. They had not even
signed the infants’ birth certificates because of fears about being held liable for child
support. However, as the children grew up the men (and their extended families) slowly
became more and more involved in the children’s lives. In fact, the lesbian couple
became nervous about their own parental rights and what they perceived as an unwanted
“insertion of family” by the donors. This particular case barely managed to stay out of
the courts, but only because both parties were able to come to an agreement with the help

To make things even more confusing for potential single women or lesbian users
the laws regarding artificial insemination varied state by state. As discussed in the last
chapter, fifteen states had statues that mandated the legal status of AID children to be
legitimate and six stipulated that the procedure had to be performed by a physician.\footnote{The following states adopted A1 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).}

But for lesbians or single women, there were also unwritten codes of medical practice.
Physicians were not required by law or even encouraged by their governing professional
body to provide services to single women or lesbians. In one federal survey of Fertility
Society physicians in 1987 that asked whether requests for AI should be honored “regardless of marital status or sexual orientation” there was an almost even split on the subject. Older physicians appeared to be more likely to deny requests while younger and particularly female physicians were more likely to honor them. And when asked whether self-insemination was a reasonable alternative to physician-assisted insemination, ten percent strongly disagreed while about one third agreed “somewhat.” Here, female physicians showed a significantly greater tolerance for self-insemination than did male physicians. Regardless, in 1987 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 (See OTA Survey, p. 345). It would not be until 1994 that The Ethics Committee of the American Fertility Society would recommend in their guidelines that single women be added to the categories of indications for donor insemination.

Concerns about single women accessing artificial insemination were considered in the UK as well but there seemed to be wider acceptance there of the right for single women to have children via this method than in the USA. For instance, in response to an amendment to limit AI to married couples put forward in the House of Lords in 1990 because “without a father, the child must suffer,” one Lord argued that “marriage is no indication necessarily of a serious commitment to creating a loving home.” And Lord McGregor suggested that such a stance towards single women “did not accord with

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584 OTA Survey, 57.
585 United States Office of Technology Assessment, 27.
586 The Ethics Committee of the American Fertility Society, Ethical Considerations of Assisted Reproductive Technologies, 62(5) Fertility & Sterility (Supp. 1, 1994).
prevalent attitudes toward women, family or sexual and reproductive behavior."\textsuperscript{587} Furthermore, the problem appeared to occur on such a small scale, with only one hundred out of three thousand five hundred AID patients admitting they were single, that it seemed a relatively specious point of debate. Would long-term but unmarried couples be subject to criminal prosecution and a possible jail term the Lord Chancellor wondered? This seemed ridiculous in his eyes. And yet, the vote over this amendment was incredibly tight. Sixty-one votes opposed the measure while sixty supported it. This seems to suggest that this moment, 1990, was a fraught and pivotal moment for non-traditional families in UK politics.\textsuperscript{588}

The “men’s movement” in the United States was able to successfully to incite fear that an out of control sexual morality was undermining “the traditional family” by focusing on the rising divorce rates, single mother families, and gays and lesbian families. According to the leader of the new “familialism,” David Popenoe, the only solution was “lifelong, sexually exclusive, heterosexual, monogamous marriage, based on affection and companionship, in which there is a sharp division of labor (separate spheres) with the female as a full time housewife and the male as primary provider and ultimate authority.”\textsuperscript{589}

In such a precarious moment of backlash against both gay and lesbian families and single mothers in the United States, it is no wonder that lesbians looked for help in navigating a quickly changing legal landscape of parenthood. Some turned to such publications at the Lesbian Rights Project’s \textit{Lesbian Rights Handbook: A Legal Guide for

\textsuperscript{587} Parliamentary Debates (Lords), 1990, vol. 515, column 790 and 793. \\
\textsuperscript{588} \textit{Ibid}, column 800. \\
\textsuperscript{589} David Popenoe, \textit{Disturbing the Nest: Family Change and Decline in Modern Societies}, (Aldine de Gruyter, New York, 1981), 1.
Lesbians or the Anti-Sexism Committee/National Lawyers Guild’s *A Gay Parent’s Legal Guide to Child Custody* for information about how to navigate the rapidly shifting sands of family law. By 1985, for the estimated twenty percent of lesbians who were mothers, there were also documentary films like “Choosing Children” by Kim Klausner and Debra Chasnoff, and a series of Lesbians Choosing Motherhood Conferences on the east and west coasts through which parents and prospective parents could learn about the social and legal prospects of lesbian motherhood and AI. For instance, non-biological mothers could learn about the first set of cases that recognized the significance and rights of same-sex parents in 1985. In that year, the first second-parent adoptions for lesbian couples that conceived using AID were granted in Alaska and Oregon.

Organizing was happening on multiple levels to assist these newly formed and in many ways, precarious families. Dykes and Tykes in New York City, the Lesbian Mothers Union in Oakland, California and the Lesbian Mothers National Defense Fund in Seattle, Washington were among the most prominent and politically active organizations that raised funds for families involved in custody battles. The Lesbian Rights Project, the Custody Action for Lesbian Mothers, the National Gay Task Force, and the American Civil Liberties Fund had prominent progressive attorneys that defended such cases. Historian Daniel Rivers has argued that the political and legal work of these organizations was essential not only to families being able to stay together but also in turning the focus of the LGBT rights movement towards the rights of marriage and the

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family. In terms of donor insemination, it was during this period that the insemination contract itself gained additional weight in legal disputes.

One example of the rising importance of in-clinic insemination contracts is the 1985 case of *Karin v. Michael* in New York. The case was tried in the Monroe County Social Services Agency on behalf of a mother seeking child support for her two children, conceived via artificial insemination using donor sperm. Before each insemination, the wife and husband had signed an agreement stating that any children conceived were theirs and that he waived any right to disclaim the children as his own. This case was being contested by the husband (who was pursuing a nullification of the marriage in the Supreme Court of Erie County, NY) on the grounds that he was actually a she and thus could not be the figurative “father” of the children regardless of the use of a donor. Furthermore, s/he could not even be construed as a "parent" under N.Y. Domestic Relations Law § 32, and s/he requested a dismissal of the petition for support.

The respondent (Michael T. a.k.a. Marlene T.) had married Karen T. in May of 1977 in Spencerport, NY and for 5-10 years prior to the marriage “dressed in men’s clothing and obtained employment which she regarded as ‘men’s work’.” Their civil marriage ceremony was followed by a religious one in Parma, NY during the same year. Michael subsequently lived as a man and as a husband in the same household with Karin and their children David T. (born October 8, 1980) and Falin T. (born January 17, 1983). The court recognized that its decision would carry the court through “uncharted legal

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592 Rivers, “In the Best Interests of the Child,” 919.
593 The *Karin v. Michael* case was indicative of a trend towards increasingly large numbers of cases, and positive state Supreme Court findings, regarding gay and lesbian parents in states where relatively large lesbian and gay communities were present (including New York, California and Pennsylvania). As Rivers has pointed out, trends in these states were in stark contrast to ones dominated by Christian fundamentalism (i.e. North Carolina, Texas, Mississippi, etc.). Rivers, *ibid*, 920.
594 127 Misc. 2d 14; 484 N.Y.S.2d 780: 1.
waters and would set a precedent for transgendered as well as gay/lesbian parenting rights. It would also supplement the growing legal precedents about the use and meaning of artificial insemination and other forms of assisted reproduction in the American family. The struggles of the court to determine what Michael’s status was as a father/co-parent/lesbian/transgendered person are fascinating but, outside the scope of this chapter. What is important to the story of donor insemination is how such cases pivoted around the use of an insemination contract to enforce parental duties.

The court began with the insemination itself and the medical contract that enabled it. That the physician had not required proof of Michael’s sterility is one signal of the relatively conventional place that AI had came to occupy in reproductive medicine. The physician performing the insemination and most likely, the rest of the community did not know of Michael’s sex. The agreement that Michael signed before the donor insemination read:

(A) That such child or children so produced are his own legitimate child or children and are the heirs of his body, and
(B) That he hereby completely waives forever any right which he might have to disclaim such child or children as his own.

This was a contract that was supported by a state law that had passed in 1973. Domestic Relations Law § 73, declared children of married parents who were born using AID

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595 Ibid.
596 The document that Michael and Karin signed was a hold over from the decades before the modern sperm banking industry developed. Until new laws removed the stigma of illegitimacy for children born by AID and eliminated charges of adultery for wives who became pregnant using donor sperm, physicians sought to protect themselves from legal charges and to clarify the legal identity of children conceived using AID.
598 Domestic Relations Law Section 73 declares “Any child born to a married woman by means of artificial insemination performed by persons duly authorized to practice medicine and with the consent in writing of the woman and her husband, shall be deemed the legitimate, natural child of the husband and his wife for all purposes. 2. The aforesaid written consent shall be executed and acknowledged by both the husband and wife and the physician who performs the technique shall certify that he had rendered the
legitimate. It had supplanted an earlier New York ruling, *Gursky v. Gursky* (1963), in which the child was found illegitimate. However, notwithstanding the finding of illegitimacy in *Gursky v Gursky* the court held the husband responsible for the support of the infant. The court stated:

> The husband's declarations and conduct respecting the artificial insemination of his wife by means of a third-party donor, including the husband's written 'consent' to the procedure, implied a promise on his part to furnish support for any offspring resulting from the insemination. This, in the light of the wife's concurrence and submission to artificial insemination, was sufficient to constitute an implied contract. 'A promise will be implied where the agreement is instinct with obligation and the implication is supported by the circumstances.' (*Renner v. Stanley Co.*, 136 Misc. 492, 493.).

Therefore, in the case before the judge in 1985, two firm precedents existed that would obligate Michael to furnish support for the two children. For this family, and a host of other families, the courts became the means by which to define and enforce their obligations to one another. The court eventually found against Michael and the male identity he had maintained for years by defining him as a biological woman and one who was therefore, a lesbian parent who owes child support to her former partner.

With such a bewildering array of cases, uncertain outcomes of custody, valid concerns about the cost of such proceedings, and a distrust of the medical profession some single women and lesbians who desired to have a child began to search for other options. As they did so they found new collaborators—gay male donors—and took artificial insemination into new spaces—women’s homes and eventually, feminist health service.” This was enacted in NY in 1974 as part of the Uniform Parentage Act. It remains widely used today and has been the topic of legislative and judicial review every year since 2003. Recent additions to the language include in vitro fertilization, embryo transfer and gamete intrafallopian transfer—in all cases it confirms that the donors have no legal relationship to the children. For more on recent developments see the summary of Bill A03851. State Assembly of NY Website, http://assembly.state.ny.us/leg/?bn=A03851.

599 *Gursky v Gursky* (39 Misc 2d 1083), Superior Court, Kings County, New York, 1963.

600 Ibid.
clinics. The practice of artificial insemination would be changed in the process when queer AI users brought a radical idea from these spaces into mainstream fertility clinics—that the patient should choose their own sperm donor.

II. Lesbian Alternative Insemination: New Spaces in Homes and Feminist Health Clinics

As discussed in the prior section, the context of the late 1970s and the 1980s most donor insemination providers did not welcome single or lesbian women and other non-normative couples pursuing conception. Only ten percent of the members of the American Fertility Society were wholehearted advocates of performing AID for single women and lesbian couples. These two groups were frequently lumped together as unacceptable candidates for insemination in much popular and medical literature. Because of the broader lack of services for lesbian women, who mistrusted the ability of traditional health care providers to offer them safe and high quality care if their sexual orientation were known, it is no surprise that they began to seek alternative sites and means of conception. Social studies from the 1980s found that lesbians who admitted their sexual orientation had negative experiences ranging from ostracism, invasive personal questions, shock, embarrassment, unfriendliness, pity, condescension, or even fear from their health care providers. Others reported that their confidentiality was not respected, that their partners had been mistreated and even that they had experienced physical abuse and derogatory comments. For instance, one woman had sought help from her gynecologist for what she feared was a vaginal infection. After she revealed that she was a lesbian he responded, “Well, what do you expect? You engage in lesbian

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601 Marsh and Ronner, 227.
sexual activities and that leads to infections...Women just have these infections and that's all there is to it. You're a woman and you have to suffer. Maybe if you lived in an old-fashioned way and didn't have much sexual contact and douched often then it would be better." He then went on to add, "And I think since you're a lesbian I'm going to give you a VD test." Even though the patient told the physician that she neither wanted nor needed testing the gynecologist insisted saying, "You're a lesbian. How do you know who you consort with?" The patient reported that until she revealed her sexual orientation she had never had any problems with the doctor and previously had found him to be perfectly ordinary and highly capable.603 Stories of rejection, like that of one divorced nurse of 37, were also the norm for lesbians seeking insemination. Between 1976-1980, an anonymous woman tried for four years unsuccessfully to find a doctor or clinic that would inseminate her.604

In order to avoid such problems, lesbians chose to shape their conceptive experiences in multiple ways. Some chose to have reproductive sex with a man, others pretended to be married when they went to a clinic, and, as we will explore in greater detail in this section, some purposefully went to the few early women’s health clinics that provided insemination services specifically for lesbians. A vivid example of how these risks affected women who pursued insemination at home is given by one anonymous Connecticut commentator in Lesbian Connection. Whether a woman went for prenatal care to a midwife, women’s health center, public clinic or private obstetrician, she advised her readers not to tell anyone “about that teacup that got between you and the penis. Invent a husband, dead, deserted, or in the Army, if you need one to avoid hassles.

603 Adams, Mary Louise, “‘You’re all right so long as you act nice’: Lesbians’ experience of the North American health care system,” Fireweed no. 28 (April 30, 1989): 53.
604 Fleming, p. 49.
Use whatever resources are available and don’t let them use you." In terms of the broader history of assisted reproduction, however, the movement of artificial insemination outside of clinics marked a major shift in the institutional parameters of AID—a technology that had been firmly in the hands of physicians for most of its history. As artificial insemination by donor began to be practiced outside of the clinic it reflected the radical feminist politics of its lesbian users and of the feminist health movement—autonomy, and women controlling and monitoring their own reproductive health, the importance of personal experience in solving health issues, and a commitment to mobilizing local queer support networks. Some women also chose to link their at-home insemination preferences with a parallel feminist health movement, at-home birth and midwifery.

One 1979 pamphlet, “Woman Controlled Conception,” embodied these ideals. This guide was based on the personal experiences of two single lesbians, Sarah and Mary Anonymous, as each pursued artificial insemination. In its hand typed and graphically but cheekily illustrated pages (available through mail order at the cost of $2.00 from Womanshare Books) Sarah and Mary encouraged each woman to design their conception experience to be personal and unique. For instance, in order to find donors they recommended locating physicians and using friendship ties, women’s self-help groups, alternative health services and other “movement connections.”

