Chapter 5

De-Naturalized Reproduction: Between Facts and Artifacts

Certain people always say we should go back to nature. They never say we scientists go forward to nature. It seems to me they are more concerned that we should go back, than about nature.
Adolf Gottlieb (1947)

To say that we are all born, eat, shit and die, and that most of us have sex and reproduce, tells us very little about nature. All societies, however simple or non-technical they may appear, have very complex regulations about birth, eating, shitting and sex.
Rosalind Coward (1989, 160).

...nature at every level of the onion, is artifactual--that is, made--but not just by us.

Donna Haraway (1991, 82)

If women want to raise children, excellent; if they don't, there is no natural reason to think they must any more than there is a reason to think that male philosophers should all put down their pens and go out hunting for mammoths.1

John Stuart Mill (1869)

I return here to a theme I touched on in previous chapters: medical and popular discourses that juxtapose nature and technology, often setting them in dialectical opposition and isolating them from social relations. I focus specifically on two dimensions of these relationships: the difference between sexual intercourse and laboratory fertilization and between in vivo and in vitro fertilization. I wish to show how opposing discourses perpetuate misleading assumptions. They portray nature as a fixed material reality, cast technology as an irresistible natural force, and deprive social relations of both material and political dimensions. These assumptions divert critical attention from the interplay of technical artifice and social connection, thereby blocking paths that could lead to integration of technological innovation and social relations and support a more diverse understanding of human needs and interests.

1Mill, J.S., F.T.P. Plimpton, et al. (1869). *The Subjection of Women*, New York, D. Appleton.

Within bioethical and philosophical contexts appeals to nature often serve as markers delineating separate domains of discourse, one pertaining to biological entities, the other to social ones. To nature is assigned whatever either resists further explanation or is held to be immutable.2 Culture is then set in opposition to it. Between these poles, technologies occupy a shifting middle ground. They are often portrayed as a principal means toward human betterment that transforms the inchoate materials given by nature into ordered artifices that advance human ends. Contrarily, technologies are portrayed as a corruption of nature's design superimposing human will over the divine will or imposing on the powerless the will of those who hunger for dominion over nature. And by still others, technologies are portrayed as morally neutral activities distinguishable from any of the normative uses to which they may be put.[3]

Inadvertent complicity in any of these dichotomous strands of discourse is risky on several grounds. It is far from obvious that there are any natural practices devoid of artifactuality; surely not reproductive practices, even those that are free of third party intervention. Moreover, such appeals to nature convey the assumption that people become enmeshed in the workings of power only through active participation in *specific* social practices. This way of thinking naturalizes gender differences so they appear to be given prior to human intervention.

All of these generalized conceptions of technology merit careful scrutiny to reveal their participation in social relations. At issue is the framing of particular technologies within specific social contexts and the intervention of expert elites who use the technology to advance their own scheme of values.[4] These elites often promote their interests by perpetuating and advancing selective conceptions of biology and nature abstracted from their contexts within social relations. Among them are scientists and researchers who thereby gain a kind of privileged externality to nature. Whatever can be successfully attributed to the natural realm is thus effectively immunized from connections with power relations and shielded from scrutiny by outsiders. Continuing appeal to the natural realm testifies to the persuasive power of this discourse and the ability to extend its influence even to those who have no stake in such a technocratic agenda. Conceptions of male/female differences, for instance, are often modeled on idealized anatomical archetypes abstracted from the gendered conceptual frameworks from which their meanings derive. But what gives these distortions of technology so much persuasive power?

Feminists Rethink the "Natural"

Modern meanings of nature were framed largely by seventeenth and eighteenth century natural law and enlightenment theorists who employed a discourse that opposed nature to culture. In the Cartesian tradition nature was dead, inert, and lifeless. As this world view took hold, women and men were positioned differently in relation to nature. Women were regarded as closer to nature than men who then represented culture. This positioning was used to exclude women from social and political life and

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2 LP: Or what the writer wants the reader to take as such?

[3] As we saw in chapter 3, Firestone (1970) views technology from this perspective, neutrally serving the interests of whichever party happens to control the means of production or reproduction.

[4] Adrienne Rich (1979) gives a blunt example of this phenomenon. The demise of midwifery was directly tied to the introduction of forceps by the medical profession. Emily Martin provides a number of additional examples (1987).

exile them to a newly created 'private realm' removed from the public gaze and activities regarded to be morally important. By confining women to the household (a notably different construction of household than prevailed in societies where they were economically productive units), the distinction between nature and culture was ideologically contrived to serve political ends.

Western science has moved away from this modernist conception of nature as an independent realm knowable apart from human constructions and toward an understanding nature as, in part, a product of human intervention. In many areas of inquiry, conceptions of biology and nature are increasingly coming to be recognized as rooted in social relations.[5] Yet despite such reconstructions, conceptions of sexual difference remain recalcitrantly modeled on idealized anatomical archetypes. With the advent of new reproductive techniques, sex change operations, and experimentation with male "pregnancy" the last bastions of nature as an independent domain may finally be eroding. Feminists have grown increasingly self-conscious about conceptual baggage inherited from traditional frameworks that marginalize women's activities. They have criticized discursive practices that oppose nature to human intervention and perpetuate the illusion that nature is accessible to the intellect unadorned by any prior layer of interpretation.[6] A major focus of recent feminist theory has been the "denaturalization" of gender and reconceptualization of procreation as both a cultural activity and a natural one. Sara Ruddick's work on maternal thinking provides a fitting example.[7] Yet both feminists and non-feminists still waver over the meanings and uses of the concept "natural." Feminist ambivalence cannot be appreciated without grasping historical associations tied to appeals to nature and discourses that juxtapose nature and technology.

Twentieth century nostalgia for a pre-technological society was driven by diametrically opposed utopian visions, some that would reinstitute the law of the fathers, others that would annihilate them. Both visions were captive to a romantic neo-Cartesian picture of nature as static, unchanging, and benevolent. Adrienne Rich (1976) presumed that the only way to surmount the institutionalization of motherhood was to revert to pre-technological modes of childbirth, but other feminists pointed out that nature can be capricious, sometimes malevolent (Hartsock 1998). Nature sends blizzards and locusts as well as sunshine and strawberries (Dinnerstein 1976, 95). Donna Haraway makes a stronger claim: what we view as out there as independent of us is only knowable as we transform it (1991). Her point is that nature is alive, not just given as in the Cartesian tradition, as a product or resource to our instrumentality. Or as Kathryn Addelson has put it, nature is not just out there but created by dynamic interaction between organism and environment (1991).

Yet Rich's point about reverting to pre-technological childbirth practices still has resonance among mothers who experience bearing and rearing as continuous. Most see this continuity as desirable, comfortable, stabilizing, and "natural" from both the parents' point of view and the child's. Adopted children frequently complain of a sense of loss that they associate with the mother who "abandoned" them. Some try to reconstitute the threads of their identity by seeking out their biological parents, mothers

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[5] On this issue see Flax (1990), Strathern (1995), Grosz (1994), and Harding and Rouse in Harding (2004). Note also Keller on gendered character of the natural world in Harding and Hintikka (1983).

[6] This general line of argument was forcefully advanced by Foucault (1978) and subsequently adapted to feminist theory. My use of it here is limited to the present issue.

