IN 1999, I PUBLISHED A BOOK THAT FOCUSED ON AMNIOCENTESIS—genetic testing in pregnancy. My research into this then-routinizing technology was generated by my own experiences: “advanced maternal age” put me “at risk” for several genetic and chromosomal conditions, the most well-known being Down syndrome. Although I had a PhD in a field akin to genetics, I barely understood the implications of the test for myself, to say nothing of women with less privileged educations. I thus began research on the social impact of this new genetic technology. Deploying anthropological methods, I pounded the pavement, observing in hospitals, labs, homes, and schools in order to detail the highly differential meanings, experiences, and aspirations that women and their partners described when I asked about their use of prenatal genetic diagnosis. My respondents were drawn from diverse socioeconomic, racial-ethnic, religious, and national backgrounds in New York City. I was particularly interested in the existential gap between the perspectives of professional scientists, ethicists, and researchers as they described the benefits and burdens of a new reproductive technology, and how people who actually used it imagined fetal disability, grounds for abortion, and the potential changes in family life this test
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might effect in a period when amniocentesis was just becoming routinized (Rapp 1999).

My book joined a growing corpus of feminist scholarship; many authors, like me, had been influenced by the international women’s health movement. Collectively, we placed the experience of new reproductive technology users—overwhelmingly, women—at the heart of a rapidly emerging area of scholarship where the empirical findings of medical anthropology and sociology and science studies met. For example, scholars examined in vitro fertilization (IVF) (see Franklin 1993; Thompson 2005), sonography (Mitchell 2002; Taylor 2008), genetic testing (Kolker 1994; Rothman 1986), and the experimental use of prenatal genetic diagnosis (PGD) linked to IVF for carriers of serious genetic diseases (Franklin and Roberts 2006). Many of us recognized the potentially destabilizing, “antifoundational” meanings that women and their supporters assigned to these technologies (to use Marilyn Strathern’s felicitous label [1992]). But we also stressed that this potential to shake the roots of popular understandings of sex, gender, and natural law was often recuperated by frequent biomedical insistence that the new reproductive technologies were just “giving nature a helping hand” (Franklin 1993). Some queried the structural forces that enabled or barred women and their supporters from seeking or continuing medical interventions into infertility (Becker 2000; more recently, Wilson 2012). Yet we rarely looked beyond the developed world, where high-tech medical intervention was increasingly available to query user experiences with the new reproductive technologies (becoming simply the ARTs, or assistive reproductive technologies) as they then rapidly spread around the globe.¹

And spread they did.² This review essay thus begins in what used to be so indelicately labeled “the third world,” now most often referred to as “the developing world,” or, in some circles, as the “global South.” I report on the heterogeneous findings of empirical researchers perched in clinics, laboratories, houses of worship, national health ministries, family kitchens, and on websites to follow this proliferation of the ARTs around the globe. Since the first birth by IVF in Great Britain in 1978,
is Wilson forthcoming?
more than 3 million births through ART have been reported around the world, from North America, Europe, the Middle East, China, India, and Southeast Asia to Africa and Latin America. Nor is it surprising, given the flourishing fertility industry in the industrial North, to see high-tech fertility clinics opening, even in very low resource areas or alongside overburdened and underfunded primary health care systems. With revenues of $4 billion a year in the United States alone, fertility is big business; entrepreneurs both within and outside of what was once euphemistically called the developing world look to it as the promising new edge of an ever-expanding ART market (Ryan 2009: 805).

While the rapid spread of the ARTs signals the most dramatic of reproductive transformations, it is hardly alone: as many have noted, we find ourselves in an age of highly selective and exquisitely stratified globalization. Not only can India or Thailand attempt to regulate reproductive services that will make their economies user–friendly for consumers traveling from expensive to cheaper zones of IVF, surrogacy, or egg purchase; we have also seen a rise (followed by significant national and international regulation) in international adoptions (Howell 2006; Volkman 2005; Yngvesson 2010) and female domestic labor migration ((Ehrenreich and Hochschild 2002; Hondagneu–Sotelo 2007; Parrenas 2001). This multiple-sited, female-centered commerce in what Wendy Chavkin (2010) calls “body bits,” adoptive children, and female services is being tracked by empirical researchers from many vantage points. Indeed, The Globalization of Motherhood, as Chavkin and Maher (2010) entitle their edited book, intertwines and is animated by the transnational upswing in commercial tissue sales, nanny migration, and intercountry adoption. The potent and sometimes contradictory combination of these processes constitutes the site of an uneasy and prolific debate on bodily autonomy, consumer citizenship, and the ethics of transnational market-driven bodily sales.