Mary’s insemination story involved the use of subterfuge and a friend in reproductive health to access sperm donation samples from a clinic. She called hospitals,
medical schools, and gynecologists looking for sperm banking services while pretending to be an employee of a clinic. She wanted someone who had a large “donor network” that would enable her to request sperm from a donor with her own general physical characteristics. Apparently, the largest network available was that of a physician she described as “piggy” with whom she did not feel comfortable being inseminated. Instead, she had a male physician friend who worked at her own local clinic place an order for sperm on her behalf. After the sperm arrived at the clinic her friend performed the insemination. Mary decided to pursue insemination through a bank because it ensured the total anonymity of the donor. She had concerns about non-anonymous/known men causing legal and familial problems for other lesbian friends.607

Sarah, on the other hand, considered sleeping with a male friend to achieve conception. In the end though, her own concerns about the need for anonymity of the biological father, coupled with her “lack of trust of doctors and medical institutions,” led her to pursue artificial insemination using a “go-between.”608 This person agreed to find anonymous donors on her behalf, outside of clinics. Her first go-between, a female friend, had trouble finding willing donors. Her second “go-between” was a women’s self-help group that had advertised services for lesbians and who found several different donors. Unfortunately, Sarah found that they were “unwieldy to deal with” since they were going through successive crises. Her third and final “go-between” was successful in finding numerous donors. A gay male friend whom Sarah knew through a childcare project was able to mobilize his own network to find Sarah donors. In another report about a lesbian pregnancy also achieved in 1979, The Boston Globe corroborated Sarah’s

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607 Since she knew no lesbian women who had conceived this way, assumedly she meant lesbian women who conceived in heterosexual marriages or through reproductive sex with other men in their lives.
608 Ibid, 4-5.
narrative reporting that women had set up “their own system” with gay men as sperm donors. “It was all very informal” they remarked, “with certain people serving as go-betweens.”

Sarah’s home insemination method was not without its problems. She informed her readers that on one occasion a donor delivered his specimens to the wrong place, another month a donor forgot he was scheduled to make a donation, and donors available when she began her six-month quest for conception were not available throughout the whole process. Yet Sarah found this method much more personal and comforting since she could reliably call on her “go-between” friend to discuss such problems. As the months passed without a pregnancy however, her personal connection made her feel guilty about repeatedly asking her friend for this “favor.” Regardless, go-between’s/liaisons also had a lot of power in the process. Their social skills with potential donors, time management skills, knowledge of reproductive health, and knowledge of the recipient intimately shaped the experience of insemination for all involved. For instance, some liaisons needed to learn how to let a donor down gently if a recipient, for medical or other reasons, did not “require his services.”

The booklet fully outlined the procedure of donation, transport, and insemination. The authors explained how to track ovulation via physical signs (cervical mucus, Mittleschmertz, etc.) and temperature. Railing against the way “doctors mystify and try to control artificial insemination,” they argued that it was a simple method and easy to perform. Sperm could be ejaculated into a specimen jar, kept warm near the delivery

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610 Ibid, 8.
person’s body, and protected from light by a simple paper bag. Unlike professional medical guides and articles about artificial insemination, the authors also focused on women’s’ emotional and physical experience of the insemination itself. They advised their lesbian readers not to “freak out” if not all of the sperm stayed in the vagina after insemination. Furthermore, they described the odor, texture and viscosity of semen to prepare readers for their encounter with a substance many had either never dealt with or, not come across in some time. Home remedies also made an appearance. In order to hold the semen close to the cervix, one of the authors recommended wrapping a tampon in plastic and inserting it after the insemination.\textsuperscript{612}

As these narratives suggest, distrust of the medical profession, and particularly reproductive specialists, was an important if not the most important factor that pushed lesbian women and feminists to pursue artificial insemination outside of the places where it was typically practiced. Feminist scholar Mary Daly had just come out with her landmark publication, \textit{Gyn/Ecology: The Metaethics of Radical Feminism}, explicitly linking patriarchal subjugation with American gynecology. On the heels of scandals about DES and its affects on the daughters of women who took the drug, Daly and many of the women she inspired, gynecology not as a healing profession but rather as a means to violently enforce “the sexual caste system.”\textsuperscript{613} As a woman put it who wrote into the “how to” section of a popular lesbian periodical, \textit{Lesbian Connection}, in 1979, “in spite of what the medical profession wants us to think, there is nothing difficult or complicated about getting pregnant using artificial insemination.” Entitling her piece “How To Get

\textsuperscript{612} \textit{Ibid}, 11-12.
\textsuperscript{613} Note: Daly used the term “gynecology” very broadly. Its meaning for her encompassed all professions from psychiatry to man-midwifery that specialized in the “diseases and hygiene” of women’s bodies and minds. Mary Daly, \textit{Gyn/Ecology: The Metaethics of Radical Feminism}. Beacon Press, 1978, 1990: 224, 227.
Pregnant Without Getting Screwed” readers were meant to understand the double entendre as not being “screwed” by the medical profession or “screwed” in the sense of needing to perform heterosexual sex to become pregnant.\textsuperscript{614} Another lesbian woman who was part of the “turkey baster phenomenon” and successfully achieved pregnancy outside of clinics described her goal as not wanting to "get tangled up with the medical establishment."\textsuperscript{615} Instead, friends were able to provide an experience of impregnation that was characterized by a higher level of trust, control, and personalization. These sentiments are also clear in a Whole Earth Catalog piece by writer Susan Stern. She notes: "With a little help from your friends you can get pregnant in your own home without having sex. You can use AI. Doctors have been using it for decades to impregnate the wives of sterile men. But now lesbian and heterosexual single women are bearing children outside the closet of heterosexual wedlock."\textsuperscript{616} For other women home insemination provided a much more intimate experience than insemination in a clinic, and one in which their partner could take part. Of course, home insemination did not always result in the feeling of romance and intimacy couples were seeking as they strove to conceive. For instance, the author of “Romancing the Syringe: At-Home Insemination,” a chapter in a lesbian parenting guidebook, opens her tale with a lovemaking scene in which one lover is whispering to her partner “time to inseminate,

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my love.” They laugh and the inseminatee notes that the mood was perfect, candles were lit, “but the syringe in her vagina somehow didn’t fit the ambiance.”617

When Nancy Zook and Rachel Hallenback began searching for a sperm donor in 1983 they consciously defined the process as “alternative fertilization” as it seemed to denote more “woman-controlled conception” than medicalized artificial insemination. They wanted a donor whom they could trust and who shared their values as a donor. A heterosexual friend, a single father of a teen-age daughter, agreed to be the donor. Instead of using a go-between they had a clear verbal contract and chose to conceive all together as a symbol of the new “extended family” they wanted to create.

We laughed nervously as we sterilized a mason jar and welcomed our friend at the door. After hugs and more laughter, he proceeded to our spare room alone to ejaculate into the jar. We prepared ourselves in Nancy’s room with a brief conception ritual to clear our minds and focus our energy and hearts on our endeavor. Minutes later, the jar was handed over, hugs exchanged, and he was on his way. With Nancy’s hips on pillows at a forty-five degree angle, Rachel, taking a quick breath, inserted the semen into Nancy’s vagina with a sterile syringe. The two of us waited together for forty-five minutes.”618

Lesbian artificial insemination, also called “Alternative Insemination,” emerged at a moment of fracture in gay, feminist, and lesbian politics in the late 1970s.619 Accordingly, it bore symbolic meanings that reflected the tenets of radical feminism(s), the gay liberation movement, as well as a new radical lesbian-feminist politics. One of the most widely read texts that identified why radical feminism developed was the 1970 essay collection, Sisterhood Is Powerful: An Anthology of Writings from the Women’s

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619 Feminists at this point were could be broken into three very rough groups; those fighting for women’s liberation as part of a Marxist revolution, liberal feminists (like many members of the National Organization for Women) who wanted to focus on achieving equality and the integration of women into society, or radical feminists who focused particularly on opposing sexism in institutions (like marriage).
*Liberation Movement*, by Robin Morgan. In her introduction Morgan claimed that sexism in the antiwar movement that saw a place for women only as “Girls (who) Say Yes to Guys Who Say No To the Draft!,” and more generally sexism in the civil-rights, student movements, and other movements on the Left, caused women to organize, name, and theorize about changing their own politics of oppression. That Stokely Carmichael, one of the leaders of the SNCC could say that “the only position for a woman in the SNCC is prone” was the kind of sentiment that led radical feminists to declare sexism rather than racism or class oppression as the primary repressive inequality in human society. And for lesbian women who were part of the Left and/or the gay liberation movement, these politics coalesced and marked a moment of fracture and transition in the lesbian rights movement. Many lesbians in the late 1960s and 1970s had aligned themselves with gay men to argue for homosexual rights, as they did in the Homophile League of New York, the National Gay Task Force, the New Alliance for Gay Equality (California’s 1978 campaign against the Briggs antigay initiative), the joint work of the San Francisco Daughters of Bilitis (DOB) and Mattachine society in the mid-1960s, and the New York DOB and the Gay Activist Alliance in the early 1970s. Yet by the late 1970s many lesbian-feminists did not see homosexual rights as their chief political objective. Rather, both *primary* lesbians (those who believed they were born lesbian but had feminist consciousness’) and *elective* lesbians (those who made a conscious feminist choice to be “woman-identified” in order to combat patriarchy) were identifying as lesbian-feminists and subscribing to a doctrine that any culture that included men, whether heterosexual or not, was violently anti-woman and oppressive. Therefore, as

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historian Lillian Faderman pointed out, “the gay man was naturally seen as being no less an enemy than any other human with a penis, and lesbian-feminists could make no lasting coalition with gay men in a gay revolution.”

For radical-feminists, lesbian-feminists, and lesbian separatists (those who wanted to begin utopian collective living or collective businesses outside of heteronormative/heterosexual culture), artificial insemination was an integral tool, both metaphorically and biologically, in the creation of empowered women-only and/or women-centered societies. Many authors identified artificial insemination as an important technology in women’s, whether lesbian or not, fight for liberation. Author Jeanne Cordova in *Lesbian Tide* outlined the role that artificial insemination could play in the fight to conquer patriarchy: “Artificial insemination, like the other new possibilities in reproduction represents a new freedom.” Cordova noted that,

> The *option* of artificial insemination moves womankind one step closer to cutting the patriarchal umbilical cord. Artificial insemination gives women the freedom to separate child bearing, childraising, and the entire issue of children, from decisions about lovers, marriage, family and lifestyle…

The political implications of artificial insemination are particularly meaningful for lesbians…despite feminism and a liberalization of laws and customs in childraising, the price of having a child, for both gay and straight women, almost always requires having more of a relationship with a man than we want. There are women who want children yet want nothing to do with a man. There are women who want children but don’t want to take a husband in order to have a child. There are women who have a lover, want a child, but don’t want to “play” nuclear family in order to retain both. As things stand a woman has to sell large portions of her life and freedom in order to have, keep, or raise children…Artificial insemination must therefore be an option for every woman.

We demand this option as we move to reclaim the power to determine the manner and pattern of our lives…The option of artificial insemination is only one small step, like abortion and birth control and equal rights. Yet all these steps, when

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strung together over the next 50 years, will form the real history of women’s liberation.”

What women’s liberation meant in everyday terms varied widely, as did the use of artificial insemination to achieve these varied goals. For lesbian separatists and other lesbian feminists who believed that women needed women-only spaces to escape sexism (rather than trying to reform it as liberal feminists believed) a widespread conversation developed about how to control the sex of the fetus through artificial insemination. Some lesbian communities and/or separatist communities made mothers of boy children feel very uncomfortable or unwelcome. Karen, a 34-year-old lesbian from Wisconsin and mother of a baby boy put it this way.

There was like this assumption, in and outside of the lesbian community, that lesbians are man-haters…Let’s face it, there’s been little support for lesbian mothers, period, in the women’s community. And these rules about not bringing boys to events and restricting ages and so on are absurd. I mean, what are you supposed to do – bring the girls and leave the boys at home? And exactly where are all those politically correct women suggesting we get child care for all these boys that have to stay at home whenever their mothers need to go out and socialize with other lesbians?”

Nevertheless, for lesbians who did prefer to have a girl child, periodicals like *Off Our Backs: A Women’s News Journal* gave advice on how to try to affect the sex outcome of the fetus conceived via artificial insemination, ironically telling their readers how to have “pregnancy without men” both in terms of conception and male children. Some argued that acidity promoted female-producing sperm and for women to douche with vinegar before insemination. Moreover, they noted that orgasm made the vaginal

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626 Marcia Durfee, “Pregnancy without men.” *Off Our Backs*, July 31,1975. Note: this publication also added that some banks would centrifuge sperm to separate x and xy bearing sperm.
environment alkaline, so that the woman should only orgasm if she wanted a boy.627

Others commented that timing might play a role in the sex of the child. If female producing sperm were “longer-lived and hardier” than their male producing counterparts, then timing an insemination two to three days prior to ovulation would favor more female producing sperm reaching the egg for fertilization.

Just as not all feminists were radical, not all lesbians saw feminism as their central political goal. Instead, a significant portion continued to fight the fight of gay liberation and these women saw artificial insemination slightly differently—as a means by which to not only achieve motherhood but to positively affect the status of lesbian and gay persons politically and culturally. At a national meeting of lesbian leaders in 1978 at Illinois State University one advocate of insemination described its significance to the gay liberation movement.