[7] Particularly Ruddick's later work reconsidering her earlier appraisal of pregnancy (1995).

more frequently than fathers. Though many perceive this sense of loss as a perfectly "natural" reaction one could readily imagine a society which inverts the cultural norm so that *discontinuity* between the prenatal and postnatal is experienced as "natural" (such as Marge Piercy invents in her 1976 utopian novel: *Woman on the Edge of Time*). Admittedly few individuals would opt to disrupt the prevailing norm voluntarily. However, the conceivability of an alternative cultural arrangement challenges the seeming "naturalness" of the dominant practice and opens a route to dislodging prevailing technological devices.

All cultures make their own imprint on biological functions and shape them to their own uses, thereby transforming them from facts into artifacts. Though mothers-to-be often see the fetus within them as continuous with their own identity, some medical professionals and politically motivated third parties are intent on transforming the maternal-fetal relationship and reconstructing the fetus as a separate individual. Such transformation serves the interests of those parties who see the fetus principally as a means to promote some interest beyond it. John Robertson's defense of procreative liberty assumes that the means to reproduce is extraneous to the end sought (1994). Like many others who seek to assimilate innovative technological practices to traditional reproductive activities, he conflates the old-fashioned way of making babies with new laboratory methods. Through this assimilation the significance of location, material resources, and power relationships that bear on procreation are all lost.

To show how this discourse operates to enhance the power and authority of the scientific and medical establishments and diminish the agency of pregnant women I focus on readily accessible reproductive practices.[8] I consider appeals to nature advanced by defenders of reproductive technologies who seek to justify the dismemberment and transformation of bodily processes formerly seen as natural and to camouflage the transfer of control over reproduction to medical institutions. I argue that it is not reproductive technologies, themselves, that alter our language, our choices, our ways of thinking about ourselves; but the routes through which they become entangled in structures of power, authority and the human relations integral to these arrangements. My argument shows why we ought not to think of medicalized procreation as continuous with sexual reproduction, as Robertson and other apologists for the fertility industry urge.

To illustrate the transfer of reproductive control, I focus primarily on artificial insemination by donor, the least intrusive of the medicalized techniques that aim to achieve conception. For I want to show that power relations bound up with new modes of reproduction are not specific to particular interventions--even the more exotic ones--but are already manifest in low-tech methods for handling gametes outside the human body. Thus what is most problematic about medicalized reproduction is not that it is unnatural, but that it shifts agency from biological parents to medical practitioners, thereby transferring power and agency from parents to medical institutions and regulatory bodies. My argument is extendable both to more complex reproductive innovations and many other institutionalized applications of technology.

I weave into this discussion reflections on feminism's ambivalent relation to nature, first among 1950s and 1960s feminists who supported efforts to exile reproductive activity from creative or productive work and then among a later generation who recognized the dualities embedded in the conceptual framework of earlier feminists and exposed interlocking relationships between the realms of nature/culture and private/public.

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[8] I assume that my discussion will also apply to other sexual practices.

Appeals to Nature as Normalizing Strategy

Appeals to nature are common currency among those who press for technological innovations of reproduction. In the hope of normalizing a novel technology, supporters tend to stress its similarity to natural processes. To deflect criticism of the disappointing success of in vitro fertilization, they compare the technical failure rate to the natural rate of early miscarriage. To justify embryo experimentation and minimize the significance of embryo wastage by researchers, they point out the high incidence of embryo wastage in nature. Following announcement of the first birth achieved through embryo splitting, supporters sought to dampen objections by comparing the practice to the spontaneous generation of twins or triplets.[9] In an attempt to rationalize recourse to selective reduction of multiple fetuses following infertility treatment, practitioners appealed to the high incidence of multiple pregnancies in nature.

Direct appeals to nature may be buttressed by supplementary appeals to more firmly established medical practices. To justify transplantation of tissue from aborted fetuses supporters assimilate the procedure to cadaver organ transplantation. To muffle objections to the creation of embryos for research purposes, advocates appeal to the recruitment of children who suffer from cancer as experimental research subjects.[10] Though some of these analogies obviously work better than others, it is the normalizing strategy itself that invites attention. We are drawn in, step by step, by an assimilation of the new unproven techniques to the workings of natural processes or, in some instances, to another technological practice commonly regarded as beneficial.

Of course, invoking nature to deflect criticism of questionable social practices is by no means unique to defenders of innovative reproductive techniques. Nature has frequently been invoked by the powerful to justify relegating less-privileged groups to marginal status. It was common in the nineteenth century to appeal to biological traits to justify excluding women from institutions of higher education. In the past century that strategy was deployed to deprive African Americans of equal educational and employment opportunities. Occasionally, however, the power of nature over nurture is invoked to the opposite purpose, to undermine established authority and explain how people of virtuous character are able to rise above exploitive circumstances and lay claim to their rightful place in the social order. The ironic plot turn in *Oliver Twist*, for example, turns on the contrast between Oliver's social environment and his high born origins.[11] All of these naturalizing projects redirect the reader's gaze from human agency back

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[9] When American biologists announced in 1993 that they had advanced a step toward duplicating people, several commentators (including Mary Warnock) remarked that they could not see what all the fuss was about since spontaneous cloning happens all the time. *Economist*, 10/30/93, 20.

[10] The first analogy comes from the NABER Report (1994); the second is attributed to Mary Cantwell by the *New York Times* 11/25/94; and the third to John Fletcher *New York Times* 9/6/94.

[11] For a more extensive discussion of the theme of biological determinism in literature see Rose 1984, particularly chapter 1. Another example of the use of this theme in nineteenth century literature appears in the George Eliot novel. For more exhaustive accounts of such justificatory strategies that incorporate a feminist perspective see Fausto-Sterling (1985, Ch. 5) and Sayers (1982).

to a supposedly natural realm, thereby removing human intervention from moral appraisal.[12] What can be attributed to nature falls outside the scope of human responsibility.

The flight from accountability that motivates the retreat to nature is neatly illustrated by news reports of the destruction of frozen embryos that exceeded the five year storage limit imposed under the British Embryology Act. The time period set by the law was "arbitrary," one source reports, because: "scientists have yet to determine whether there is any natural limit beyond which frozen embryos cannot be sustained."[13] Clearly implied is the wish to be freed of responsibility to set rules if only nature would step in and take such decisions off human hands. Forgotten is the fact that it is human intervention that put lawmakers in this tight spot to begin with. Yet moral criticism of the destruction of the stored embryos focused only on the narrow issue of the time length of embryo storage and ignored both the institutional setting that frames the technology and the expert elite who control it.

A shift in attention makes it possible to see that it may not be failed nature but failed technologies that push people to seek out a "technological fix." The inability to conceive that steers many women into infertility programs is often a byproduct of technological failures, such as environmental degradation, drugs including the synthetic hormone DES, or medically prescribed contraceptives. Embryo cryopreservation before implantation or selective reduction during pregnancy are presumed to resolve quandaries about left-over embryos following ovarian hyperstimulation. Ectogenesis has been suggested as a potential solution to problems following selective reduction. Instead of destroying embryos it is proposed that they be brought to term in laboratories. This approach to technological problems fails to anticipate the next stage of technological intervention which may raise far more serious ethical objections than the one for which it is proposed as a solution.[14] As increasingly sophisticated technologies have proliferated across medical practice to counteract the side-effects of others, some observers have begun to speak of "iatrogenic moral problems."[15]

Medicine's fascination with technology and its appeal to nature to justify infertility interventions stealthily plays into projects that destabilize reproductive norms. Technological fixes for a natural incapacity or another failed technology diverts attention from the shift in social relations brought about by the technological innovation. For new reproductive practices fragment mothering and fathering functions and roles, attenuate the significance of blood ties as an anchor for personal relationships, and foster yet

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[12] See Benhabib (1987) for an interesting discussion of this phenomenon.