As many social scientists have shown us, there is often a large lived and existential separation between a declared social policy and what happens on the ground. Likewise, medical tourists flying from rich to poor countries for reproductive services have produced a lively
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web-based critique of the difference between advertised and regulated or unregulated services. And we are beginning to read news articles and see films about the gap between the experiences of those who would use global ARTs and those who sell their parts and services to accommodate this market (Hochschild 2009; Haimowitz and Sinha 2011).

We now have reports on the uses of IVF, sonography, gamete sales, and stem cell research in many parts of the world. Much of the available literature speaks to the economics and scientific intervention these commercial transactions entail, but it rarely engages the layered complexity of the social worlds that support, distort, or otherwise enable reproductive technological innovation and intervention. To underline an obvious anthropological point: any transformation of child-making proceeds not only through the medicalization of women’s bodies; it always and also involves simultaneous entanglement with gender and generational relations, kinship, religious, and governmental regulation at both the local and the international level. These reproductive entanglements have provided rich subject matter for qualitative social science research. My essay takes up this literature, insisting on the importance of global connections and disconnections in understanding the volatile expansion of assistive reproductive technologies as they are capitalized, regulated, or remain governed only by the marketplace.

In an edited collection of essays analyzing the impact of such technologies in the developing world, editors Daphna Birenbaum-Carmeli and Marcia Inhorn preface ten case studies of the diffusion of the ARTs in light of the destabilizations of late modernity. Their introduction highlights disruption in ideas concerning nature/culture and in the relations between women and men. At issue is the separation of sexual relations from reproduction, and the market-driven muddling of the lines between gift and commodity. At the same time, other foundational connections are shaken—for example, in the mixing of informal with formal labor in surrogacy or egg “donation” and in the implicit (or sometimes quite explicit) implosion of hetero-
Have inserted section breaks in the article to break up text.
sexuality/homosexuality; local/global; secular/sacred; and even human/ nonhuman as experiments are publicized and new constituencies use market reach to purchase innovative reproductive services (Inhorn and Birenbaum-Carmeli 2007; Birenbaum-Carmeli and Inhorn 2009).

Birenbaum-Carmeli and Inhorn note that gender relations in particular are brought into stark view by these technologies, for women bear the physiological burden of most interventions even when the failure to achieve a pregnancy is owed to male infertility factors. Increasingly, the social and psychological consequences of male infertility have also been publicized with the advent of ICSI (intracytoplasmic sperm injection), now available in many parts of the globe. In her study of IVF clinics across the Muslim Middle East, Marcia Inhorn found, for example, that it is not unusual for couples to travel from majority Sunni to minority Shia locations, where more technologies, including male-centered ICSI that entails female-centered IVF, are available. Such mixtures and methods are usually banned under Sunni religious law but allowed under the Shia’s more flexible interpretations (Inhorn 2004, 2011; Inhorn and Sargent 2006). This search for a user-friendly Islamic environment has deep implications for marriage. The timing of gender relations is up for grabs as reproductive life is quite time sensitive: being an “old” mother may lead to serious stigma, although less so than childlessness. Yet a man who follows Islamic law may take a second, younger wife as a more reliable babymaker rather than playing the IVF odds with his first, older wife as new technologies become available. Ironically, and as a form of gender pressure and negotiation, the chances of IVF success decrease as women grow older, even if the initial reproductive problem was unambiguously male. At the same time, Inhorn believes that the social and psychological sorrows of infertility have actually incubated a profound sense of companionate marriage among many who endure them: a wife or a husband who remains loyal to an infertile partner or accompanies that partner through unsuccessful treatment is forced to focus on the value of the marriage itself, as its reproductive importance can no longer be assumed. So gendered self-consciousness and an articulated commitment to joint projects are
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part of the landscape into which fertility-seeking “traditional” Muslim couples step when they pursue ART treatment throughout the region.