Test tube babies is the single most dramatic event in the history of our cause…by having children, gay women can eliminate nearly all criticism leveled at them. Sperm banks of course, would be provided by members of various gay male organizations…the only way for us to overwhelm the opposition is to simply breed our way to victory…The children born of lesbian mothers, by a gay sperm bank, would allow a longitudinal study of the question of whether gay is genetic or the result of environment.628

Oddly echoing the positions of military and eugenic leaders of the early twentieth century, for lesbian women who focused on the gay liberation movement artificial insemination was envisioned as a means of empowerment for lesbians and gay men alike and a (albeit rather naïve) means to answer the hotly debated question of biology versus choice/environment contributing to homosexuality. From today’s perspective the call by

627 Woman Controlled Conception, 13.
these organizers for the actual setting of quotas for births is quite dramatic. Their stated goal was for 500,000 lesbian AID births nationwide and 200,000 alone by lesbians in New York City. “All lesbians will be asked to contribute to their own salvation, and to that of all those who follow, by having a test-tube baby," a reporter quoted the organizers saying. "We are not trying to put up a master race of women; we are merely trying to win a few political elections."629

In the late 1970s, an era in which organizations like the Gay Liberation Front experienced fracturing along gender lines; artificial insemination became a bridge upon which both lesbian and gay men could successfully meet towards the goal of parenthood. Even for lesbian-feminists and/or separatists, the basic need for a man to provide semen obviously remained, and for these lesbians, men who had experienced oppression (homophobia) were the most palatable alternative until parthenogenesis or cloning became available. A study of almost one-hundred lesbian women who used artificial insemination between 1979 and 1987 revealed that one-half had homosexual or bi-sexual donors (almost all with fresh sperm). This statistic attests to incredibly high numbers of gay donors in the late 1970s and early 1980s since there was a marked decline in the use of both gay donors and fresh home inseminations after 1982.630 Guides like Artificial Insemination: An Alternative Conception illustrate how a collaborative spirit towards jointly achieving parenthood and battling homophobia could be met with artificial insemination. The relationship between the symbols on the cover itself evokes the cooperative nature of such conception endeavors (See Cover, p. 343). Both the man and woman symbols are linked together in solidarity, while the placement of the male

629 Ibid.
symbols evokes the image of sperm at the very moment when it meets an egg. In the pages of the pamphlet authors, “lesbian (Jill) and a faggot (Jack)” explicitly state their goals: to share their knowledge about alternative insemination, be unified towards the “progressive/feminist” act of insemination, and to “develop respect and sensitivity to each other” while working to understand their (gay men and lesbian women’s) respective roles in the process.\footnote{Artificial Insemination: An Alternative Conception for the Lesbian and Gay Community, 1.}

Their audience was lesbians and gay men, doctors, health workers, midwives, and “people sympathetic to the rights and welfare of gay people.”\footnote{Ibid.}

Gay men responded positively to these goals. When the Feminist Women’s Health Center in Oakland, CA announced they were opening a sperm bank in 1982, one staff member reported that many of the men who had called to offer to donate were gay men who wanted to participate because they knew lesbians would be using the bank. They went a step beyond mere participation and the staff member noted that many chose to donate funds in addition to sperm and that many gay men didn’t even want any compensation for their sperm donation.\footnote{Jil Clark, “Sperm Bank Welcomes Unmarried Recipients,” Gay Community News, October 30, 1982.}

Cooperation between gay men and lesbians to achieve conception occurred not only in the United States but also internationally and trans-nationally. In the early 1970s, Jackie Forster was already an activist in the United Kingdom’s gay and lesbian movement. She would go on to be one of the founders and editors of Sappho, a British monthly magazine for lesbians and a support group of the same name. In 1971, after attempting to help two group members of Sappho try to adopt (unsuccessfully), Forster heard from an Australian member that she had come to Britain to have anonymous sperm donors because in Australia, a husband’s signature had to be on an insemination contract.
Forster said, of the ninety women present at the meeting ninety-five percent wanted to have a child but, were unsure how to achieve this goal. In 1972, Forster attended a national conference of the Campaign for Homosexual Equality, which was primarily men. At the meeting she stood up and stated their problem. Many of the gay men present (about fifty) said that they would like to be donors laughingly responding, “what a terrific idea—it takes all the guilt out of masturbation.”634 She said that the men supported one another in the process as questions about how often to donate, what steps did you take prior, and what to do if you had an infection arose. Apparently, twenty men from the same group agreed the following year to be donors when asked at the next meeting. “We knew enough men who wanted to be donors to set up our own self-help AID groups. These men and women got together, picked their donors, and went ahead,” said Forster.635 Sappho would go on to help found a gay rights group for mothers, Action for Lesbian Parents and Forster and her co-author, Gillian Hanscombe would go on to publish Rocking the Cradle; Lesbian Mothers: A Challenge in Family Living in 1982.636

For lesbian women in the late 1970s and early 1980s, working with gay men to achieve parenthood also offered two additional advantages. Firstly, for lesbians who had concerns about heterosexual donors making a case for custody or parental rights, using gay donors provided the choice of anonymity brokered by a go-between they trusted as well as the removal of a judicial lever against lesbian mothers (their homosexuality) from the picture—which as discussed earlier this chapter often resulted in negative rulings.

635 Ibid.
against mothers. The Lesbian Information Project drove home the stakes of anonymity in artificial insemination to its readers in 1979.

Anonymity is not an issue of paranoia—it is very important. The security of all lesbians deciding to have children, now and in the future, is involved. The possibility of a donor knowing that your child has half his genes and wanting to be the father to that child is just one risk. Another is having the child taken away from you, based on being declared unfit, poor, lesbian etc. We have also heard of a case before the New Jersey courts in which a woman (single) was ordered to allow her child to be visited by an anonymous donor who was able to prove parentage! She had received AI from a doctor. The donor somehow found out about her.\(^637\)

By operating outside of clinical spaces and choosing gay men as donors, anonymity could be protected and controlled within their community thought many lesbians. However, this arrangement also provided the opportunity for individual women to shape the level of anonymity they desired for their own families selectively. “The advantage we have as lesbians choosing gay men as donor is the possibility of remaining anonymous to them while still knowing their names and more. It is possible to have the child not only know the name of the father, but also to meet him when the child is old enough to make that choice. Many lesbians don’t want that. But for those who do, it is important to know that it may be possible to have whatever information you want.”\(^638\) And particularly for women who practiced insemination at home, they could, and did, expand the limits of acceptable knowledge about donors beyond mere identity to include a vast array of characteristics, hereditary and otherwise.

Women who used known donors or a go-between/liaison therefore formulated new boundaries of choice. For the vast majority of straight couples who used donor insemination in clinics in the late 1970s and early 1980s, the “choice” of donor traits was

\(^{637}\) Artificial Insemination: An Alternative Conception for the Lesbian and Gay Community, 10.

\(^{638}\) Ibid.
in many ways a fait accompli. The physician chose an anonymous donor (not the patients) who most closely resembled the putative social father-to-be. Lesbians (and single women more generally) were not bound by such considerations. Their own personal wishes, ideas of health and heredity, and visions of valuable masculinity or female beauty became the fulcrum for making choices about donor characteristics. “You will choose who your donor(s) will be,” reminded the pamphlet *Artificial Insemination* in 1979 and, “this choice should be based on substantial information.” Readers of the guide were given a sample medical questionnaire to give to potential donors (see Template, p. 344) and strongly encouraged to supplement its basic questions about family medical history and use of drugs like LSD and “grass” with:

[The] color of hair, eyes, height, weight, condition of eyes and teeth...race, ethnic background, religion, and any conditions you would like to agree upon (such as his name, a picture, and if the child can know who he is, etc.)...You can even arrange that an annual address be sent to a friend so that the child will be able to locate him at some later date.

It is not that the idea of asking a donor these questions about physical characteristics and familial health was new, as discussed in earlier chapters physicians had been considering (and arguing about the importance of) such factors since donor insemination began to be more widely used in the 1930s. What was new was that the mother(s) to-be were crafting such questions *themselves* and were the ones in possession of these facts rather than their physicians or cryobanks. As artificial insemination began to emerge in new institutional spaces for lesbians, many of these tenets of choice, travelled with them—transforming the practice of artificial insemination once again.

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639 Ibid.
640 Ibid.
Many of the texts that were published to educate lesbian women and their gay male collaborators combat inflammatory and homophobic coverage about the method that was being published in the general press. Authors like Jill and Jack saw these messages as a “grave threat to us gay people who want to have children in as secure and private and atmosphere as any straight person has.” And in particular, the veiled calls for legislative regulation, which would exclude single women, lesbians, and gay men from taking part in artificial insemination. An important aspect of this protection that these sources attest to was not only to operate outside of standard fertility clinics and sperm banks but also the need to create a more safe institutional space for women, and particularly lesbian women, and interested gay men/donors to collectively contemplate, educate their communities about, and practice artificial insemination.

*Alternative Insemination and the Feminist Health Clinic*

By the early 1980s three feminist health clinics began to create specific programs to address the needs of women who could not access artificial insemination services at the majority of fertility clinics and existing cryobanks. At the vanguard of these efforts was the Feminist Health Collective in Oakland California (which founded their own sperm bank in 1982), the Vermont Women's Health Center in Burlington, VT (that had offered AI to lesbians since 1974, using sperm from a bank in NY), and the Fenway Community Health Center’s Alternative Insemination Program (1983). The latter was unique because it was the first *at-home* artificial insemination program run by a clinic. The Fenway did not provide in-clinic inseminations until 1993. Artificial insemination was offered at other feminist health centers, like the Feminist Women’s Health Center in

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Los Angeles where the nurse discussed at the beginning of this chapter (who unsuccessfully pursued AI for four years) finally was able to accomplish her insemination goal in 1980 after purchasing sperm at the Southern California Cryobank in Los Angeles. 642 However, the health centers in Oakland, Burlington, and Boston had artificial insemination programs whose particular goal was to address the need for AI services for lesbians and single women rather than heterosexual couples. 643

The Task Force on Alternative Insemination at Fenway’s Community Health Center is one example of the internal feminist politics of these organizations, the perceived health needs of an urban population of women, and the social and medical concerns that shaped how and why these non-profit entities and feminist health clinics began to offer insemination services to single and lesbian women. The Task Force members met bi-weekly for five months in 1983 gathering and considering information from their local community, ethicists, psychologists, theologians, Women’s Health Committee Members, other health centers providing AI, and from fifteen sperm donor banks. To help start the program, the legal and medical consultants donated their time for information sessions with potential mothers and the Task Force members personally donated money so that a coordinator could be hired for the program. Such pro bono behavior was not unique to the Insemination Task Force. Efforts to keep costs low for patients and volunteerism were hallmarks of many clinics in the feminist health movement and part of the philosophies of participatory democracy and sisterhood that

642 Fleming, 49. Note: this may well have been the collective endeavor of two L.A. based feminist clinics, Herself Health Clinic and the Westside Women’s Clinic who began to be interested in pooling their resources to offer insemination services as early as 1977. See Jeanne Cordova, “Cutting the Patriarchal Umbilical Cord,” Lesbian Tide, February 1977: 15.
643 Note: The Fenway clinic did provide AI services to a special class of heterosexual couples however, those who could not afford services at other clinics.
drove the movement.\textsuperscript{644} In Boston, there were no infertility clinics (either private or university affiliated), infertility specialists in private practice, or gynecologists or family doctors who wished to provide AID to unmarried women. The Task Force reported that a few private practitioners would occasionally perform such a service but they “cannot and are not willing to accommodate large numbers of clients” noted task force members.\textsuperscript{645}

The only other practice that was considering offering AID to single women (on a small scale) in 1983 was The Cambridge Nurse-Midwife Associates.

The Fenway Community Health Clinic (FCHC) had a clear mission to meet the underserved health needs of the lesbian and gay community in Boston. It was well into the process of expanding from its early roots as a community health center that offered after-school activities to adolescents and rat control education—to a medical center dedicated to health education, mental health services, screening and treatment for sexually transmitted disease, elderly health, gay health, and women’s and lesbian health. The latter became increasingly more important after the Fenway absorbed many of the patients and goals of the Cambridge Women’s Health Collective when it closed in 1981.\textsuperscript{646} In fact, under its first director Jane Schartz, PA, the alternative insemination program itself was begun in an effort to provide more services to women and bring more women into a clinic that, as it came to be the one of the leading community health care centers for AIDS research and care in New England and nationally over the course of the

\textsuperscript{644} Into Our Own Hands, 96.
\textsuperscript{646} Thomas Martorelli, For People, Not for Profit: A History of Fenway Health’s First Forty Years, (AuthorHouse, 2012), 92, 94.
1980s, had services that were, as staff member Liz Coolidge put it, “heavily weighted toward men.”

When the goals of women’s health and LGBTQ health met in the alternative insemination program, they emerged in the language of the feminist, gay, and human rights movements. Beginning with a very broad interpretation of societal good Task Force members argued that alternative insemination was inherently moral since it would “contribute to human well-being” and be a positive ethical force by providing lesbians the possibility of pregnancy. They went on to state that, “It is politically important that lesbians should have the same reproductive freedom and opportunity as heterosexually active women. FCHC is a central force in Boston’s gay and lesbian community, and it is appropriate that we take a stand on this issue.” In keeping with these ideals of reproductive freedom, they gave patients more autonomy and power in their interactions with health care providers, than was usually the case at traditional fertility clinics. For instance, although FCHC members tried to give information to clients as to why if they had alcoholism, abused drugs, or were habitual smokers having children might not be the best idea they did not want to be the arbiters of who could or could not become a parent. In the words of the Task Force “we are very uncomfortable setting ourselves up to decide who should and who should not have a child, since these sorts of decisions have been made against lesbians in the past.” Instead, they chose to institute a comprehensive educational component to their services, a hallmark of many feminist health endeavors. Education was an important part of their broader healthcare practice and feminist agenda

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647 Ibid, 98.
649 Ibid.
650 Ibid, 8.
thus, the FCHC actively offered ongoing support groups to women who chose AID as well as to their own staff about the medical and societal issues raised by the practice. Furthermore, even though as they began their project there was no test available for AIDS (then known as Gay-Immune-Deficiency Disorder or GRID) the Fenway continued to consider the needs of gay men interested in donating and co-parenting with lesbians or single women as they shaped their program in 1983. Six months after the intentionally “modest” beginning of the program in 1983, the initial plan was for the clinic to offer sperm analysis, venereal disease checks, and blood typing for gay men, or women who brought in their own donors. From the start of the program however, women who wanted frozen and/or anonymous sperm, were offered 2 catalogs of frozen sperm to choose from (at approximately $150 per cycle for three insemination samples) from a bank that shared its feminist politics, the Sperm Bank of the Oakland Feminist Women’s Health Center and then, if unavailable, from the large New York based sperm bank Idant. If there continued to be interest the task force also had plans to offer fathering and co-parenting groups as an ancillary part of the alternative insemination program.

However, it seems that by the end of 1983, the active recruitment of gay donors, although perhaps not gay co-parents, had slowed if not ceased at Fenway. In an educational forum for women moderated by people affiliated with the Fenway and sponsored by the Boston Lesbian and Gay Political Alliance in Boston, participants were told that insemination centers were classifying men who had many sexual partners and IV drug users as “not good candidates to give semen.” In addition, they noted that some insemination centers had begun to ask men to rate themselves for AIDS risk—which with Fenway’s large gay

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651 Ibid, 6.
652 Ibid.
male community and emerging status as a cutting edge center for AIDS treatment and research—would have included many of the potential donor candidates. If high, the forum members reported, men were voluntarily dropping out of insemination programs.\(^{653}\)

As discussed in the prior chapter, after about 1982 as information and fears about AIDS became heightened, donor insemination would primarily move back into sperm banks. Yet, the affinity that had been established between many lesbian women and gay men did not completely fray. For instance, when one couple of twelve years, Beth and Michele, began to try to achieve a pregnancy in the 1985 or 1986 they were very concerned about AIDS as they considered a gay friend as a potential donor. Michele said, “at the time my gay donor had been essentially monogamous for two or three years. It wasn’t known how long it took for the (HIV) virus to break down in the immune system, and they didn’t have a test then. Now I’d never do it without a test. I wouldn’t do it with a straight man without a test either, but at the time I wasn’t thinking of AIDS in terms of the heterosexual community too.”\(^{654}\) They ended up working with a gay male couple, and each had a child from one father. However, by 1995 the willingness to take a risk seemed to have passed. The incredibly rapid spread of AIDS produced fear worldwide and in the U.S. was a catalyst for standardizing sperm banking procedures. From the 225 cases of AIDS in 1981 to 1,400 in 1983, there were 15,000 in 1985 and 40,000 cases nationwide in 1987.\(^{655}\) In *The Lesbian Parenting Book: A Guide to Creating Families and Raising Children*, authors D. Clunis and G. Green could


forthrightly say “Before the advent of AIDS most lesbians used semen donated by gay and bisexual men. Now, the prevalence of AIDS makes it potentially very dangerous to use semen from gay, bisexual and heterosexual men with unknown or unsafe sex histories.”  