[13] 'British frozen embryos face disposal" by Fred Barbash in the *Washington Post*, A1, 8/1/96. The article adds that more than 100 women in Italy including some nuns offered to "adopt" the embryos. Ironic twist on immaculate conception!

[14] Though many feminists attribute responsibility for technological fixes to the medical profession directly, medical technology is by no means unique in this regard. Note the interesting parallels to library technologies in "Discards" by Nicholson Baker, *New Yorker*, 4/4/1994, 64-86. In both professions, technical artifice is identified with the professionalization of workers. Also, as technology becomes dominant, interpersonal relations and service to constituencies are devalued.

[15] Naming the issue has led to measures to address the problem. Medical associations in a number of countries have revised their moral codes to curtail supposed "technological mandates" to intervene at the edges of life when the odds of improving quality of life are slim and further technological intervention will not likely meet patient needs.

more techniques and devices that transfer control over reproductive processes from biological parents to medical practitioners.

Admittedly, appeal to nature to justify medical manipulation of reproductive processes does not explicitly imply the opposition of nature to technology, but the *force* of the appeal arises from a framework that orders nature and human intervention in opposing relationship. Advocates of medicalized procreation frame their defense within a context already established by their adversaries who voice their objections to nonsexual reproduction in dichotomizing language. Groups as disparate as conservative theologians and cultural feminists invoke nature to justify their opposition to technological intervention. Conservatives argue that unmarried childbearing is unnatural whether conception takes place sexually or through intermediaries. For them, traditional male dominated family structures and the institution of marriage are natural, too. Feminists who laud the natural tend to frame their objections to artificial procreation in a vocabulary that appeals to a distinctive female sphere of nurturance which assumes that women have a kind of "natural" talent for mothering.[16] But when their claims are unpacked it is often not artificiality, itself, that is objectionable but consequences that follow from the newer way of doing things. Specific fears underlying the appeal to nature are more likely to focus on the displacement of control from biological parents to medical and legal institutions that thereby acquire new powers to manipulate gametes and embryos. Groups that resist the medicalization of these techniques often find the concentration of power in the hands of medical professionals more threatening than the violation of nature itself -- though for very different reasons. For conservatives, medicalization represents increased erosion of paternal authority within families; for feminists, it stands for further loss of women's control over their own reproductive capacities.

In at least one respect the objections of both conservatives and feminists do point to several widely shared concerns about the direction in which reproductive innovation is leading technologically advanced societies. Conservative Paul Ramsey puts this issue succinctly in alluding to relationships between power over nature and power over humans. This connection captures a concern common to both critics of technological innovation and those who doubt the soundness of the conceptual opposition between nature and technology.

The Medicalization of Artificial Insemination

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[16] Renate Klein argues that because they are an 'artificial' invasion of the human body, if women cannot reproduce "'naturally" then they should refrain from reproducing at all (Corea, ed. 1985, 65).

Adrienne Rich maintains: "In arguing that we have by no means yet explored or understood our biological grounding, the miracle and paradox of the female body and its spiritual and political meanings, I am really asking whether women cannot begin, at last, to think through the body, to connect what has been so cruelly disorganized--our great mental capacities, hardly used; our highly developed tactile sense; our genius for close observation; our complicated, pain-enduring, multi-pleasured physicality." (1976, 284). Other feminists who have appealed to maternal-child relationships to ground human relations more generally include Ruddick (1989, 1995) and Held (1983). Kass (1979), Ramsey (1972), and Fukuyama (2007) offer classical conservative arguments opposing technological intervention into reproductive processes.

The transformation of social relations wreaked through technology can be illustrated by even the simplest low-tech methods. The medicalization of artificial insemination succinctly epitomizes this transformation for it raises moral issues that have no precedent when reproduction takes place sexually.

The social acceptability of artificial insemination has increased considerably over the past generations as its use is combined with newer conceptive technologies, such as in vitro fertilization (IVF) and zygote intra-fallopian transfer (ZIFT).[17] Few now oppose the technique specifically except religious groups that object to masturbation and/or noncoital reproduction. Even they sometimes permit the practice if a permeable condom is used to collect semen. Artificial insemination by husband (AIH) is seldom viewed as an issue with any policy implications (unless insemination takes place posthumously). More problematic are the policy issues surrounding artificial insemination by donor (AID), increasingly referred to as donor insemination (DI) and sometimes as therapeutic donor insemination (TDI). The first shift in terminology is intended to avoid confusion with the disease AIDS and to circumvent the stigma that adheres to the word 'artificial.' The second signifies administration by a medical intermediary and is used in instances when the male partner is infertile or carries a transmissible genetic disorder and when requested by single women. The terminology is curious on two counts. For the woman being inseminated is likely to be perfectly healthy prior to such "therapy," and the paid "donor" is more accurately a vendor.[18] But rather than persist in using the more accurate term, I shall adopt the term "donor" since it has become standard usage.

The practice gives rise to a tangle of legal problems about adultery, blood lines, legitimacy, and the assignment of rights and duties to donors, recipients and progeny. The interposition of the medical practitioner as intermediary raises additional policy issues: the permissible scope of physician discretion in selecting and screening donors and recipients and the use of eugenic criteria in pairing them. A third set of issues which have recently come under increased public scrutiny concern the widespread practice of withholding from children knowledge of their biological origins. Though varying cultural traditions may influence the ranking of these issues, all bear on public policy.

Before artificial insemination became available through medical channels in the 1930s it had been successfully practiced for two centuries.[19] The technique became the topic of social policy only after World War II.[20] Still, many thought the concern unwarranted until 1964 when development of the liquid nitrogen freezing technique made sperm banking feasible. Suddenly, sperm collection and storage became a serious option for many situations. The donor could be tested for disease, his sperm banked, and he could

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[17] Oddly, a few countries (e.g. Brazil, Egypt, and Libya) prohibit donor insemination but allow and may even encourage IVF. Government authorities in many countries that permit it impose restrictions on its administration by medical practitioners, donors and recipients. Though the French scheme I discuss here was originally applied by voluntary agreement of the participating sperm banks, many of its features have since been incorporated into the 1994 law governing medically assisted procreation and subsequent revisions of that law in 2004 and 2011.

[18] Some commentators prefer the less value-laden term "provider."

[19] For this account of the history of DI controversy as well as central insights into its relevance to current controversies, I am much indebted to Simone Novaes Bateman 1985, 1986, 1989, 1994, 2011 and personal conversations with her. Note also Pacey 2009.