Other examples drawn from the volume also illustrate this heady mix of gender, chronos, and national/religious destabilization. For example, in Germany, infertile German-Turkish couples reap the benefits of IVF at publicly supported fertility clinics, but are often subjected to widespread public stigma, labeled as overpopulators in need of contraception, and sycophants on the German national health system. Statistically, this is far from true: like many people in the lower socio-economic sectors, German-Turkish immigrants and first-generation members of the working class have higher rates of infertility, including infertility caused by tubal factors, which is strongly correlated with lack of timely and appropriate health care. They only make their way into the German infertility treatment sector with considerable hesitation. Yet when queried by anthropologist Lisa Vanderlinden, German Turks avow that fertility and family formation are highly valorized. Turkish couples resist being labeled as overpopulators, for example, by describing German couples as colder and less committed to their children than Turks consider themselves to be; Germans have lower birth rates and are imagined to be less persistent in seeking rigorous infertility treatment (Vanderlinden 2009a, 2009b, 2011). Thus national stereotypes enter into resistance and notions of self-worth as “traditional family values” are pursued through new technologies, braving the wrath and contempt of the dominant majority.

Regional as well as national differences may provide protective resources in the search for commercial fertility treatment. The case of highland Ecuador illustrates this turn toward regional traditions and resources. There, women and their supporters are suspicious of costly and anonymously purchased eggs. Whenever possible, they prefer to rely on familial egg donation, where multiple forms of female-centered reciprocity—including the “repayment” of prior economic loans in precious gametes, relations of godparenthood or generational indebtedness—embed concepts of modernity and responsibility (Roberts 2009; E. Roberts 2012). Thus, an existing and highly resilient form of female-
sycophants seems like the wrong word; “parasitical” or something like that?

[Author: Which Roberts is intended here? Both D. and E. have 2009 publications]
centered kinship reciprocity, which has long been oriented toward a local form of market relations, is revitalized to new ends. It also has the effect of at least discounting some of the costs of IVF entailed by market forces as women’s “traditional networks” are mobilized for the new purpose of sharing rather than purchasing eggs. In highland Ecuador, it is plausible to speak of egg “donation” in these cases, as opposed to the widespread appropriation of that term as a euphemism for sales.

Another important example drawn from the same collection involves Shia Iran, which is on the cutting edge of gamete and embryo donation for the Middle Eastern region. There a potent combination of religious deliberation and pronouncement, biomedical expertise and authority, and the ongoing importance of kinship knowledge and reciprocity combine to make temporary marriage an important institution for fertility treatment. The institution of *mut’a*, or temporary marriage, is a key to securing egg donations: religious culture has long permitted a flexible arrangement that legitimates short-term sexual relations between contracting women and men for a range of purposes. But when initial intentions go astray, a “temporary wife” (hired for egg donation) may end up as a household servant available for subsequent donation or as a second wife whose fertility will be incorporated into the marriage and the lineage. Yet most donations remain *halal* (religiously ordained) through the use of sibling or other approved kinship donation. Clinic staff need to be respectful not only of religious authority but also of the wishes of senior kin. Many clinics now require the “couple in (potential) treatment” to sort out the legal, social, and financial arrangements they will have with kindred gamete donors with their local religious authority before they are accepted for treatment (Tremayne 2009). The book is full of such rich examples, each one suggesting that destabilizations and recuperations provoked by the ARTs are exquisitely specific in their local, regional, and national effects.

Yet the ART story is no respecter of national boundaries. Many analysts have carried out observations in India, where both embryo “donation” and surrogacy are big business, targeted toward an international clientele (Hochschild 2009; Pande 2010). Indian government
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regulators and business investors intend to profit from the ease with which clinics can work with gametes, embryos, and fetal tissue, when contrasted with the fraught moral status that such “embryonic entities” hold in Euro-American discourse and practice (the phrase is from Aditya Bharadwaj [2009]). In both elite private and newly emergent public infertility treatment programs, women in treatment are targeted for excess embryo donation in the hopes that these resources will fuel the “stem cell race,” placing India out ahead of its scientific competitors. While a rhetoric of generosity toward national research programs is stressed, the Indian government is also attempting to create a science-business fusion in which India emerges as a key research site, betting that human embryo stem cell (hESC) knowledge can rapidly emerge beyond the religious and regulatory entanglements that put a brake on Euro–American scientific developments (Bharadwaj 2006, 2009, forthcoming). At the same time, Indian hospitals and clinics are themselves increasingly stratified, the larger urban ones looking toward the European and American markets, while smaller cities and towns advertise their fertility services among regional elites in Bangladesh, Pakistan, and Sri Lanka, where fertility clinics have scant infrastructure (Mulay 2011). “Poor” is always a relative term and the moneyed elites of the region are, of course, fantastically wealthy when compared to the traveling North Americans who seek out “cheap” clinic facilities.