The Fenway Alternative Insemination Program and the other feminist insemination services did not open without protest from opponents. Despite the fact that the Fenway Alternative Insemination Program strategically advertised the new service only by word of mouth and in gay and lesbian publications, word still reached the mainstream press. The Fenway clinic received threatening letters from groups like the Coalition for Human Fitness in Oklahoma who wrote, “this is wrong, God doesn’t want this to happen.” Hostility to Fenway services was nothing new however, staff members noted. The same conservatives who picketed their abortion clinics (making bomb threats, throwing eggs and tomatoes and breaking windows) were the ones protesting against the new insemination service. Staff members said, “Frankly we'd get worried if we started doing something and there was no opposition to it.”  

Women who used these first LGBTQ centered insemination services, rather than their own donors or a regular fertility clinic, did so not only because of the easy access to sperm donations but because they felt good about the politics of these establishments and about being honest about their goals as women, feminists, and lesbian parents. When Pat Parker and her lover Marty began to consider insemination in Oakland, CA in 1982 they felt themselves lucky that the Oakland Feminist Women’s Health Center had started the Northern California Sperm Bank, which had a donor insemination program. They could

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register, go to the orientation program, go to the sperm bank together as a couple, screen the donor catalog, and pick a donor. Pat could be present at Marty’s insemination or do it herself. Although Pat erroneously recalled that the clinic could screen for AIDS (there was no test available at the time) the health screening itself (and past medical history) was one of the most important reasons they considered the bank. Second, they wanted a donor as near as possible to Pat’s physical characteristics. “The combination of feminism with modern technology is awesome…It simply seemed the best way to accomplish our goal”, enthused Pat.  

**III. Cataloging a New Commodity: Race, Sexuality, and the Commodification of Sperm Donation**

Ideas about the race and ethnicity of donors functioned differently at these first banks partially, because of the diverse status of the lesbian couples and the largely urban populations seeking their services. At the Oakland Feminist Women’s Health Center organizers wanted *more* choices about the racial background of their donors. One member of the bank pointed out, “most sperm bank donors are blond-haired, blue eyed – Aryan. So what happens with the mixed couple that is infertile? They have no place to go. We are going to have such a wide range that women will really have a choice. The information which will be entered in the donor catalog will include height, weight, race, hair color and texture, eye color, sexual preferences, the occupation of each donor and educational background.”

The Oakland center did not only want to expand the racial and ethnic background of its donors, but their class background as well. Echoing a growing anti-physician ethos in the feminist movement more broadly, at this bank they

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moved beyond the unspoken standard source of donations at many clinics in the U.S.—medical students, doctors, and other medical professionals. As one reporter noted, “other sperm banks go into medical schools and get the sperm of students or residents.” But, the OFWHC did not do so because they believed that one’s occupational background said more about a donor’s class than about his hereditary qualities.

We do not believe that the sperm of a garbage man is qualitatively any different from the sperm of a doctor, so we are not going to do that. (Nor are we going to) pay attention to information about IQ if you believe that that has a lot more to do with opportunity and environment than genetic origin, it's irrelevant.660 Paradoxically, even though the Oakland Sperm Bank’s mission was to simultaneously dismiss claims about things like IQ testing proving hereditary worth, by offering a broader catalogued array of donor samples, catalogs that they hoped would enable their diverse clientele to step away from eugenic visions of donors—in the long run, their strategy backfired.

Consumer donor catalogs (as opposed to donor catalogs for physicians) with their categories of hereditary traits had begun as part of the home insemination movement. In the context of the latter, they were often used with known (unpaid) donors to purposefully create conception by “gifting” a donation (and, symbolically, a child) outside of the medical market. This relationship was intentionally performed outside of the bounds of the market—a market that lesbians and many single women saw as full of homophobic, sexist practitioners, high costs, and restricted access. Serving many of the same patient-consumers, the first artificial insemination programs and sperm banks for lesbian and single women adopted the same method of donor selection that women had used outside of clinics with their friends and “go-betweens.” Thus, a practice that had

660 Ibid.
begun with the intent of removing sperm from commodification and medicalization actually became the basis for its commercialization as became institutionalized. Lesbian women and single women wanted *choices* about the sperm they used to create families and this desire in turn, allowed not only the creation of a revolutionary model for a commodity market but also allowed the assignation of value within the market to be based on popular (and consumer) ideas about heredity. Similarly the Repository for German Choice, colloquially known as the Nobel Prize or Genius Sperm Bank, would also champion a neo-eugenic model for artificial insemination.\(^{661}\) As will be discussed in greater detail in the next section on regulation, more broadly, markets and choice as the logics by which biopolitics progresses were gaining in power under the banner of neo-liberalism. Financial banks and sperm banks therefore, were swept up in so-called, Reaganomics\(^ {662}\) the move toward free trade and open markets, deregulation and privatization. In contrast, fertility clinics and sperm banks that continued to serve primarily married heterosexual couples maintained physician control over donor identity and trait selection, keeping the “traditional” fertility market as a proto- or immature-market. I argue, in some ways this was because heterosexual couples were trying to create a simulacrum of a husband and symbolically recreate a relationship to said husband rather than a biological commodity. Why would couples protest over a

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\(^{662}\) The four pillars of Reagan’s economic policy were to reduce the growth of government spending, reduce federal income tax, control money supply to reduce inflation, and most importantly to the history of artificial insemination, to reduce government regulation.
physician finding a donor that physically resembled the husband? However, the business model of consumer sperm choice did not stay within the confines of feminist health clinics for long, and unsurprisingly, when The Repository for Germinal Choice emerged under the direction of Robert Graham and William Muller, it did so with eugenic or rather, neo-eugenic ideals at its heart.

The Repository for Germinal Choice (RGC) had it had its roots in the early 1960s. It was the brainchild of Robert Graham, the millionaire inventor of the shatterproof eyeglass lens and Herman Muller, Nobel Prize winning geneticist and author of *Out of the Night: A Biologists Vision of the Future*. Together they agreed to establish a sperm bank for “outstanding individuals.” Thus, the eugenic ideas of the 1930s found a home in a new time but with some of the same people. They planned to store the sperm of brilliant donors at Caltech, and gathered a distinguished advisory board to help them with the endeavor. It was comprised of such luminaries as psychologist Raymond Cattell, ecologist Garrett Harden, and Dr. Jerome Sherman who had with Raymond Bunge produced the first babies using frozen sperm at the University of Iowa a decade earlier. However, the bank became deadlocked because of contrasting aims. As Slate journalist and book author David Plotz pointed out, Muller wanted donors who were brilliant to work towards an egalitarian society while Graham, an elitist and conservative, wanted to breed brilliant men “to rule over the bovine masses.”

Plans were put on hold until long after 1965, when Muller died and until Graham retired from and then sold his company, Armorlite, for $70 million.

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Hiring away a young lab technician, Stephen Broder from the famous fertility clinic where oligospermic men went for the frozen pooling method of AI, The Tyler Clinic in Los Angeles, Graham set up shop in his California Escondido estate in 1976. He began to recruit Nobel Science laureates to donate their sperm, and would either travel to their homes or fly the donor to a motel in San Diego to secure their samples before freezing them and storing them in his basement. The Repository for Germinal Choice hit the front sheets of newspapers across the nation and globe in 1980. Ironically, although the Nobel name stuck, the recruitment and use of Nobel Prize winning donors did not. Throughout much of the 1980s Graham gathered samples from a new sort of donor, one that matched the ideal vision of masculinity at the time, a self-made businessman. Furthermore, the donations from the first three and only Nobel Prize donors, never produced a pregnancy.\(^{664}\)

The Genius Bank and alternative insemination banks were leaders in the turn towards a wholly consumer choice driven model for artificial insemination. They emerged almost simultaneously, albeit driven by radically different agendas and diverse consumers. For lesbians, the idea of personally selecting a donor emerged from the rhetoric and worlds of the gay rights movement, the feminist movement, and the battle for reproductive rights. In contrast, the Genius sperm bank developed under the aegis of Robert Graham—a successful businessman who knew how to please his customers. After 1980, his project was touched by several controversies causing Graham to need to expand from his intended consumer base (Mensa mothers) in order to keep the bank viable. First, the project was denigrated in the press for its association with the brilliant, but notoriously racist eugenicist William Shockley. Then, when the first Germinal Choice

\(^{664}\textit{Ibid}, 101.$
baby was born to Victoria Kowalski in April 1982 it was discovered that she was a convicted child abuser and that they had served time in a federal prison for identity theft and bank fraud. Another Germinal Choice mother, Afton Blake, followed this news by announcing her unmarried status to the press, a status that bank staff vehemently denied knowledge of.665 In a more mundane business, like an eyeglass company, when the company came under fire the normal response would be to run triage on the scandals, by publically restructuring the company to avoid future structural errors (like the selling of a product to inappropriate customers) and if particularly ruthless, to attack the perceived value of competitors products. Whether instructed by Shockley or not, it was the latter that occurred when in 1983 a Germinal Choice employee told the magazine Mother Jones that if clients wanted "defective" sperm and babies they should "go to Oakland." The result was that in November 1983 the Oakland Feminist Women's Health Center launched a $3-million suit against the Bank for Germinal Choice.666 Even other cryobanks felt the backlash from the news coverage of Graham’s bank. Chicago Cryo bank president Morris winced when asked about Robert Graham’s bank saying, “The publicity we got from Graham is not the kind we want. We are not trying to create a special race.”667

Feeling the strain of these scandals and having lost its only other Nobel Prize donors (two) in the fallout from the Shockley debacle, the bank both expanded the kind of donors that it recruited and began treating any married woman with an infertile husband who applied. According to Slate editor Plotz, Graham listened to this new group

666 Ibid.
of women and realized that intellect was not the primary characteristic they were looking for—they wanted successful men yes, but more importantly they were looking for young, tall, and handsome men. By the mid-1980s women who contacted the Genius Bank could choose from a catalog of donors, color-coded for anonymity, but with very basic information about the donor (ancestry, eye color, skin, hair, height, weight, health, birth decade, and blood type), his profession, character, and family. The repository catalog would be mailed to donors, sometimes a photo would be shown as well, and then they would purchase their own liquid-nitrogen tank and often pick up the chosen donor samples themselves. One mother, a nurse who used the repository in 1988 did so because this was the only bank that would tell her the donor’s health history—and she desperately wanted a healthy baby—not a genius baby. As a health professional she was particularly swayed to use the bank by learning that the donor she used had passed blood tests for major illnesses and that his family health history was free from mental illness and cancer. Furthermore, because the office manager knew some of the donors personally, she could learn small personal facts about the donor, from his penchant for poetry to the number of children (12) that he had engendered through the bank. This was despite the fact that the bank had a confidentiality contract that patients agreed to.

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670 The RGC was also unique in that it allowed some loose contact between donors and the children produced with their sperm. It was one step toward the “known donor” concept used so often today, but oddly enough it functioned primarily to allow the donors some knowledge of the children, rather than the children some knowledge of the donor! Using his position as a columnist to invite people to share their stories about the bank, David Plotz was able to gather a few such oral histories from donors. One, a “Donor White,” was given photos of the children, passed on via the bank from happy parents, and even able to meet one of his biological daughters, when she was left at age 2 for the purpose of the meeting, with one of the secretaries at the bank. It was also part of a small cadre of frozen sperm providers, including Alfred Finegold and feminist health clinics, that allowed couples to inseminate themselves at-home. They would provide a lesson in the office, a mirror, a Pederson vaginal speculum, a Makler insemination cannula, and a syringe. Source: Plotz, *The Genius Factory*, 169 and Alfred Finegold, *Artificial Insemination with Husband Sperm*, (Springfield II: Charles C. Thomas, 1980).
Graham’s catalog was haphazardly prepared, there were spelling errors and other mistakes throughout, but with the publicity (both good and bad) he had customers. By 1984, more than one thousand women had applied to the bank for sperm.\(^{671}\) It is unclear exactly when Graham began releasing his catalog to women consumers, but without a doubt by 1984 the Repository for Germinal Choice offered women (and their husbands) a donor catalog. In its pages, donors were labeled by color and number (i.e. Donor White #6) and were briefly described. For instance, Donor Turquoise #38 had brown hair, blue eyes, and was “a top science professor at a major university” who was also “a professional musician.”\(^{672}\) Or Donor Yellow/Brown #22 was described as a great scientist who was also dedicated to mountaineering. By the late 1980s, those interested in the bank’s services could ask for an application and a copy of the donor catalog by mail.\(^{673}\)

**IV. Regulation and the Politics of Reproductive Choice**

In this final section I turn to the forces and actors that shaped the regulatory landscape of artificial insemination, and most especially sperm banking. After a brief history of the first attempts at regulating sperm donation in the mid-twentieth century, this section focuses on the strange bedfellows of lesbians and single women, neo-liberal politicians, and heterosexual users of germ cells (often in combination with other new reproductive technologies) that gave the logic of choice, in a market context, immense power over abstaining from regulation. The rampant privatization of sperm banking in a deregulated or rather, *never* regulated business would be the ultimate result.

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\(^{672}\) *Ibid*, 10, 65.

\(^{673}\) *Ibid*, 76.
The first recorded regulation on the sale and use of donor semen emerged only when insemination moved outside of medical supervision. As mentioned in the third chapter, in 1947 gynecologists in NY were shocked when they received a circular advertisement from a student and a cohort of his willing male acquaintances who offered their semen to physicians. The advertisement stated that product would be from “professional donors” who met the individual specifications required for each patient. Even though this was a confidential service which promised “active specimens” to be delivered daily, physicians were apparently concerned that this “semen bank” posed a threat to public health. Without medical testing, the sperm bank could be a source for the spread of venereal disease opined Dr. Weisman. The budding enterprise was reported to the Department of Health of the City of New York and on June 4th of that year the Board of Health passed a resolution to restrict the collection, selling, or gifting of seminal fluid for artificial insemination by anyone but a licensed physician of the State of NY. New York City shortly expanded to govern the testing of the health of the donor, the use of Rh Negative donors for Rh Negative recipients, and mandated the keeping of records for insemination.