[20] Note the Feversham Report (HMSO 1960, CMND 1105) and several contributors to Stanworth, ed. 1987.

be retested after an appropriate time interval. The AIDS epidemic hastened adoption of frozen sperm as the norm but the testing agenda was soon extended to identification of transmissible genetic and chromosomal abnormalities and control over frequent use of the same donor within small geographical areas. Then men began to bank their sperm before going off to war, engaging in hazardous occupations, or undergoing chemotherapy or radiation therapy, and bereaved partners came forward to use the biological material of their loved ones so they could have their posthumous child.[21]

By these routes technological development fostered a tendency to regard sperm as detachable and contributed to a conceptual shift that unsettled conventional understandings of parenthood. So paternity became fragmented into distinctive functions, genetic fathers and social fathers. However, because the obligations assigned to fathers are very culture-specific, institutionalization and regulation of the technologies vary considerably. For example, the French language distinguishes explicitly between biological father (géniteur) and social father (pére). In English "to father a child" links paternity to the act of conceiving. Accordingly, French law incorporates the presumption that a mother's husband is the father of her child, while the English legal tradition places greater emphasis on the concept of illegitimacy (Glover, 1989). Hence, specific legislation to address the legal status of children conceived through sperm donation is more pressing in some countries (Australia, Canada, and Great Britain) than others (France or Spain). Countries whose legal codes did not already stipulate that the husband of a birth mother is the legal father have instituted reforms to effect that change. A few include an exception if the husband or partner does not grant explicit consent to the use of donor sperm. Where other legal criteria are still used to establish paternity (e.g., the mother's marital status at the time of conception), the use of sperm donors may give rise to conflicting claims to paternal rights or disavowals of parental duties. Where physicians are required by law to maintain records identifying donors, they are generally released from any future paternal obligations. Some countries include provision for single women who wish to have sole parental responsibility. Few explicitly prohibit access to donor insemination of single women.

Through such institutionalizing routes, medical supervision of a very simple procedure has led incrementally to complex social judgments and precipitated increasingly troubling legal and moral questions about the interests of the parties and the limits of legitimate medical intervention. Countries that regulate the practice directly impose greater conformity with professional standards of quality control and technical proficiency. Enforcement of regulations limiting the number of times a specific donor can be used requires meticulous record keeping and patient follow up, particularly if frequency is to be correlated with the incidence of birth rather than the number of inseminations. Such surveillance is potentially intrusive and risks violating the privacy and self-determination of recipients and their families but is sometimes warranted to check the number of times a particular donor's sperm may be used in order to control the number of half siblings. In the United States, donor pregnancy is loosely governed by the FDA which requires 10 years of record keeping for "human cells, tissues, and cellular and tissue-based products.22 However, the American Society for Reproductive Medicine (ASRM) recommends permanent

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[21] A number of problems have developed when donors died without disposing of banked sperm and partners came forward claiming access to it. Several situations have led to litigation. Some countries have instituted regulation to circumvent such problems. Facilities that bank sperm often require that men using their services execute consent forms stipulating their preferences. Great Britain requires the written consent of a sperm donor. In a much publicized British case, Diane Blood was denied permission to use her deceased husband's sperm. Some who had a hand in establishing restrictive legislation proposed amending that Act to allow exceptions in such cases.

22 See FDA Compliance Program Manual. Inspection of Human Cells Tissues, and Cellular and Tissue-Based Products (HCT/Ps) 7341.002.

record keeping of successful donor pregnancies and maintenance of subsequent follow-up evaluations.23 The Human Fertilization and Embryology Authority (HFEA) of the UK enforces its limit of 10 donor pregnancies through clinic licensure. The Chinese Ministry of Health requires fertility clinics to follow up with insemination results in order to limit donor pregnancies to five.24

Medicalizing Donor Insemination: Social Issues

As donor insemination is integrated into medical delivery systems four issues have become paramount: cost, access, record keeping, and secrecy. The costs that are passed on to recipients vary considerably depending upon the screening procedures employed, the presence of underlying fertility problems, and variations in the practice of individual physicians (some combine artificial insemination with procedures to determine the precise time of ovulation and others administer hyperovulatory drugs). National health programs cover all costs in only a few countries. In the U.S. only 15 states mandate insurance coverage for fertility treatment.[25] The out-of-pocket cost of a single infertility treatment cycle, on average, could easily equal 50% of an individual's annual disposable income.26

So the expense to a particular recipient is likely to depend largely on the facility available to her and the procedures it employs. Most countries permit payment to sperm donors though some compensate only for transportation and lost working hours. In the U.S. each clinic determines the number of times a man can donate so a donor who travels among several clinics can realize substantial income.[27] French and Swedish policy explicitly exclude payment. The French view this policy as a way to encourage altruistic donation. Sweden supports a policy of disclosing identifying information about donors.

Access to donor insemination may be limited not only by medical factors, but by such non-medical considerations as marital status, sexual preference, age and psychological characteristics. The Netherlands is the only country that specifically prohibits exclusion on the basis of nonmedical criteria. Swedish law

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23 Recommendations for gamete and embryo donation: a committee opinion. *Fertil Steril*, 99:1; 47-62, January 2013.

24 Gong, D. et al. (2009). An overview on ethical issues about sperm donation. *Asian Journal of Andrology*. 11:645-652.

[25] CDC (2012) A National Public Health Action Plan for the Detection, Prevention, and Management of Infertility. Available from: www.cdc.gov/reproductivehealth/infertility/PublicHealth.htm.

26 Connelly, M.P. et al. (2010). The costs and consequences of assisted reproductive technology: an economic perspective. *Hum Reprod Update*, 16(6): 603-13. DOI: 10.1093/humupd/dmq013.Epub 2010 Jun 8.

[27] A new campaign in the U.S. by DIY (do it yourself) donors has proliferated on the web after a FDA investigation of a young man who publically advertised his availability on the "Known Donor Registry" and made 340 sperm donations to 46 different recipients. The FDA ultimately issued a "cease manufacture" order ("The Virgin Father" by Benjamin Wallace, *New York Magazine*, 02/13/2012).

allows donor insemination for cohabiting couples.28 Ireland lacks legislation governing ARTs. The Irish Medical Council's Guide to Professional Conduct and Ethics for Medical Practitioners does not explicitly exclude unmarried or homosexual couples; however, general common practice is to treat only married or co-habiting heterosexual couples.29 Great Britain is governed under the laws of the United Kingdom, which permit single women as well as homosexual couples to obtain donor sperm.30 Others, such as France, allow only those in longstanding heterosexual relationships to do so.31 The Norwegian Biotechnology Act of 2003 gives women in longstanding relationships, including homosexual ones, access to donor sperm.32 A few (Spain,33 Netherlands,34 Great Britain,35) grant access to single women who meet certain criteria. Britain's 1990 Human Fertilisation and Embryology Act originally required clinics that administer the technique to take account of "welfare of the child." Single women were not specifically excluded, but many clinics withheld treatment from all who were not in stable heterosexual relationships. Following considerable controversy about interpretation of this clause, it was eliminated in a subsequent revision of the Act. In countries that do not regulate medical practice, physicians are even freer to impose their own nonmedical criteria. The Office of Technology Assessment of Congress, upon surveying 1,213 artificial insemination providers, found that a patient being unmarried (52% of rejections) was the most common of rejection criteria. Of the providers surveyed, 61% percent had rejected or would reject an unmarried woman with a partner.36 By contrast, unmarried men who request semen storage for future use are rarely, if ever, rejected for the reasons applied to women. Men who request semen storage and sperm donors are analogous in the eyes of the law and are not subject to "donor-eligibility determination" for "cells and tissues for analogous use [or] cryopreserved cells or tissue for reproductive use (other than embryos)."37 In the U.S. recipients are much more likely to be screened than donors. These statistical

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28 Model protocol Mogelikmorele Contraindicates Vruchbaarheidshehandeligen (2010). Neiderlandse Vereniging voor Ostetrie & Gynecologie. See also Fertilization Treatment Guidelines Drawn Up (2000). Dutch News, 18 June. See also Act on Genetic Integrity. Chapter 7, section 3 SPS 2006: 351.