Ironically, the very restriction of the selling of seminal fluid partially opened the door to a different kind of distribution. Rather than a “bank,” this new means of securing donor specimens under the supervision of a gynecologist, created the “donor bureau,” the institution that would be the predominant model for semen distribution until the 1980s. A donor bureau consisted of a gynecologist who maintained a “donor pool” to which other physicians seeking semen samples could apply. Usually doctors would contact a donor bureau when they needed a particular type of donor or because of lack of willing

donors. The inseminating physician sent the “bureau” gynecologist workup data on the husband and then they gynecologist chose a donor that seemed to fit the description of the husband and then paid them for their donation. The physician performing the insemination did not meet the donor or the gynecologist offering the donor pool services.675

This kind of organization, a donor bureau, would persist until the mid-1980s as new pressures made by the burgeoning IVF industry, single women and lesbians, and the triumph of a consumer-oriented fertility market transformed the meaning, site, and process of artificial insemination. There would be more attempts at regulating this emerging sector again, in an attempt to regulate patient risk. The first calls for regulation after the NYC entrepreneurial episode were not about the risk of STI’s however. Rather, rapidly advancing knowledge in biomedical fields like endocrinology began to raise new questions about how the selection of donors took place. By the mid 1960s, the etiological factors that would require a donor insemination as a therapy were varied and because of this variety, leaders in the field like Sophia Kleegman, firmly advocated collaborating with other specialists on diagnoses and clinical evaluations. For instance, when a couple had had an erythroblastotic infant and requested an Rh negative donor she consulted a hematologist but, for couples with histories of genetic disease in their families, a medical geneticist was called in.676 Still, Kleegman seems to have been an outlier in her collaborative method to treating the infertile and administering donor insemination. In 1966, Kleegman noted,

675 Ibid, 122.
Although there has been a rapidly increasing use of this therapy at all levels, the entire program is still in a hit-or-miss stage. Each couple’s emotional and medical needs should be evaluated by people skilled in counseling as well as in problems of infertility and genetics. Many physicians have neither the training nor the desire to accept so great a responsibility. Others use this therapy with total unawareness of all the factors involved. It is the particular responsibility of the medical profession to take the leadership in counseling and training physicians in this specialized area.⁶⁷⁷

Sexually transmitted diseases also became a highly controversial site of risk in artificial insemination and cryopreservation. Practices of testing and of clinical history taking varied widely across the practice. Most physicians reported that they performed detailed interviews with both husband and wife to produce a clinical history. Even if, questions related to sexually transmitted diseases were primarily directed towards the husband or donor involved. Doctors would interview the husband separately and ask: Have you had gonorrhea or lues (syphilis)? Blood tests of both the husband and wife included the Wasserman test for syphilis, B.S.R, Hb.⁶⁷⁸ In the early and mid twentieth century, when AIH was more often the goal than AID, these tests on husbands within a couple experiencing infertility were usually part of the diagnostic process. Often, physicians tried to determine whether the husband was experiencing aspermia or oligospermia because of a sexually transmitted infection or because of another factor. When a donor was used in these earlier periods there were a few instances in which friends or family members of the husband (fathers, brothers etc.) were used and perhaps, for social reasons of gratefulness, the donor was not thoroughly subjected to these batteries of exams.

Dr. Schellen considered the practice of donor anonymity in the United States to be partly to blame for lax donor screening and selection procedures. He was astonished at

⁶⁷⁷ Ibid., 177.
⁶⁷⁸ Schellen, Artificial Insemination in the Human, 58-59.
this state of affairs and suspected that the donor selection procedure “was not all that it should be.” In one of the most popular and longstanding gynecological textbooks, Novak’s Textbook of Gynecology, much attention is given to the analysis of the husband’s semen and blood for a variety of diseases but none at all to a donor. In 1970, the only criterion that Novak’s listed were that the donors should be “physically fit, emotionally stable, intelligent, and free of any history of congenital hereditary defects. In addition, his semen analysis must be in the normally fertile range. Every effort should be made to match his blood group and type with that of the patient to be inseminated.”

Considering that over a third of physicians performed AID for women and couples who feared the transmission of a genetic disease (most frequently Rh-factor incompatibility (11.9%), followed by cystic fibrosis, diabetes, hemophilia, Huntington's disease, muscular dystrophy and Tay-Sachs disease) the lack of screening procedures beyond taking a “history of congenital hereditary defects” deserves further consideration. Why, when again, the freezing of sperm provided the time necessary to perform STI screening and tests for hereditary disease did most physicians not perform screens on sperm donations?

The regularity of both examinations and tests appears to have been sporadic. Some physician-critics pointed out that the method of recruiting donors itself was partially to blame. Dr. Schellen stated that even though every publication outlined and emphasized how critical the task of donor selection and health testing was, methods widely used in the first 20 years after World War II made these guidelines “meaningless.” He cited the methods of using semen from a donor pool, semen mixing, using multiple

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679 Ibid, 153.
different donor semen within one cycle, or rapid changes to different donors when unsuccessful with one, and most importantly, the widespread use of medical staff for donations.\textsuperscript{681} Dr. Schellen wondered,

> What are we to think of an occurrence like that of the inseminator’s telling the assistants and students at a staff meeting or lecture that a donor is needed who can report to him when the meeting is over? We are prepared to believe that he was in good health, had a good brain, was handsome and had beautiful eyes, but we are once again impelled to ask whether this particular young man happened to have the required qualities for that particular couple.”\textsuperscript{682}

In other words, a lackadaisical approach to finding donors produced a disregard for the recommended screening protocols. And although most physicians (96\%) reported taking a family history from donors, often it consisted of “merely asking a donor if any genetic disease existed in his family.” The internal politics of the profession also played a role in the disregard for screening. Even Schellen generally believed that another physician, assistant, or medical student was in good health and thus an appropriate donor candidate. By the late 1970s, this commonly held belief about fellow professionals resulted in a number of doctors expecting medical students and hospital residents to \textit{screen themselves} before donating semen.\textsuperscript{683} In a busy hospital setting, when donors had the incentive of payment, were often asked by their supervisor, and had many other responsibilities, the ethical and health problems of such a practice are striking. It also points to the lack of choice for couples of color, the few that were recorded as seeking services in this era, as an overwhelming percentage of physicians were Caucasian.

Other critics noted that a lack of knowledge about genetics amongst AI practitioners, largely gynecologists, general practitioners, and urologists, produced poor

\textsuperscript{681} Schellen, \textit{Artificial Insemination in the Human}, 153-54.
\textsuperscript{682} \textit{Ibid}, 154.
testing protocols. In 1979, the Lab of Genetics and Department of Gynecology and Obstetrics at the University of Wisconsin-Madison found that “Most screening was performed by physicians not trained for the task...for example 94.7 percent would reject a donor for Tay-sachs but less than 1% tested donors for the carrier state.”\textsuperscript{684} But considering that only fifty percent of physicians provided obstetric care for their inseminated patients and fewer than thirty seven percent kept records on children born after AI to follow up on the development of the children, the effects of these practices are hard to know.

Keeping the above in mind, it is not surprising that by the mid 1970s a number of women reported that they had contracted gonorrhea via AID and soon, research uncovered a high incidence of asymptomatic males who were donating both fresh and frozen sperm.\textsuperscript{685} These conversations about the transmission of sexually transmitted infections foreshadowed those that would soon transform the practice and industry of artificial insemination on the eve of the AIDS crisis. The two to three days needed to produce a lab culture of gonococci for screening of donors could only be achieved by the cryopreservation of the samples.

Many practitioners stated again and again that standards and regulations for screening for communicable and genetic diseases needed to be formulated and enforced. Dr. Sherman explicitly called for such regulations in his 1976 roundtable discussion with the National Academy of Sciences, the U.S. National Committee for the International Institute of Refrigeration, the Food and Drug Administration, and the Naval Medical

\textsuperscript{684} Ibid, 585–590.
Published in 1978, it was shortly to be followed by another large-scale survey in 1979 on the status of the practice donor insemination in the United States. This survey also noted that there were no standards for the screening of donors for both sexually transmitted diseases and genetic diseases.

All of these different protocols and lack of standards resulted in some scattered and relatively unsuccessful moves toward regulation in the 1970s. One of the first attempts in this era was made by the American Medical Association. In June 1973 the Judicial Council of the AMA began studying whether or not ethical guidelines were appropriate for the practice of artificial insemination and using frozen sperm. By the following summer they created a statement of ethical principles for artificial insemination. The AMA recommended that only a licensed physician should perform the procedure, that records relating to AI should be strictly confidential, and that “adequate physical, mental and genetic examinations [should] be made of the donor.” However, these guidelines were only recommendations, they were voluntarily followed…or not. In 1980, on the heels of research about women contracting sexually transmitted infections via artificial insemination, the Reproductive Council of the American Association of Tissue Banks (AATB) was formed. By November of that year they published their recommendations.

In 1985 The American Fertility Society still discouraged the use of frozen sperm among its member banks. Without mandatory protocols in place for the screening of

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both donors (blood) and donations (seminal fluid) many practitioners, especially in smaller practices, were slow to implement a new test for a new disease, human T-Cell lymphotrophic virus Type III, what was soon to be known as H.I.V. By the close of 1985, two articles in the Lancet and the New England Journal of Medicine would link the transmission of HTLV-III virus to artificial insemination practices. Even so, in 1986 the former president of the American Fertility Society advocated using fresh semen from donors screened by physicians. Commercial banks were not to be trusted he said, physicians needed to maintain control over the selection of donors. The use of fresh semen provided the means of control. Physicians could choose the donor and the method of screening, which patients were acceptable ones, how the insemination procedure would occur, all without leaving a paper trail of insurance claims, semen purchase records, or donor records. In contrast, by 1985 there was a federal mandate in place requiring blood banks to test blood donors for HIV.

Finally, in 1986 the American Fertility Society issued revised guidelines for physicians practicing artificial insemination by donor. They recommended a careful evaluation of the woman to be inseminated, including tests for antibodies to HIV and cytomegalovirus (CMV). Sperm donors too, were to be more strictly monitored—both for the indicators of their fertility and with blood testing for indications of syphilis, hepatitis B, gonorrhea, chlamydia, CMV, and HIV infection. Donors were to submit to blood testing at six-month intervals. However, these guidelines still referenced largely fresh semen donations. Fresh donations were still permitted under the 1986 guidelines as

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long as “proper attention [was] given to identifying donors at higher than average risk for HIV infection.” At this moment in the AIDS crisis, this was code for identifying donors who had sex with men. Nevertheless, reports of disease transmission through donated semen continued to accumulate, and in late 1986 and early 1987, transmission of acute viral hepatitis B resulting from artificial insemination was also reported. Two retrospective studies identified six HIV-1 transmissions via donor insemination in the United States prior to 1986. Since these studies only polled a limited number of banks, there were undoubtedly more.

It would take another year for the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration and the American Fertility Society to align their recommended policies and advise, but not require, the use of frozen sperm for inseminations. Frozen semen should be used, all three organization stated, following a minimum 6-month quarantine and after the donor had been retested and found once again to be seronegative to HIV. These revised guidelines emerged on the heels of the first

694 In the first study, six semen donors who donated at a New York City artificial insemination clinic were found to be HIV positive. A total of 176 women underwent artificial insemination with fresh semen from these six donors between 1978 and mid-1985. Of these 176 women, 1 was found to be seropositive. In the second study, five infertility clinics were contacted with a totally number of 230 women who were inseminated with semen from five identified HIV-infected donors. Eighty-seven percent of these women agreed to be tested, and seven were found to be HIV-seropositive. The researchers recommended that public health policies require retrospective identification of HIV-infected semen donors and patients who received AI prior to 1986. MA Chiasson, RL Stoneburner, SC Joseph, “Human immunodeficiency virus transmission through artificial insemination,” J AIDS, 3 (1990): 69-72. MR Araneta, L. Mascola, A. Eller, L. O’Neil, MM Ginsberg, M. Bursaw, J. Marik, S. Friedman, CA Sims, ML Rekart, “HIV transmission through donor artificial insemination,” JAMA, March, 273, 11, (1995): 854-8.
large-scale government investigation of artificial insemination. In 1987 the U.S. Office of Technology Assessment launched a monumental survey of the more than 11,000 doctors performing artificial insemination. At this point an estimated 35,000 babies/year were being born via AIH and 30,000 via donor insemination. Investigators found that one-third of all physicians practicing exclusively used fresh sperm for AIH and AID and only one in four used frozen semen exclusively. That seventy-eight percent of these practitioners reported testing for HIV suggests at least an awareness of the emerging guidelines about disease transmission.

The decision to implement a six-month quarantine proved to be the one of the pivotal moments in the establishment of the modern commercial sperm bank. Over the course of the next decade, the number of sperm donation programs dropped as the commercial market took off. The tipping point for physicians was the continuing monitoring of donors. They simply did not have the infrastructure and staff to follow up with additional testing on donors for six months, while also attending to the storage, the freezing, the thawing, and the post-thawing semen analyses. Rather, they directed their energies towards the selection of patients and the insemination procedure itself. Rising technology costs were also a factor. In 1980, one newspaper estimated that the “stainless steel cauldron” that held hundreds of samples for a Chicago commercial sperm bank cost $4,000. Cynthia Daniels and Janet Golden have shown that between 1989 and 2001...

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the number of programs offering sperm donation services fell from 139 to 28. And of these, five began to corner the market, offering markedly larger selections of donors.\footnote{Cynthia Daniels and Janet Golden, “Procreative Compounds: Popular Eugenics, Artificial Insemination and the Rise of the American Sperm Banking Industry,” \textit{Journal of Social History} 38, no. 1 (August 26, 2004): 15-16.}

What is more interesting perhaps, are the views of physicians, patients, and donors in this moment about future regulations for screening and control over “artificial reproduction” by a federal body. Given the extent of fear about HIV transmission in American culture in the late 1980s most physicians favored the establishment of national standards for donor screening by sperm banks (80 percent). In contrast, private physicians (often with fewer resources for screening) were less keen on standards (68 percent). Clinic staff and donors favored federal control of the burgeoning market for artificial insemination at thirty-nine percent and thirty-one percent respectively, to a much greater extent than recipients/patients (15 percent). This disparity, and low support more generally, says less about the perception of STI risk among these communities and more about the continuing fear of the secrecy around AI being breached as well as to qualms about federal oversight potentially limiting access to the technology. Little support was expressed by any of these groups for a central registry of all children conceived by AID (3 percent of recipients, 16 to 19 percent of staff and donors), or a registry of donors (12 to 30 percent). Patients and staff did favor limiting the number of children born to a donor (37 to 58 percent), as well as limiting payment to expenses only (44 to 55 percent). Twenty-two percent of donors favored these two suggestions.\footnote{A. Walker, S. Gregson, and E. McLaughlin. “6 Attitudes Towards Donor Insemination - A Post-Wamock Survey,” \textit{Human Reproduction} 2: 745-7S0, 1987.} The lack of overwhelming support for regulatory mechanisms is perhaps what caused the quiet shelving of Al Gore’s 1988 Senate Proposal for a National Donor Registry and
Regulation. It does not appear to have been brought before the floor of the Senate although, Al Gore was in charge of its drafting. There were some indirect moves towards regulation however. The very same year, 1988, the American Fertility Society changed its stance on cryopreserved semen and revised its guidelines for donor insemination stating, “the use of fresh semen is no longer warranted.” Finally, clinical laboratory services were targeted for legislation with the goal of mandating uniform minimum standards of practice with the “Clinical Laboratory Improvement Act of 1988 (CLIA88).”