29 Fertility Services and Co-habiting Coules. Citizens Information Board (Ireland). Public Service Information. http://www.citizensinformation.ie/en/birth_family_relationships/cohabiting_couples/fertility_services_and_unmarried_couples.html.

30 Fertility: Assessment and Treatment for People with Fertility Problems. NICE Clinical Guideline (2013). Royal College of Obstetricians and Gynecologists. See also Human Fertilization and Embryology Authority. Code of Practice: 8th Edition. April 2012.

31 French Code of Public Health, Article L2141-2.

32 Law on the human medical use of biotechnology (Biotechnology Act 2003) , section 2-2. Amended by Act of 27 June 2008, No. 53.

33 De Melo-Martin, I. (2009), *Assisted Reproductive Technology in Spain: Considering Women's Interests.* Cambridge Quarterly of Healthcare Ethics. Vol. 18, no. 3: 228-235.

34 Ibid. 24-25.

35 Ibid. 27-28.

36 Dave Shade (1998), "Empowerment for the Pursuit of Happiness: Parents with Disabilities and the Americans with Disabilities Act," *Law and Inequality* 16: 153-154.

37 See U.S. Code of Federal Regulations, 21CFR1271.90 A.

differences lend support to the allegation that physicians who interpose their own values about who should bear children are effectively making eugenic judgments.[38]

In recent years another aspect of access has come to the fore. Posthumous sperm retrieval raises questions of professional responsibility (drawing a line between the ethical use of one's knowledge and skills and the "neutral engineer"). The request for posthumous insemination challenges patient boundaries too--between what some call "reproductive freedom" and others decry as "treating children as a means to fulfill other's wishes." Posthumous insemination also calls into question conventions about relations between generations and the use of techniques originally developed for therapeutic purposes to achieve personal goals.[39]

Other moral issues are raised by record keeping practices which vary from informal records closeted in the offices of individual physicians to centralized repositories explicitly designated for that purpose. Past practice that shrouded the insemination transaction in secrecy, was often supported in medical literature and procedural guidelines[40] As more countries mandate uniform record keeping standards and open adoption records to mature children, the practice of concealing comparable information from children conceived through donor insemination becomes more difficult to justify. Two issues are involved: whether to provide to children medical information about their biological parents and whether to include specific information identifying the donor. r more intense controversy than the first. A number of countries, including Australia, Sweden, Great Britain and Canada, have recommended and/or established guidelines allowing children conceived through donor insemination to gain access to anonymous information about the sperm donor. In Britain, for instance, which now keeps a record of donor's identity, some favor making knowledge of the identity of particular donors available to these children in the same manner as adoptees. They argue that there is no basis for treating children conceived through donor insemination differently from adoptees. Some have contended that the continued insistence of the French network of sperm banks on secrecy perpetuates the cultural myth that the blame for infertility falls exclusively on women, that only female bodies can be sterile. But other considerations for preserving the anonymity of biological parents might take precedence. A population policy to counter falling birth rates instituted during the revolution allows women to give birth without identifying themselves. No record

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[38] This implication is discussed at some length by Daniel Wikler and Norma J. Wikler in their witty and provocative paper "Turkey-Baster Babies: The Demedicalization of Artificial Insemination," *The Milbank Quarterly,* 69:1, 1991. They apply this observation to a curious situation drawn from a "Dear Abby" column. A woman whose husband lost his testes to cancer when he was nineteen wrote that his parents promised that if he were to marry and want children his father would donate semen. The couple searched for two years before they found a doctor willing to take the case and handle the logistics, perhaps sensible considering recent research on aging sperm.

[39] Extensions of techniques developed for medical purposes to personal goals is also problematic in the use of PGD to select for sex, eye and hair color and other non-disease characteristics. I discuss these issues in greater detail in a subsequent chapter.

[40] For an interesting perspective on this issue see K.R. Daniels, G.M. Lewis, and W.R. Gillett "Telling Donor Insemination Offspring about their Conception: The Nature of Couples' Decision Making," *Social Science and Medicine*, 40: 1994.

remains to identify them as the birth mother (a practice which has different implications now that ovum transfer is feasible).41

In 1985 Sweden became the first country to mandate that identifying information about sperm donors be disclosed on request, but this policy was circumscribed within a very restrictive social framework. Sperm could only be provided to married women whose husbands have given their irrevocable written consent, and paternity was strictly defined to preclude paternity lawsuits against the donor. The Swedish experience has been carefully observed by other countries as they review their policies. Similar legislation followed in Austria, Switzerland, the Australian state of Victoria, and, most recently, The Netherlands. Although New Zealand has not legislated open-identity, most programs have voluntarily switched to using only these types of donors.42

Medical institutions in different countries respond to ethical and social issues bound up with cost, access, record keeping, and secrecy in distinctive ways depending on their intersection with related cultural practices. As novel medical technologies are integrated into donor insemination, new issues emerge that extend beyond those I have discussed. I now turn to one country's medicalization of donor insemination that aptly illustrates how technology and particular conceptions of social relations are bound together and how moral issues are likely to be compounded within a particular institutionalizing scheme.

Institutionalization: The French Experience

Though the development of sperm banking technology has had only modest effect on donor insemination practices in the U.S.,[43] in France it led to a broad based reorganization of the procedure. The French donor insemination system was established in the early 1970s by Georges David, a physician with experience in hematology and blood banking. His later specialization in the biology of sperm has attracted widespread international attention.[44] David's institutionalization of the procedure extended to sperm

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41 Catherine Villeneuve-Gokalp, "Women Who Give Birth 'Secretly' in France," *Population*, Vol. 66, No. 1, Jan-March 2001.

42 Scheib, JE et al. (2003). Choosing indemnity-release sperm donors: The Parents' perspective 13-18 years later. *Hum. Reprod.* 18(5): 1115-1127.

[43] In 1979 fresh sperm was still used for over half of the artificial insemination procedures in the U.S. despite the fact that it cannot be tested for sexually transmitted diseases (M. Curie-Cohen, L. Luttrell and S. Shapiro: "Current Practice of Artificial Insemination by Donors in the United States." *New England Journal of Medicine* 300: 585-590). In 1985, following outbreaks of AIDS, the American Association of Tissue Banks published standards (already widely used in many other countries) directing member banks to use only frozen semen with a two month quarantine period (since extended to six months) and periodic donor rescreening to test for the presence of disease. Similar standards were adopted by the American Fertility Society (now the American Society for Reproductive Medicine). The FDA, a U.S. federal agency, is charged with regulating donated sperm, but banks are not required to register and there is no central tracking. See "Genetic testing of sperm donors: survey of current practices." C.A. Sims et al. *Fertility and Sterility*. 2010: 1, 126-9. For further discussion of this issue see the ASRM website and Almeling 2011.

[44] For a fuller history of CECOS see G. David and J. Lansac "The Organization of Centers for the Study and Preservation of Semen in France" In G. David and W. S. Price (eds.), *Human Artificial Insemination and Semen Preservation.* New York, Plenum Press, 1980, pp. 15-25; Pierre Jalbert, et al "Genetic Aspects of Artificial

donation the ethos established in British blood banking policy as it was interpreted by Richard Titmuss (1971). His innovation took the transfer of bodily fluids to be a gift rather than a marketable commodity as is the custom in countries that allow the purchase of sperm. It led to the establishment of the Federation of Centers for Cryopreservation of Eggs and Sperm (CECOS), a collection of autonomous non-profit organizations that regulate the acquisition, storage, and distribution of frozen sperm. Federation policy aims to transform sperm donation into a socially acceptable solution to infertility by giving it altruistic meaning and eliminating the social stigma and ethical objections that often attach to it.

CECOS established an advisory commission to harmonize practice and policy, adapt them to changing medical and social conditions, establish common technical and ethical standards, and coordinate joint research projects. To facilitate the social acceptability of sperm donation they originally required that donors be married men who had borne at least one healthy child and secured consent of their wives. Requirements have since been modified to permit donations from any biological father and include ovum donation. Recipients must be heterosexual women in established relationships and both partners must be alive at the time of the transfer. The number of times donors can contribute is carefully controlled. The relationship is depersonalized by requiring strict anonymity with the sole exception of therapeutic necessity. The invisibility of donors and the impersonality of surrounding conditions transform the gametes into pharmacological agents.

Problem cases are brought before the appropriate CECOS Federation advisory commission. They illustrate how the transfer of agency to medical institutions leads incrementally to an increasingly perplexing array of moral issues. Some that raise concerns about "quality control" have a distinctively eugenic cast. Originally, the banks matched donor and recipient only superficially on the basis of their physical appearance and oral histories. Increasing concern about cumulative risk factors for recessive genetic conditions led them to introduce more sophisticated karyotyping techniques that examine the number and morphology of the chromosomes. Since chromosomal studies reveal much more information than was specifically sought, a number of additional issues arose.

Insemination with Donor Semen: The French CECOS Federation Guidelines," *American Journal of Medical Genetics* 33: 1989, pp. 269-275; S. Novaes "Semen Banking and Artificial Insemination by Donor in France: Social and Medical Discourse." *International Journal of Technology Assessment in Health Care* 2: 1986, pp. 219-229; D. Le Lannou, et al. "Multicentre approaches to donor insemination in the French CECOS Federation: Nationwide evaluation, donor matching, screening." *Human Reproduction* 13, Suppl 2, 1998, 35-49,"Heritable Disease and Sperm Donation." J. Siffroi, et al. *JAMA*. 2010; 303, 617-619, and S. Batemen. "Le principe de l'anonymat du don de sperm," *Andrologie* 2011, 21:192-198. Also relevant is Ch. 9, "Studying Bioethics in France," in Fox and Swazey 2008, 233-258.

If the recipient carries a genetic anomaly that she is unaware of and she did not specifically request chromosomal analysis, how much should she be told? And who should disclose the information? Few physicians are adequately trained in genetics to screen donors effectively and clinics that perform chromosomal analysis seldom have personnel qualified to provide well informed genetic counseling. More immediately, what criteria should be used to exclude potential recipients from access to donor semen on genetic grounds? To respond to these complications the banks developed a list of genetic factors that justify exclusion. The list specifies major chromosomal alterations, dominant disabling pathologies, and some frequent serious recessive conditions that are often found among recipients.[45] To justify this stress on the prevention of genetic disorders in offspring conceived through donor insemination the banks appealed to the responsibilities of physician intermediaries. They reasoned that since the physician is intervening, it is his responsibility to apply professional criteria to avoid deliberately transmitting disease. But since healthy donors with seemingly healthy children may still be carriers of recessive conditions, eliminating all risk is clearly impossible. So what limits should be placed on physician responsibility to exercise quality control? How much risk is acceptable? To intervene when conception requires no medical supervision would encroach on the decision-making autonomy of prospective parents. But when physicians are called upon to intervene in the process of conception, they have responsibilities toward the child and the semen donor, as well as the woman who receives the sperm. Donors' personal values are irrelevant in France since they are anonymous and agree to know nothing about the disposal of their sperm. However, determining an acceptable level of risk involves questions of value so physician judgment is not sufficient to warrant excluding particular donors. Hence a broader-based, more inclusive decision-making procedure is needed that involves the social perspectives of all participants.

Through this gradual process the scope of the French regulatory system expanded well beyond its original function as a sperm banking institution. The passage of comprehensive bioethics laws in 1994 extended the functions of the CECOS federation to permit egg donation. With the inclusion of this additional layer of technological complexity their authority over genetic testing, screening, and disclosure gained official recognition.[46] In 2004 and again in 2011 the French Parliament updated the bioethics laws. CECOS policies have come to be recognized throughout France as the reference model in all deliberations concerning the organization of reproductive technologies. They have now been integrated as regular hospital services and no longer exist as independent non-profit organizations. They are usually part of a larger service that offers both AI and IVF, with or without a donor. However, the original federation still exists for those who practice ART with donor eggs and sperm.

Distinguishing artificialities

Schemes institutionalizing donor insemination interject human agency at so many junctures in reproductive processes that it is exceedingly difficult to pin down any specific artificiality that could count

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[45] S. Novaes, 1994: "Beyond Consensus about Principles: Decision-Making by a Genetics Advisory Board in Reproductive Medicine" in *The Concept of Moral Consensus*, Kurt Bayertz, ed. Dordrecht, Netherlands: Kluwer Academic Publishers, 207-221.

[46] For fuller discussion of such problems see Novaes 1985. "Social Integration of Technical Innovations: Sperm Banking and AID in France and the U.S." *Social Science Information* 24: 3. London: Sage and 1994 *ibid.* My gratitude to Simone Novaes Bateman for her invaluable help with this revision.

as the mark of "artificial" insemination. For several substitutions are taking place here. First, there is the substitution of a mechanical procedure for what was taken to be a "natural" one. Then, the exclusion of the sperm provider from the insemination process and his replacement by medical practitioners. Thirdly, donor semen is substituted for the infertile partner's. Since donor insemination by partner employs the very same procedure and its artificiality has seldom been viewed as noteworthy (despite reported discomforts[47]) two contentious substitutions remain, the agent doing the insemination and the sperm provided. So it is not the technique itself that is likely to become the focus of controversy but the substitution of one man's semen for another's. The medical practitioner's role as conveyer of the sperm tends to be disregarded unless another's sperm is used instead of the partner's. This substitution generates a vast tangle of legal and social issues about blood lines, legitimacy, and paternal rights and responsibilities that require explicit resolution. Transfer of control from the producer of the sperm to the medical intermediary who selects and distributes it is seldom the focus of attention. However, both issues converge around the positioning of the physician intermediary. Physicians often view themselves as bearers of the father's rights and responsibilities. Speaking within the context of ovum donation, a British clinician put it this way: "We give them a baby and they give us their eggs!"[48]