Fears of disease transmission via artificial insemination were not enough to spur direct legislative action on the sector. The women’s health movement was beginning to lose steam by the late 1980s and early 1990s and, as discussed earlier this chapter, women’s health activists and lesbians who practiced “self-insemination” outside of clinics often with the help of gay male friends, turned back towards using artificial insemination in a clinical context to access HIV testing of semen samples. It would take the additional weight of a social trigger rather than an epidemiological one for legislative action to regulate artificial insemination. This trigger did not occur until 1991. The case of Dr. Cecil Jacobson, known as “the sperminator” in the popular press, riveted the public and revealed the limits of the ability of the medical profession to self-regulate, finally spurring the first federal regulations. Dr. Jacobson, a well-known contributor to medical journals, practiced for more than 25 years at his Reproductive Genetics Center, Ltd. located right off the beltway around Washington, DC. A specialist in medical genetics

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701 Note: Clinical laboratories had been accredited prior by other agencies (not Federal though) and laboratories that transported clinical materials across state borders were regulated in an earlier act (CLIA67).
who was one of the first physicians to use amniocentesis in America he counseled couples to avoid genetic defects in their offspring with donor insemination as well as those struggling with infertility. However, in 1991 news broke that he had fathered as many as seventy-five children with his own sperm via artificial insemination in his northern Virginia infertility practice. Fifty five year old Jacobson was not contrite. He said that couples only wanted healthy children and he knew his sperm was healthy having fathered eight children with his wife. He stated that he had been spurred to donate his own fresh sperm, unbeknownst to his patients who thought he used a donor bank, because fresh sperm became so suspect during the mid-1980s AIDS crisis and frozen sperm was less effective. His sperm was safe, he told reporters, since he had been faithful during his 35 years of marriage. Brought to federal court in Alexandria, Utah native Jacobson was convicted of 53 felonies—for fraud and perjury. Witnesses, whose anonymity was heavily guarded, said that Johnson had told them he had found a donor who looked like their husband. However, the heavy, jowled Jacobson looked very little like witness number one’s slim, dark haired, Italian husband or witness number two’s husband, who had no obesity in his family. When testifying, women also reported that they had been assured that donor sperm she would be receiving during her insemination was only used with two or three other women…an estimated seventy-five children later from Jacobson proved this to be incorrect. Even more disturbing was the report from one couple who testified that Dr. Jacobson had told them that he was using a new technique to enable the wife to get pregnant with her husbands sperm—DNA tests indicated that the couples two

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702 Note: some of these children were siblings.
children were fathered by the doctor.\textsuperscript{704} Other eerie and heartrending stories from the fifteen couples that bravely testified captured the attention of readers. One mother’s testimony revealed that she had taken her daughter to Dr. Jacobson, half a year after her birth, to proudly show him the result of her donor insemination attempt. She said, “He must have known that was his child, it must have been so peculiar. And that just makes my skin crawl.”\textsuperscript{705}

\textbf{Photo of Cecil B Jacobson outside U.S. District Court in Alexandria.}\textsuperscript{706}

For the larger history of insemination in America, this story was pivotal in that the news coverage highlighted the lack of regulation for physicians in fertility medicine. Prosecutors could not charge the physician for donating his own sperm to his unwitting patients, as there was no law against it. As Attorney for the Eastern District of Virginia, Richard Cullen stated, “it was an unusual case, and we were faced with a situation where

there was no precedent.” Instead, they convicted him for telephone and mail fraud, travel fraud (some patients crossed state lines to reach his clinic), and perjury for testimony he had given to the Federal Trade Commission in a 1988 civil suit against him for injecting women with hormone treatments that produced “false positive” pregnancy test results. His medical license was suspended by the Virginia Board of Medicine for the latter and he served five years in prison, three years of probation, and was fined over one hundred thousand dollars in restitution for the “extreme psychological injury” he had caused families.

The proximity of the center to D.C. and its effects on the D.C. community undoubtedly affected legislator’s quick response to this scandal. Newspapers salaciously reported that at least seven of the children fathered were just entering school age in the Washington DC area. Three bodies stepped in to issue standards and guidelines for regulation to varying degrees—The American Society of Reproductive Medicine (ASRM), the Food and Drug Association (FDA), and the American Association of Tissue Banks (AATB). The American Society of Reproductive Medicine released its guidelines for gamete donation in 1990 revised again in 1993. The response of the F.D.A. was neither swift nor terribly effective. In 1993 they released interim regulations for human “body” banks but reproductive cells were excluded from the regulation. In 1995, they proposed to included sperm and eggs in their regulation. This proposal would have

707 Ibid.


moved banking from a largely unregulated, peer review system with voluntary participation in guidelines to a federally regulated one. This would have meant that sperm banks had been required to register with the FDA, screened donors for agreed upon risk factors, and potentially traced how many samples were used and importantly, how effectively. However, the power of people pursuing pregnancy on an open market delayed the implementation of the federal oversight until 2004. Some never took effect.

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After the mid-1980s “alternative insemination” referred largely to a lesbian buying sperm from one of the large commercial banks, or few non-profit clinics. The Bank for Germinal Choice closed in 1999, sealing all of its records. However, the publicity from the Bank for Germinal Choice as well as feminist health clinics had begun a practice that would grow to encompass not only artificial insemination, but IVF, egg donation, and surrogacy—a personal, market based choice of germ cells and a new consumer object, the public donor catalog. By the last decade of the twentieth century, the fertility clinic and the sperm banking industry had assumed many of the hallmarks that we associate with them today. They were characterized by highly unique and sought after services, were available nation-wide, welcomed gay and lesbian clients (for the most part), enjoyed large profit margins, and offered prospective clients the ability to choose from a catalog the precise traits and ultimately, the sperm donor they desired. This new landscape of assisted reproduction was shaped, however, by the politics of sexuality that

preceded it in the 1970s and 1980s. With a significant portion of donor sperm users fearful of intervention by political authorities, it remained a segment of the fertility care sector that resisted any kind of regulatory intervention. For lesbians, concerns about being banned from participating in the market, led the queer community to be suspicious of any legislative attempts. As California based authors of one of the first guides to lesbian conception wrote in 1979,

We feel that in the long run, as more lesbians get pregnant by artificial insemination, that there is bound to be repressive legislation aimed at making it hard for us to go to the M.D.’s for this purpose. This legislation could be aimed directly at us by means of cutting off our means to aid; both medical and financial. The state could limit or curtail human services (welfare, Medi-Cal, Medi-Care, public pre-school facilities, etc.) to lesbians with children whose fathers are unknown (i.e., donors). Repressive measures might be applied to M.D’s and any other health workers who aid in helping a lesbian inseminate herself.\textsuperscript{711}

Fearful of the threat of repressive legislation towards lesbian women in England, that was luckily shot down in favor of AI being left “to the discretion of the doctor and patient,” the authors noted that the political climate seemed to be moving to the right and, implying that America was become more conservative than the UK, they opined that England was most assuredly NOT America.\textsuperscript{712} As discussed in the last chapter, the politics of reproductive technologies (abortion and contraception) also suppressed calls for regulation of the exploding fertility market. When it came to assistive reproductive services feminists preferred to remain silent and eschew regulation—the opposite approach that abortion activists had taken in campaigns to increase legislative protections for access to abortion.

\textsuperscript{711} Artificial Insemination: An Alternative Conception for the Lesbian and Gay Community. Lesbian Health Information Project, 1979: 2.
\textsuperscript{712} Ibid, 9.
Scholars agree that the new forms of families that emerged as both straight couples and individuals and lesbians and gay men harnessed assisted reproductive technologies as conceptive tools were breathtaking in their array and fraught with legal peril. However, privileging in vitro fertilization as the lead player in the story, and enabling it to do so without investigating how the technology that preceded it changed institutions of conception, has left scholars with a view of this revolutionary period in the history of reproduction that is rather lop sided. Viewing these changes through the lens of artificial insemination reveals that lesbians and gay men, almost simultaneously with Shockley’s eugenic bank, jointly produced a new means of classifying, marketing, and delivering sex cells. What had begun outside the clinic in the hands of lesbians and their often gay donors in the late 1970s and early 1980s, the idea of a consumer choosing the hereditary qualities of a donor, entered into feminist health clinics to serve single and lesbian women by the early 1980s, and then, as AIDS snapped close the era of “alternative insemination”—ironically became taken up, not by non-profit medical providers, but by a new generation of commercial sperm banks.
Template of Medical Form for Donor from *Artificial Insemination: Alternative Conception for Gay and Lesbian Community* (1979).
### OTA Survey Table, 1987

<table>
<thead>
<tr>
<th>Table 2-61. Recipient Acceptance Factors*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Question 63d)</strong>: Patient requests for artificial insemination should be honored, regardless of marital status or sexual orientation. Base: Have accepted 4 or more patients for artificial insemination in the past year.</td>
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<tr>
<td><strong>Unweighed base</strong></td>
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<td><strong>Total</strong></td>
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<td>Fertility society sample</td>
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<td>51-100</td>
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<td>&gt;100</td>
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<td>&gt;5</td>
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<td>Male</td>
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<td>Female</td>
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</tbody>
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* Except as noted in second line, the sample is the fertility society sample.

b The code number of the question in the survey instrument (see app. II).

c Percentages are presented as weighted sample estimates. The unweighted sample base is presented in parentheses so that the sampling variance for these estimates can be calculated. Unweighted sample base does not add to 648 where physicians failed to respond to particular question concerning demographic characteristics.

Conclusion

So what do we gain by reinserting the history of artificial insemination into the history of medicine, science, reproduction, and the family? As the pages above have shown, AI’s history from the early days of conquering “hostile wombs” to recent years as it became an instrument for creating queer families offers critical insights to scholarship on assisted reproduction, the history of science, and the history of gender and the family. Despite vastly different political, gender and medical contexts and events that are associated with paradigm shifts (such as the “baby boom” or the “sexual revolution”) in American culture, the social history of artificial insemination has been one of relative continuity. The themes that have been continuously a part of artificial insemination include its status as tool used primarily by people with a certain amount of socioeconomic status, anxiety about removing sex from reproduction, as well as a persistent (re)conception of the technology as a symbol of modern science. Ideas about race and the transformative potential of heredity have also been bound together in the imagined and practical use of AI throughout its history in America.

Its historical evolution has been one of persistent anxiety about the effects of removing sex from reproduction. Would the “artificial” intervention in reproductive sex affect the health of children or the bonds between parents and their progeny? Is sexual pleasure an important part of becoming a parent…or even of marriage? What is the status of men in the family, sex, and reproduction if women can conceivably bear children without the benefit (or participation) of a husband? The concerns of social commentators in late nineteenth century France who worried that with the use of insémination artificielle women would no longer need dowries or fathers for their children was echoed
in the apprehension of Reagan era right wing Christian groups about the effects of single and lesbian motherhood on the status of marriage and fatherhood in society. And yet, artificial insemination also became a symbol of medicine’s innovative ability to provide modern technological solutions to infertility. The persistence of the terms like “test tube baby” has at once been both a marker of both pride in technomedicine and fear about the role of medicine in reproduction.

AI has been a technology that has primarily been accessible to people of means whether the middle class women visiting J. Marion Sims clinic in New York in the Reconstruction era or the newly married steppers, Jack and Jill of post- World War II America, or the professional single mother of the 1980s. The ability to pay for the treatment of infertility has shaped who was able to use artificial insemination and thus, had a great impact on its development. However, so too did a physician’s opinion of the appropriateness of a couple. As the head of the American Medical Association explained in 1954,

> Great care must be exercised in selecting candidates for artificial insemination when donors semen is to be used… a large number of infertile couples have been asking physicians for “test tube” babies...The number of couples accepted for artificial insemination must be limited and the choice based on morals, health, and education. While it is true that couples given a baby though artificial insemination are among the most grateful people in the world, there should not be any semblance of “mass production.”

AI reflected shifting ideas about what social, gender, racial and ethnic family characteristics were desirable in the minds of physicians and in the minds of its largely middle-class consumers. Cindy in 1930s America wanted an “Anglo-saxon baby” of her very own, physicians in the 1950s looked for potential mothers like Julie London who embodied Cold War feminine ideals, while sperm banks in the 1980s tended to sell out

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of vials from tall and masculine donors first. Throughout these periods, hereditary characteristics were not only valued differently they were considered to be attainable if only the right sperm could be acquired. Consequently, my investigation of the history of artificial insemination demonstrates how powerfully heredity has been perceived to shape the health and success of new families over the course of the twentieth century. At the same time, it also attests to the embedded gendered and racial hierarchies that have become hidden beneath hereditary principles and the persistence of eugenic beliefs and practices in American society. Therefore, overwhelmingly (but not always) when donor insemination was used it was with the intention not only of achieving conception but conceiving a “better baby.” Thus comments like Dr. Frances Seymour’s 1944 declaration that donor insemination had solved “husband’s physical or psychical shortcomings” and that the children were “the finest argument for eugenics thus far advanced” can be seen as a remarkably similar precursor to more contemporary choices made about the qualities of donors—except that since the 1980s, instead of improving upon a husband’s genetic profile, a woman could supplement her own. For instance, one woman who used California Cryobank in the 1990s chose to look for traits in a donor (and by proxy to pass onto her child) that she felt she rather than a husband did not possess. From a list of more than one hundred donors that gave basic information about blood type, ethnic origin, hair color and texture, height and weight, educational background, general medical history, family history, and essay answers, she decided “I wanted a donor who could give the child all the physical characteristics I could not—

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long legs, a tall, slender body, and good eyesight. I screened out anyone with a relative who had died of cancer or other possible genetic diseases. I didn't care about religion or hair color, although I admit that SAT scores were marginally significant. Now, users can choose from a wide variety of specifications (some of which have no hereditary component, i.e. a advanced degree and some of which do, i.e. height) and pay extra for a donor with qualities that are highly sought after.

The transformation of this fraught, versatile method reveals an important fact – that the research and practice of artificial insemination expanded historically in moments of moral and sexual and family panic – in the wake of wars, demographic upheaval, and national uncertainty. The impetus to have children and the public support of pro-natalist policies opened the doors of clinics wider in these eras. Historian Linda Gordon has argued that there have been periods of fear that “the family” (a fictive and changing notion of what a “traditional” family actual entailed) was in decline. She notes, “these fears tend to escalate in times of social stress.” Although wartime itself is often considered one of the ultimate periods of social stress within a society, when families,

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716 The “new” or neo-eugenic implications of the technologies of donor insemination are well documented and theorized. Cynthia Daniels has discussed how the marketing and sale of semen are imbued with eugenic ideals (the promotion of particular traits) while at the same time obfuscating genetic principles of hereditability. In her words, “To a significant degree, the selling of sperm was like the selling of any other commercially marketed product, in that the advertised goods were swathed in imagery that promised what could not be bought. In this regard, the Corvette convertible sold with reference to the sex appeal of the driver, the beer marketed as a way to have a good time with members of the opposite sex, the clothing that promised to attract a good-looking partner, and the sperm hawked as having come from a Harvard man were similar.” Daniels, Exposing Men, 90. Also see Lisa Handwerker’s chapter, “The Politics of Making Modern Babies in China: Reproductive Technologies and the “new” eugenics” in Marcia Inhorn and Frank van Balen, Infertility Around the Globe: New Thinking on Childlessness, Gender, and Reproductive Technologies, (University of California Press, 2002), 298-314. Daniels, “Procreative Compounds: Popular Eugenics, Artificial Insemination and the Rise of the American Sperm Banking Industry,” 5–27. Diane M. Tober, “Semen as Gift, Semen as Goods: Reproductive Workers and the Market in Altruism,” Body & Society 7, no. 2–3 (September 1, 2001): 137–160. Charis Thompson, Making Parents: the Ontological Choreography of Reproductive Technologies, (Cambridge MA: MIT Press, 2005), 13-14.
gender and sexuality all fall under increasing scrutiny, the history of assisting conception tells a slightly different story. Because medical professionals (including gynecologists but most especially urologists) served during World Wars I and II it was the social crisis of returning home and rehabilitating families and bodies in which fears about the reproduction in the family reached their greatest heights. Therefore, the expansion of assisted reproduction tended to correspond especially, to increased periods of fear about declining masculinity after men came home from the front. Over the past one-hundred and fifty years, physicians were more willing to take professional risks in times, like after World War I, in which the ability of American men to physically serve their country was in doubt. So too in these periods of anxiety, were men and women more willing to use technologies that opened their marriage bed to science to attain parenthood, like the paraplegic veterans of World War II who petitioned for artificial insemination at VA hospitals. This points to another tendency—the need to preserve masculinity, or at least the face of it, has remained relatively constant and an important, if vastly unrecognized driver in expanding the practice of assisted reproduction in America.

Finally, the dissertation has demonstrated how the history of artificial insemination provides critical insights into the changing understandings and technological transformations of modern families. The exploration of controversies over artificial insemination in popular magazines, medical journals, public health discussions, and legal and political debates over the nineteenth and twentieth centuries makes plain that the control of conception was an important locus by which authorities and individuals understood what made a family. Biology, care-taking, physical resemblance, sexual intercourse, and marriage were all used in various combinations to define kinship
in America. The shifting of these pieces into forming a picture of family when it was questioned by the disruption of one piece of the puzzle (through the removal of sex from reproduction, non-biological families, or outside of heterosexual marriage) has shown that the only thing stable about the American family was its very instability and the constant effort to control its image.\textsuperscript{718} As a result, interrogating the history of the family through the prism of artificial insemination reveals less of a history of continuity and more of a history of fluidity and change. A new identity, the social father, emerged when donor insemination began to be a more widely used practice from the interwar era on and was followed in the 1970s and 1980s by co-mother/parent of reproductive lesbian couples.\textsuperscript{719}

The history of artificial insemination reveals the shifting contours of the ideal normative family of different historical eras, and it shows (as couples often desperately tried to achieve its semblance) how the very idea of family was remolded and remade. Put differently, the history of the family’s relationship to AI is paradoxical. For much of the twentieth century it was used to achieve an idealized version of the “traditional” family—a mother, father, and child(ren). Physicians and potential parents acknowledged that the use of sperm donation broke the mold of such conceptions of family, yet they assiduously ignored it after conception occurred. Mirroring the history of adoption, families formed outside of reproductive sex, chose not to publically claim or even

\textsuperscript{718} One of the continuities within the history of the family that AI laid bare however, was the suspicion of women who chose to use it—were they lesbians wondered the French in the late-nineteenth century. Were they mentally ill wondered psychiatrists in the 1950s? Were they married, wondered physicians in all eras until the 1980s?

\textsuperscript{719} Note: Understandings of social relatedness/meaning through biological connections were also formed by transplant technologies. In which a deceased loved ones body part is transplanted into a stranger and new affective ties emerge to form family relationships. One excellent discussion of such relationships is in Lesley A. Sharp, \textit{Bodies, Commodities, and Biotechnologies: Death, Mourning, and Scientific Desire in the Realm of Human Organ Transfer}, (Columbia University Press, 2009).
acknowledge privately to their children the origins of the family. Nevertheless, if we broaden our consideration of family to included grandparents, sisters, brothers, aunts and uncles one can see how adoption was a secret that could not always be kept within the extended family—for the simple reason that there was no pregnancy prior to the babies arrival. This was not the case for families formed with donor sperm. A pregnancy, seemingly produced within the marriage bed or with a more conventional sort of intervention by doctors, allowed little knowledge about the formation of these unique families to travel not only to a wider public but even to the extended family.

As in earlier generations, users of the technique today are among the central catalysts in changing how artificial insemination (and other medically assisted conceptions) create new forms of family. Activism and advocacy in the hands of the first generation of donor-conceived adults (at least ones who knew of their origins) is the first large step towards breaking the contemporary silence about artificial insemination. In the United Kingdom, decades of secrecy about donor families and their biological relationships are being broken—not through the release of records but by new genetic and communication technologies. In October of 2009 the Human Fertilisation and Embryology Act enabled donor-conceived people over eighteen years of age to look for their half-siblings. A voluntary sibling registry database can find and contact brothers or sisters conceived via the same donor. Following advocacy by adoptees to learn more about their own past, HFEA decided to provide this registry for those conceived with

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Now, in the UK donors too have new rights. If they donated after 2005 donors have a right to learn some anonymous details about their genetic offspring. One of the unforeseen results of the new legislation that makes it illegal to donate sperm anonymously is that the number of donors drastically decreased. Waiting lists for donor sperm are lengthening. For the lesbian community, the law has meant a rising number of lesbians (and others) are traveling abroad to conceive where anonymity was still legal, costs were cheaper, and where gay couples were actively welcomed. “The Other Banking Crisis?” Diva Magazine, (November 2010): 14-15.
gamete donations.\textsuperscript{721} The result has been that donor-conceived adults who have found half-siblings report a new and tenuous sort of familial formulation. One young woman said of her half-siblings found via the registry, a total of thirteen in all, that “These aren’t sisters or brothers in the conventional sense because you don’t have that shared history, but they are different from friends. There is an unfathomable connection.”\textsuperscript{722} In the USA, a private organization began connecting siblings and advocating for the rights of the donor-conceived. The Donor Sibling Registry allows interested parties (parents, donors, and children) to search by the hundreds of clinics and physicians practicing donor insemination in the USA and abroad as well as by donor details (i.e. birthday, donor identification number, etc.). They have an Emmy nominated educational TV show about donor conception, a blog, over forty thousand members, and have matched thousands of individuals (in their words “families.”)\textsuperscript{723}

Loving families formed via adoption, bonds between the children of a first marriage and a new spouse, and other forms of non-biological parenting speak of the wide array of affective bonds that have formed families.\textsuperscript{724} The dissertation provides

\textsuperscript{721} Those conceived after 1991 also gained the right to have detailed physical information about their donor “parent”—eye color, hair color, height, ethnicity, but no individually identifying characteristics. Kati Whitaker, “Finding Your Biological Family,” \textit{The Guardian}, September 26, 2009.

\textsuperscript{722} \textit{Ibid.}

\textsuperscript{723} The Donor Sibling Registry Website, accessed March 1, 2013, http://www.thedonorsiblingregistry.com. The UK has the largest private network to connect siblings conceived using donor gametes, The Donor Conception Network. For more on the DCN see their website www.dcnetwork.org [accessed March 1, 2013].

\textsuperscript{724} Fatherhood too has become more broadly conceived as the men who have raised children born via donor insemination openly speak about their experiences and, as more men who raise children from other marriages claim their status as fathers. For instance Walter Merricks was already raising the young son from his wife’s first marriage when he learned he was infertile. He went on to have two more children with his wife via donor insemination. “I have three children, none of whom are genetically related to me” said Walter, “but hey, we’re a family.” His daughter agreed saying of her dad, “There’s never been a question about it. Fatherhood is much more than a genetic link, in the end, it’s all about the relationships you have with one each other.” Such sentiments attest that through the use of artificial insemination “family” is formed in new, fluid, and affective ways. Kati Whitaker, “Finding Your Biological Family,” \textit{The Guardian}, September 26, 2009.
evidence that artificial insemination has been an important part of the creation and narration of such familial ties. However, the history of artificial insemination also shows the persistent and expanding role of biological and genetic models of kinship in American families, culture, and reproductive medicine. Just as infertile couples began to turn from adoption in the 1940s and 1950s and to donor insemination as a means to produce a biological connection within their family, on the horizon of contemporary family making we see the re-establishment of biological kinship. Although queer parenthood has been lauded (or vilified) as an innovative site of non-biological parenthood, where “love makes a family” it is in these, the most visibly radical families formed via new reproductive technologies where biological ties will re-emerge. In 2002, a lesbian said when interviewed about the possibility of “heterosexual-free” fertilization, a technique derived from cloning methods, "We want what most people want: a mixture of our eye colors and hair colors, our personalities, and our physical features…But that's just not an option for us."725 Fertilization techniques that combine the chromosomes of two same-sex partners are within the realm of possibility in the twenty-first century. Reproductive biologists have succeeded in using DNA from the cells of adult mice and humans to fertilize eggs of each respective species.726 The will of couples to achieve parenthood will continue to drive and expand the market for reproduction and the cost of this new procedure will eclipse that of IVF and surrogacy. The irony of the history of artificial insemination is that what began as a therapy to help married heterosexual couples conceive within the bounds of marriage, then became a low-tech tool used to expand understandings of kinship and the legal definition of parenthood, may well be

726 Monash University’s Institute of Reproduction and Development in Melbourne Australia and the Reproductive Genetics Institute in Chicago were early innovators in this technique.
transformed by new scientific methods into another high-tech means to pursue biological parenthood.

In academic scholarship and popular discourse of the past three decades, assisted reproduction is persistently portrayed as the effects of a postmodern landscape of reproduction and a novel phenomenon. For such scholars, the rise of IVF is often the focal point for theorizing about technology and the family. In the early 1980s public donor catalogs heralded the arrival of the modern sperm bank. In the thirty years since the fertility marketplace – a technologically savvy industry with avid consumers – has exploded. According to one report, by 2007 the estimated cost of diagnosing and treating infertility exceeded five billion dollars annually in the United States alone. As one can see in the table below, the bulk of revenue had come from the tremendous growth of in vitro fertilization and the fertility drugs used across the technologies of IVF, egg donation, and artificial insemination.

**The U.S. Market for Fertility Treatment, 2004**

<table>
<thead>
<tr>
<th>Product or Service</th>
<th>Revenue (U.S. Dollars, Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertility drugs</td>
<td>1,331,860</td>
</tr>
<tr>
<td>In vitro fertilization</td>
<td>1,038,528</td>
</tr>
<tr>
<td>Diagnostic tests</td>
<td>374,900</td>
</tr>
<tr>
<td>Donor sperm</td>
<td>74,380</td>
</tr>
<tr>
<td>Donor eggs</td>
<td>37,773</td>
</tr>
<tr>
<td>Surrogate carriers</td>
<td>27,400</td>
</tr>
</tbody>
</table>


728 *Source*: Calculations from Deborah Spar based on data provided by the American Society for Reproductive Medicine, the Centers for Disease Control, Business Communications Company, and individual providers. Figures for IVF were for 2002. Revenues from preimplantation genetic diagnosis (PFGD) are not included. Deborah Spar, *The Baby Business: How Money, Science, and Politics Drive the Commerce of Conception*, (Harvard Business School Press, 2006), 3.
In 2009, over one hundred and forty-six thousand assisted reproductive technology (ART) procedures were performed; a number that had more than tripled since statistics first began to be gathered in 1996. In 2009 alone, ARTs resulted in approximately forty-six thousand live-birth deliveries and over sixty thousand infants. Today, ART births represent approximately almost one and a half percent of all births in the United States. In addition, considering that on average one cycle of IVF costs more than twelve thousand dollars we can estimate that more than 1.755 billion dollars was spent just on IVF in 2009.

The widespread growth of IVF as a practice has raised questions for feminists, academics, medical professionals, and health experts. The health effects of the high percentage of multiple births (a result of transferring an average two to three fertilized eggs per cycle into the uterus), the hefty expenses associated with diagnosis and treatment, and the ballooning costs for patients and the health care system to care for a rising number of preterm births are just the tip of the iceberg. Deeper ethical questions about the impact of assisted reproduction on equity, family, gender, race, disability and parenthood have been hotly debated in the academy and society. Do such technologies strengthen families by enabling parenthood to many who would otherwise not have become (biological) parents or do they harm the family as an institution by creating

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729 The largest numbers of ART procedures were performed in California (18,405), New York (14,539), Illinois (10,192), Massachusetts (9,845), New Jersey (9,146), and Texas (8,244). Together, these six states reported the highest number of live-birth deliveries as a result of ART and accounted for 48% of all ART procedures initiated, 46% of all infants born from ART, and 45% of all ART multiple-birth deliveries. Centers for Disease Control and Prevention. “CDC - MMWR - Assisted Reproductive Technology Surveillance Summary - United States, 2009.” MMWR, (2012): 1.
731 An increase in the age of women becoming mothers (often with the help of egg donation) has also been cited as a site of rising costs in the fertility sector.
“unnatural” permutations of kinship? Are “queer” families transformative or merely recreating a simulacrum of the heterosexual family and parenting? Has the biomedicalization of reproduction empowered women or is it a consumerist method to control women’s lives through the promotion of pronatalist ideologies? Are the plethora of decisions available about the racial, ethnic, or genetic profile of egg and sperm donors benefitting the health of children who were born through those choices or do they recreate hierarchies of race and (dis)ability?