The clinician's role confers substantial social control, both directly and through symbolic association. Through the power to select and distribute the sperm, the clinician can judge whether a potential recipient is a qualified candidate for insemination and how much she should know about the man whose sperm is placed in her body. In the absence of regulation, the power to know is qualified only by the terms set by the woman herself, the practitioner performing the insemination, and the policies of the particular clinic. When secrecy is so tightly guarded that only the inseminating practitioner knows the provider's identity, the tendency to imaginatively transform the practitioner from an intermediary to the creator of life may become irresistible. The woman recipient might surrender to this fantasy too. Some commentators have called attention to these symbolic associations to show how the encounter between a vulnerable woman waiting to be inseminated and a (male) practitioner impregnating her with a laboratory syringe magnifies power imbalances between differently situated individuals.[49] Sexual associations are disrupted twice over: first by separating the sexual act from the procreative act and second, by transposing procreation to the medical milieu. So the medical event comes to be imbued with culture-laden associations tied to the sexual origins of the act

The several substitutions involved show how a socially constructed act may take on the appearance of naturalness. Secrecy is an important element, though by no means the only one. The image of a gift from one couple to another, so prevalent in the French regulatory ethos, evokes traditional imagery of children as gifts of God. But gifts from one human to another are not 'free' but tied to a social network of obligations. Though donation links a person to a source of genetic material, the link may

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[47] For an insightful first-hand account of a husband's experiences see Lauritzen 1993. His reservations about the procedure differ considerably from arguments against DI used by the Catholic Church. An exception to the general acceptability of DIH is the use of the procedure following the husband's death (the issue dramatized in the UK case involving Diane Blood, see chapter 2). However, even this procedure has grown more common.

[48] Cited by Virginia Bolton in conversation.

[49] For commentary on this imagery note Silvia Tubert in *Genders*, 14: 1992. For elaboration on a related theme, the doctor as a hero, see Lene Koch: "The fairy tale as model for women's experience of in vitro fertilization" in Holmes 1992.

extend to others too. The gift analogy provokes questions about the cultural meanings of that which is traditionally regarded as natural, fertility itself. The origins of life themselves seem so natural and spontaneous that the fertile woman who endures the risks of conception and pregnancy may fade into invisibility. Similarly, terms such as "artificial insemination" disguise the normal processes of conception, pregnancy and birth once sperm has been introduced into the body of the woman who, alone, provides the indispensable conditions for fetal growth and development.

When single women request access to insemination, male practitioners are even more likely to allude to themselves as substitute "father" and construct an account of their responsibilities that draws on this analogy. This positioning conveniently justifies paternalistic exercise of physician power to choose the particular women who are fit recipients of the seed entrusted to their care. Physicians have often excluded women who they do not see as fit mothers, particularly if they are unmarried or assumed to be living in a lesbian household.[50]

Designating themselves as "father" when administering anonymous sperm seems to justify both the physician's role as intermediary and the substitution of their own values in the transaction. In at least one instance, a fertility specialist initiated legal action to adopt a patient's embryo as his own.[51] In some instances, physicians have been discovered furtively using their own semen to impregnate unsuspecting women patients.[52] Fertility practitioners may even elevate themselves to a status tantamount to God, the Father. Ricardo Asch, inventor of gamete intrafallopian transfer (GIFT), is reported to have customarily stood back upon transferring embryos to a supine woman and intoned, "I proclaim you pregnant."

Interestingly, none of these symbolic substitutions involves the woman who is the subject of the insemination. Feminists have picked up on this point and drawn out connections between the stress on artificiality as the defining mark of donor insemination and the choice of language that characterizes other reproductive techniques. They note how frequently a reproductive problem is cast in language that excludes or minimizes the role of the woman. The term "surrogacy" is sometimes used even when the carrying woman is also the biological mother. The media's favorite expression: "test-tube baby" conjures up images of laboratory production that overwhelm women's role altogether.

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[50] Fortunately, in some localities this practice is yielding to changing social norms. See, for instance, Cahn 2009, 214.

[51] Susan Faludi (1991) reports in *Backlash* that Dr. Howard Jones, a widely respected U.S. fertility specialist, claimed custody of a patient's embryo; the woman sued him in federal court to force him to release it (422).

[52] In 1995 Dr. Cecil B. Jacobson, a fertility specialist practicing in a Virginia clinic in a suburb of Washington D.C., began serving a five year prison term on a fraud conviction for using his own sperm to father as many as 70 children by women patients in his fertility clinic between 1976 and 1988. He told his patients that he was using sperm from anonymous donors. See, for instance *Washington Post* 1/2/96 which also relates several other instances of deception and carelessness.

Beyond Donor Insemination

Medical practitioners obviously play a central role as "gatekeepers" controlling access to this technique. In France, which has institutionalized donor insemination far more extensively than any other country, the physicians' gate-keeping functions are explicitly defined. But in most other countries, especially where the procedure is not so closely regulated, the physician's role seldom becomes a focal issue until dissension arises over their selection criteria or scandals erupt over the practices of specific clinics. The furor over embryo switching at the fertility clinic run by Ricardo Asch (see above) illustrates more broadly the moral issues I have raised with sperm donation. Asch and his colleagues were discovered to have fraudulently transferred the eggs and embryos of numerous patients to other women. In some instances eggs intended for donation were sold. Patient consent forms directing the disposal of gametes and embryos were falsified. Some disappeared. So did sizable cash receipts due the University. At least three hundred families were affected by their mismanagement, deception, and fraud. Cash also flowed into Asch's pockets for the sale of a foreign fertility drug, HMG Massone, which he administered to patients even though it had not been approved by the U.S. Food and Drug Administration. To avoid prosecution, the physicians involved fled the country.[53]

In other instances laboratory errors led to the birth of mixed-race twins. Technicians carelessly reused pipettes that still contained sperm from previous inseminations.[54] In one case, a nurse discovered soon after inseminating a woman that the wrong man's sperm had been used. The woman had two previous inseminations on prior days but when her subsequent pregnancy test was shown to be positive the clinic pressured her to abort so their reputation would not be tarnished. A Catholic, she later mounted a suit to compensate for her anguish.[55] In another case, a U.S. couple claimed that either their eggs or embryos were switched and sued for custody of seven year old twins.[56]

Considering the phenomenal growth of the fertility industry over the past generations, it is not difficult to understand circumstances under which laboratory workers might inadvertently err. Between 1982 and 2011, the number of U.S. infertility clinics grew from 5 to 481, respectively. But what motivates famous fertility wizards to intentionally deceive women entrusted to their care? In a medical specialty that has mushroomed into a $2 billion a year business in the U.S. alone (check CDC), prime motivating factors are opportunity for huge profits and fierce competition to outstrip the success rates of other clinics. Freedom from regulatory scrutiny (even by insurance companies) is undoubtedly another factor. In the U.S. the Society for Assisted Reproductive Technology (SART) establishes voluntary guidelines governing laboratory supervision and record keeping, but there are no mechanisms to insure that clinics

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[53] Cited in *Washington Post*, 1/2/96; *Newsweek*, 6/12/95; and *Orange County Register*, Special Report on Fertility Fraud (undated). It is interesting to speculate about whether Asch would have been so careless had penalties been in place comparable to those in Britain under the HFE Act.

[54] See "Twins--with Two Fathers" in *Newsweek*, 7/3/95. This error occurred in the Netherlands where pressures are not nearly so intense as in the U.S. nor are biological parents as likely to mount a custody battle. *Newsweek* reported that the birth parents and the biological father who is from Aruba "are struggling to adjust to their immutable bond." See Bulbul, O. et al. (2013), Heteropaternal Superfecundation: A Case Report in Turkey. *J IVF Reprod Med Genet*, 1:3.

[55] *New Age*, 8/25/94.

[56] *Indianapolis Star*, 2/20/96.

comply. Though half of the gynecologists listed on websites are likely to claim that they are infertility specialists, fewer than 1,000 U.S. M.D.s are certified reproductive endocrinologists.57 To allay the insecurity of prospective patients, advocacy groups such as RESOLVE advise potential consumers to check out the success rates of facilities. But clinics are under no obligation to report their data accurately.

Since physicians who operate fertility clinics inevitably have their own agendas which seldom converge with the interests of their patients, the well-being of both infertile parents and their future children may be at risk. In the wake of scandals, the American Society for Reproductive Medicine (ASRM) recommended an independent licensing authority modeled after the Embryology Authority in Britain. But influential reproductive scholars, such as John Robertson, pressed for a contractual solution instead. Robertson insisted that "the Human Fertilisation and Embryology Authority is not easily transferred to the larger, private, and more decentralized American setting and cannot guarantee that lab errors or theft will not occur."[58] Certainly, adaptation of the British model to the U.S. scene would require some ingenuity, but the powers of the Authority to systematically inspect clinics, examine their records, and close down those that do not comply would surely deter the excesses common among commercialized ventures in the U.S. and other largely unregulated countries.

Despite such efforts to subsume medicalized reproduction under the established right to reproduce (sexually) once allowances are made for the controlling influence of third party intermediaries, it is evident that the grounds for a policy of noninterference in sexual reproduction is not readily applicable to nonsexual reproduction. When the link between biological and social parenthood has been severed, other parties inevitably become active participants in reproductive decision making. The French example illustrates particularly clearly how practitioners who attempt to match gametes of donors and recipients become accountable for the transmission of identifiable genetic disorders. But even in the absence of such direct intervention, third party involvement in conception inevitably brings into play social and institutional structures that link the activities of individuals both to one another and to other social arrangements that ought not be subordinated to the projects of individual reproducers. The interests of other individuals and social goods are at stake too.

My argument is applicable both to more complex reproductive innovations and to many other institutionalized applications of technology. The same kinds of concerns about the concentration of power within the control of medical professionals in donor insemination extend to the participation of third parties in IVF, ZIFT, and contractual surrogacy. This explains why commissions that investigate regulation of these technologies tend to focus attention primarily on the handling of gametes and embryos outside the body and the appropriate role of medical practitioners in these activities.

As was the case with the original Warnock recommendations, however, recent commissions have usually been geared to sustaining the semblance of traditional families. It is this preoccupation that generated the predominantly negative reaction of many feminists to the Warnock proposals for their emphasis on issues of paternity and physician responsibility in manipulating gametes and embryos and virtual neglect of the risks, discomforts and moral claims of women who are the principal subjects of these

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57 Society for Reproductive Endocrinology and Infertility. http://www.socrei.org/uploadedFiles/Affiliates/SOCREI/Publications/SREI_brochure.pdf

58 *Hastings Center Report* 25:6, 1995, 19.

interventions.[59] Less commonly recognized by regulatory bodies is the paradoxical situation embedded in third party conception: where the tie between biological and social parenthood has been severed, attempts to "normalize" technological innovation to mimic biological families is likely to generate and foster deception. Maura Ryan has pointed to one anomaly making for deception: the value of the biological connection justifies the claim to assistance, but in order to receive assistance the infertile party must be willing to renounce that connection.[60] In donor insemination another anomaly intensifies the pretense; for it is not the infertile party who is the primary subject of medical procedures, but the fertile one. The commonly used medical locution "the infertile couple" obscures this asymmetry and parents who seek to shroud the origins of their child in a cloak of secrecy perpetuate it.61

Both the woman who is subject to medical manipulations and the child created through them are liable to harm: the woman because she may be expected to undergo unnecessary risk and discomfort in an effort to support the deception of a biological family and the child who falls victim to this pretense. The well-being of all involved parties would be better served by an institutional framework that acknowledges at the outset the primary value of social parenting over biological ties and seeks to foster any mode of family relationship able to provide a stable nurturing environment that supports human growth and flourishing.

In saying this, I do not mean to minimize the sense of continuity and history that genetic ties represent nor concentrate on nurture to the exclusion of biological connection. Biological continuity and social parenting are both likely to be major constituents of most people's sense of personal identity. However, regardless of culture children cannot thrive without stable and supportive child-rearing arrangements.

Toward Alternative Forms of Family Relationship

But recognition that we have no access to nature that is independent of human interpretation need not compel us to abandon any claim to knowledge of reality apart from social construction. We might understand biological grounding as embedded in social constructions in ways that are recognizable through our transformations of the biological. Though the presence of what we view as 'out there' could not serve as *ground* for our knowledge claims about it, it could still constitute a *limit* to the range of possible conceptualizations of it. Within such a framework we might think of the human body as both inside and outside social relations. As Elizabeth Grosz puts it:

> The body is constrained by its biological limits ... whose "stretchability" we cannot yet know, we cannot presume, even if we must presume some *limits*. . . . (T)hese constraints are perpetually capable of being superseded, overcome, through the human body's capacity to open itself up to prosthetic synthesis, to transform or rewrite its environment"(Grosz 1994, 187-88).

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[59] For more extended discussion of this issue see chap. 3 above.

[60] "The Argument for Unlimited Procreative Liberty: A Feminist Critique" *Hastings Center Report*: 20:4, 1990, 10. Ryan extends this argument in her 2001 book.

61 Bukky: there's a 2013 case too: can you locate it?

But then how do we think of sexual reproduction? Is it just one kind of reproductive strategy among numerous possible artifices for achieving a pregnancy, as Donna Haraway so provocatively suggests (1985)? For instance, how could a woman know when she'd reached the limit of efforts to achieve pregnancy? And how does social power influence and shape reproductive artifices? Do the negative consequences of intervention outweigh affirmative benefits–for society as well as individuals?

Rethinking our conceptual frame might restore a sense of nature not just as a product--a resource to use instrumentally, as in the Cartesian tradition, but as vital, alive, and emerging. Letting go of the preconception that we have direct access to nature need not force us all the way into post-modernism but spur an alternative paradigm that exposes the middle ground between facts and artifacts, between human reproduction and institutionalized production, so accountability for organized meddling could no longer be evaded.

I have argued in this chapter that the pivotal issue in the turn to so-called "artificial" modes of reproduction is neither their departure from nature nor their conformity with it. Appeal to nature by supporters of reproductive innovation serve other aims including justification of the dismemberment and transformation of bodily processes formerly viewed as continuous and the clandestine transfer of control over reproductive decision making to medical institutions that interpose their own power and authority. What makes medicalized reproduction problematic is this shift in agency from biological parents to medical practitioners and other third parties.