In much of this literature, technologies of assisted reproduction are continuously (re)presented as ever new and modern, yet the history of AI demonstrates the ways in which IVF merely sits at the end of a long historical continuum. The intentional, systematic, and persistent silencing of the archives about artificial insemination has contributed to effacing of knowledge, both professional and popular, about its historical practice. From the very moment of its invention, issues of privacy, custody, medical liability, and shame have shaped the available sources and the historical memory of artificial insemination in American families and culture. Scholars studying the history of slavery, women, sexuality and practices like abortion have all discussed how the active suppression (or plain lack) of sources can create historical silences that affect contemporary knowledge and practices. Similarly, the destruction of medical case

732 By “unnatural” I am referring to how Donna Harraway has argued that the natural seeming connections between sexuality, procreation, parenthood, and blood ties become unlinked with assisted reproductive technologies.


records, donor profiles and the avoidance of record taking itself have constructed a blank spot in historical memory that has produced long ranging effects. By burning documents and keeping secrets, families and medical professionals collaboratively erased knowledge not only about the historical place of assisted reproduction in the making of families, but also, about the biomedical innovations and institutional changes the technology brought about. As this dissertation has demonstrated, when the shame of sterility lay primarily with the male partner, families and physicians went to incredible lengths to hide both the use of artificial insemination (even when a sperm donor wasn’t used) and the diagnosis of sterility itself. This is not to say that men were not aware of their sterility or seeking treatment for it. As discussed in chapters three, four and five, many were active participants in the infertility treatment process. Instead, I mean that diagnoses of low or absent sperm counts, low sperm motility, impotence, and other reproductive problems were not discussed outside of clinical spaces and that the therapies to treat them, like artificial insemination, were never disclosed (even to close family members) after they were accomplished. Whether because of concerns about adultery and illegitimacy in the 1940s, accusations of homosexuality linked to diagnoses of sterility in the 1950s and 60s, or shame about hereditary disease in the 1970s, men and women kept silent about diagnoses of male factor infertility (or disease risk) and their use of artificial insemination to circumvent or conquer the problem. As artificial insemination evolved over the course of the twentieth century as a therapy to treat male factor infertility, the shame of impotence and male sterility in American society drew lines around what was, and was not an acceptable discussion of these subjects, and what were appropriate biomedical arenas of investigation into them.
The scientific study of sperm, and research on reproduction more broadly, was part of what authors like Adele Clarke, Vern Bullough have called “illegitimate science.” For much of the nineteenth century, gynecology and dermatology/urology paid little attention to men’s reproductive problems (as opposed issues of sexual health). However, tracing the growth of artificial insemination brings into light an expansion of scientific and medical interest in men’s reproductive bodies. Although, fears about masculinity (and fragile male bodies and identities) suppressed public discussion about sterility and impotence, they also quietly spurred the scientific study of men’s reproductive health. These concerns brought down the boundaries of propriety around reproductive science (even if only briefly and selectively) and in so doing, forwarded new understandings of male reproductive bodies. Thus, after World War I new means to classify semen samples emerged from urological investigations. Following World War II, the need to rehabilitate injured veterans expanded men’s services at fertility clinics and contributed to the first experimental human conceptions with cryopreserved sperm. Focusing on male rather than female reproductive bodies after the end of the Vietnam war moreover reveals that cryopreservation research expanded to serve the desires of fatherhood for men who would not meet them because of chemotherapy and vasectomy. And, although it is outside of the scope of this project, future scholarship will likely show that it is no coincidence that intracytoplasmic sperm injection (ICSI) research occurred in the 1980s, an era in which many men felt unable to attain a projected ideal of male health—abs of steel, unflagging sexual endurance, and of course, fatherhood.735

735 The first reported pregnancy using this method occurred in 1988. The early 1980s marks the height of the fatherhood rights movement and its organizations. Michael Kimmel, Manhood in America: A Cultural...
The second factor that generated a curious shadowing of artificial insemination (and sperm banking) amidst other assisted reproductive technologies was the rapid medicalization and commodification of reproduction. By 1998 there were 360 fertility clinics in the US and by 2002 they were earning nearly three billion in revenue. As reproduction became more high-tech and more tightly biomedicalized, low-tech options were and continue to be delegitimized while advanced ones were constructed, as Laura Mamo and others have put it, not only as the “best” but as the only valid approach.

Scholars like Sarah Franklin, Charis Thompson, and Gay Becker have documented how the representation of IVF in the press and medical narratives was one of miraculous conceptions, genetic dreams, and above all, hope. Such representations of IVF also resonated to a broader population because they turned what had been a discussion on lesbian motherhood (using AI) into one that focused on “worthy” heterosexual couples


738 Mamo, 227 and Becker (2000).

conceiving via IVF. As discussed prior, gender too played into the shadowing of AI, which was seen as a tool of reproductively challenged men. Instead, the advent of IVF turned the primary lens in assisted reproduction back towards a familiar figure, the infertile woman. 

Margaret Marsh and Ronda Ronner have persuasively argued that even though there is a widely held perception that infertility rates (especially amongst the middle-class) have risen over the past half-century—no such “epidemic” exists. Rather, this belief is the result of a backlash to feminism which has (re)promulgated the idea that if a woman devotes herself to her career she is courting infertility. In reality, many couples begin treatments for infertility but many, as high as eighty percent, never achieve parenthood. The result of such triumphal narratives of scientific miracles is that, since the 1980s, most people who began trying to conceive via donor insemination expected it to be easy. For instance, Laura Mamo interviewed lesbians attempting to conceive and found that almost all thought that “getting pregnant can and will be and easy, low-tech process organized mostly outside of medical worlds.” Yet the reality was that for her protagonists achieving a pregnancy required a lot of work and often a lot of time. For

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740 Note: Such gaps have been reproduced in scholarship on reproductive technologies. More work needs to be done on the use of reproductive technologies by non-white, low socioeconomic status, and non-Western individuals. As Inhorn, Balen, Rapp and Ginsburg have pointed out these gaps have tended to efface a global trade in gametes and the global extension of reproductive technologies. Marcia Inhorn and Frank van Balen, *Infertility Around the Globe: New Thinking on Childlessness, Gender, and Reproductive Technologies*, (University of California Press, 2002). Ginsburg and Rapp, *Conceiving the New World Order*, (1995).

741 Note: New work on masculinity is beginning to redirect the conversation on assisted reproduction to include more analysis of men. Marcia C. Inhorn, Tine Tjornhoj-Thomsen, Helene Goldberg, and Maruska La Cour Mosegaard, *Reconceiving the Second Sex: Men, Masculinity, and Reproduction*, (Berghahn Books, 2009).


many who pursued medically assisted pregnancy during the last three decades, many more medical services at higher costs were needed than patients expected.

As discussed in chapters four and five, since Roe v. Wade the constitutional right to privacy in reproductive decision making, choice, swept up not only contraceptive procedures and technologies but also conceptive ones. Since 1973 efforts to regulate and even monitor assisted reproduction have been perceived as one step towards the impinging on these reproductive rights. But for conservatives and “pro-life” proponents the regulation of assisted reproduction was objectionable since it expanded the scope (and power) of the federal government. Ironically, the idea of “choice” protected by legislation enabled abortion but in the eyes of conservatives, if choices were regulated they worried that the boundaries of such regulations would widen rather than tighten reproductive practices. Their key concern was that regulation would enable embryo research and/or destruction. Therefore, the expansion of the industry and the will of “pro-choice” and “pro-life” proponents as well as anti-regulatory conservatives produced a continuing gap in knowledge about AI—we don’t know how widespread the practice is.

In 1996, the first steps towards regulating (through monitoring) IVF occurred. The Centers for Disease Control began collecting data on all “ART procedures” that were performed in the United States under the mandate of the Fertility Clinic Success Rate and

745 The intense controversy and media storm that resulted from the birth of Louise Brown in 1978 led to governmental inquiries into the safety and ethics of the procedure. However, even though IVF was deemed safe, it was such a contentious issue that became bound up with other reproductive hot buttons (abortion and fetal research) that neither the Department of Health and Human Services nor the National Institutes for Health were willing to break what had been intended to be a short-term moratorium on funding both. In the United States private and university ventures funded their own clinics offering IVF, without federal funding. For more on the moratorium see Spar, The Baby Business, 27-28 and Ethics Advisory Board, Department of Health, Education and Welfare, “HEW Support of Research Involving Human In Vitro Fertilization and Embryo Transfer,” US Gov’t Printing Office, (May 4, 1979).
Certification Act of 1992. The act was supported by RESOLVE (a national infertility support group), the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology (SART) in order to protect consumers from what were inconsistent reporting of pregnancy and birth rates at fertility clinics. But artificial insemination was not listed among the procedures to be monitored for cost and success outcomes. The CDC defined ART as treatments in which both eggs and sperm are handled—not those in which only sperm are manipulated or in which drugs stimulate egg production (ovarian hyperstimulation). Because artificial insemination was not part of this legislation, it has been impossible to document at the national level the status of the practice. We can only guess how many AI procedures are performed every year, the number of children born, the number of pregnancies produced via an individual donor, the immediate and long-term health of infants conceived using cryopreserved and/or donor sperm, and the revenue gleaned from these procedures. This in and of itself is a problem. The lack of data increases the chances of unintentionally consanguineous marriages, leaves children little to no knowledge of the hereditary health histories, and allows a market to increase prices on a product (sperm) that has no limit on value (because the end result is a “priceless” child).

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746 FCSRCA (Public Law 102–493 [October 24, 1992]). ART data for 1995–2003 were obtained from the Society of Assisted Reproductive Technology (SART) through its proprietary Clinical Outcomes Reporting System data base (SART CORS). Since 2004, CDC has contracted with Westat, Inc., a statistical survey research organization, to obtain data from fertility clinics in the United States through the National ART Surveillance System (NASS), a web-based data collection system developed by CDC.

747 “An ART cycle generally begins with drug-induced ovarian stimulation. If eggs are produced, the cycle progresses to the egg-retrieval stage. After the eggs are retrieved, they are combined with sperm in the laboratory through IVF. If this is successful, the most viable embryos (i.e., those most likely to implant) are selected for transfer. If an embryo implants in the uterus, a clinical pregnancy is diagnosed by the presence of a gestational sac detectable by ultrasound. Most pregnancy losses occur by the first 12 weeks, with the risk of pregnancy loss increasing with the age of the mother.” ASRM Office of Public Affairs, “CDC Releases ART Surveillance Summary for 2009 in Morbidity and Mortality Weekly Report,” ASRM Bulletin Volume 14, Number 57, (November 1, 2012).

748 Debora Spar, The Baby Business.
Beyond these concerns however, are ones about health and safety. The assisted reproductive technologies (fertility drugs, ICSI, IVF, GIFT) are not discrete in nature. They are integrated, blended if you will, with one another. For instance, ovulation stimulants are often used in combination with AI or IVF, IVF uses the technique of embryo transfer, after an ICSI procedure another embryo transfer is performed and importantly, egg and sperm donation are used in combination with IVF and AI. The imbrications of these technologies mean that if the sperm banking industry (one of the central components to today’s AI practice) remains unregulated, problems will move across and affect the entire medically assisted reproduction sector. For example, the need to reduce multiple births and their adverse consequences is a major health issue in IVF. But, since the use of ovulation stimulation medications in combination with artificial insemination has a similar affect (multiple births, preterm delivery, etc) and because it remains unclear whether cryopreservation is part of the mechanism resulting in the higher than normal incidence of epigenetic syndromes (Beckwith-Wiedemann syndrome and Angelman syndrome) in children born of ARTs (of the more conservative definition) the choice to not monitor the sperm banks and artificial insemination is a dilemma.\textsuperscript{749}

Artificial insemination and most especially donor insemination remains largely unregulated and unmonitored, as it has for all of its history. For instance political scientists Robert H. Blake analyzed the regulatory guidelines for artificial insemination in thirty-three countries. He found donor insemination policies to be characterized by patchwork and often haphazard combinations of program and professional guidelines,

committee reports, court rulings and in some cases statutory regulations. He notes, “this divergent and potentially conflicting combination of private and public actions results in ambiguous policy.” Reproductive medicine, and medicine in America more broadly, is largely left to state licensure authorities. As with other professions with highly specialized knowledge (i.e. law), those within the profession hold much more knowledge than governmental entities (legislatures, FDA, etc.) and are given special latitude to judge their own. We are left with a laissez-faire regulatory landscape in which states rather than the federal government serve as the primary, and vastly different, sites of regulatory authority.

States have used insurance mandates as one of their central ways to regulate access to infertility services. If a person seeking services is lucky enough to be a resident of one of the states listed in the table below then they do not have to pay for the initial medical workups and cost of the treatments themselves (or they are minimal). If one does not, then costs can quickly soar into the tens of thousands of dollars.

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751 The FDA is the primary federal authority in the regulation of human biotechnology and as the President’s Council on Bioethics has pointed out, much of its right to do so stems from constitutional power to regulate interstate commerce. The President’s Council on Bioethics, Reproduction and Responsibility: The Regulation of New Biotechnologies, (March 9, 2004).
State Infertility Coverage as reported by the ASRM

<table>
<thead>
<tr>
<th>State</th>
<th>Date enacted</th>
<th>Mandate to cover</th>
<th>Mandate to offer</th>
<th>Includes IVF coverage</th>
<th>Excludes IVF coverage</th>
<th>IVF coverage ONLY</th>
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</thead>
<tbody>
<tr>
<td>Arkansas</td>
<td>1987</td>
<td>X(1)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>California</td>
<td>1989</td>
<td></td>
<td>X</td>
<td></td>
<td>X(2)</td>
<td></td>
</tr>
<tr>
<td>Connecticut</td>
<td>1989</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hawaii</td>
<td>1987</td>
<td>X</td>
<td></td>
<td></td>
<td>X(3)</td>
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</tr>
<tr>
<td>Illinois</td>
<td>1991</td>
<td>X</td>
<td></td>
<td>X(4)</td>
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<tr>
<td>Louisiana</td>
<td>2001</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Maryland</td>
<td>1985</td>
<td>X(5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1987</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montana</td>
<td>1987</td>
<td>X(6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New Jersey</td>
<td>2001</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>New York</td>
<td>1990</td>
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<td></td>
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<td></td>
<td>X(7)</td>
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<td>Ohio</td>
<td>1991</td>
<td>X(8)</td>
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<td>Rhode Island</td>
<td>1989</td>
<td>X</td>
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<tr>
<td>Texas</td>
<td>1987</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>West Virginia</td>
<td>1977</td>
<td>X(8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Debora Spar has argued that such uneven coverage and lack of federal regulation is not the only effect of an industry still struggling with issues of privacy, it is also a vulnerability, for both consumers and society. “As long as conception remains a furtive trade—a business cloaked in the garb of science—it will remain vulnerable to both the excesses of its fringes and the attacks of its critics, to the doctors who push science beyond what society will accept and the fundamentalists who react to the advance of

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752 (1) Includes a lifetime maximum benefit of not less than $15,000. (2) Excludes IVF, but covers gamete intrafallopian transfer (GIFT). (3) Provides a one-time only benefit covering all outpatient expenses arising from IVF. (4) Limits first-time attempts to four oocyte retrievals. If a child is born, two complete oocyte retrievals for a second birth are covered. Businesses with 25 or fewer employees are exempt from having to provide the coverage specified by the law. (5) Businesses with 50 or fewer employees do not have to provide coverage specified by law. (6) Applies to HMOs only; other insurers specifically are exempt from having to provide the coverage. (7) Provides coverage for the “diagnosis and treatment of correctable medial conditions." Does not consider IVF a corrective treatment. (8) Applies to HMOs only.
reproductive technology by pushing for complete and outright bans.”753

The history of artificial insemination corroborates the argument that secrecy has been incredibly important in creating the contemporary loose regulatory landscape of consumer driven fertility services. Yet, it also broadens this analysis by showing that artificial insemination has been part of a relentless quest for “family” that has consistently escaped oversight for centuries. Creating families has, historically, meant anything from proof of one’s gender, proof of adulthood or citizenship, to an act of conformity or radical rebellion. The intense and often paradoxical array of meanings attendant to this act led patients to cross national boundaries, social mores, and war zones and led physicians to push the boundaries of medical practice. What such narratives offer is the insight that attempts to regulate access to assisted reproductive technologies never came to fruition, even when health risks seemed likely. The pursuit of parenthood using assisted technologies has shown that people will give almost anything to have a child but that socioeconomic status was a precondition of using assisted reproduction. What is of most concern is that the gap for those who can afford such a pursuit is widening, as an ever-expanding array of high-tech technologies is available for consumption. And yet, perhaps, in the name of an ever more marketable product, one in which choices about knowing the health outcomes of half-siblings and the identity of donors are valued, lies the possibility for more knowledge and oversight (rather than overt regulation) of the business of conception.

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