In the present era, India is particularly well known as a rapidly expansive site of medical tourism: US sociologist Arlie Hochschild investigated several gestational surrogacy programs in search of this story. She observed that surrogates must abide by stringent rules that are user-friendly for commissioning Westerners and upper-class Indians, while separating the surrogates from their own families for long periods of medical and nutritional surveillance. Her interviews focused on the surrogates’ hopes and aspirations as they undertook this reproductive contractual labor:

"It was my husband’s idea,” Geeta replies. “He makes pav bhaji [a vegetable dish] during the day and serves food in
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the evening [at a street-side fast-food shop]. He heard about surrogacy from a customer at his shop, a Muslim like us. The man told my husband, ‘It’s a good thing to do.’ . . . We can’t live on my husband’s earnings, and we had no hope of educating our daughters.” As another commented: “My father-in-law is dead, and my mother-in-law lives separately from us, and at first I hid it from her. . . . But when she found out, she said she felt blessed to have a daughter-in-law like me because I’ve given more money to the family than her son could. But some friends ask me why I am putting myself through all this. I tell them, “It’s my own choice” (Hochschild 2009).

As Hochschild goes on to point out:

Right now international surrogacy is a highly complex legal patchwork. Surrogacy is banned in China and much of Europe. It is legal but regulated in New Zealand and Great Britain. Only 17 (out of 50) of the United States have laws on the books; it is legal in Florida and banned in New York. In India, commercial surrogacy is legal but unregulated, although a 135-page regulatory law, long in the works, will be sent to Parliament later this year” (2009).

Many Indian commentators have criticized the potential law as aimed toward wealthy national and international consumers and insufficiently protective of the rights of overwhelmingly poor gestating employees. But the case of surrogacy is not simple to decipher as exclusively one of rich-on-poor exploitation. For example, gestational surrogacy is booming in Israel, where “traditional” surrogacy (in which the surrogate provides her own eggs but is fertilized through donor insemination with the contracting father’s sperm) is banned: Jewish women cannot contribute their own eggs to another couple without violating Halakhic law. But eggs bought in Romania, Russia, and Italy
[Author: If this is a 2009 publication, do you know the current status of the law?]
are particularly popular there. Elly Teman’s *Birthing a Mother* (2010) provides a fine-grained analysis of the negotiation through which surrogates and contracting infertile would-be mothers choreograph a duet of connection and separation, the gestator often serving as guide as well as hired womb to the intimate consequences of state-valorized motherhood for the would-be mom whose life-changing journey she enables. Commercial surrogacy is, however, banned in much of Europe, Australia, the Middle East, and in Vietnam. But contradictions abound both locally and internationally inside and between various regulatory regimes. Although Vietnam bans surrogacy, for example, its recent neoliberal market reforms by a putatively socialist government provide and encourage the widespread use of sonograms during pregnancy. Tine Gammeltoft reports that this technology of visualization is cheap and widespread, sometimes adding up to a dozen or more sonograms throughout a single pregnancy. It is available in both the public and private sector, offering health checks of growing fetuses that are supposed to decrease maternal anxiety (Gammeltoft 2007, 2008). Some might opine that this hypervigilance actually highlights pregnant women’s fears, increasing their techno-dependency. And in a quite different national context, Tsipy Ivry has made a similar argument about “the ultrasonic picture show” of sonogram imaging as it bolsters the paternalist authority of obstetricians in highly health-literate Israel (Ivry 2009, 2011). She contrasts this orientation with the muffling of equally high-tech services in Japan, where the use of technology in pregnancy is orchestrated by OB/GYNs with quiet but directive authority (2006, 2011).

**TWO CONCEPTS DRAWN FROM MY EARLIER WORK MAY BE HELPFUL IN sorting through the many compelling reports offered in these pages. First, anthropologists have turned to the concept of “stratified reproduction,” querying how, why, and with what consequences the reproductive aspirations, practices, and outcomes of one group of people are valorized, while the parenthood of another is despised or unsupported (cf. Colen 1995; Ginsburg and Rapp 1995; Rapp 1999). This concept**
Is this also Ivry
describes quite well Hochschild’s report on gestational surrogacy in India or the hiring of a poor rural woman as “temporary wife” and egg donor in Shia Iran; the reproductive subjectivities, strategies, and aspirations of the poor women who carry and birth children for the rich are silenced in most discussions of these practices. This situation is hardly unusual: worldwide human egg procurement currently occurs under conditions that are economically coercive, and the invisibility of the powers of the neoliberal market in “body bits” (Chavkin 2010) stands in stark contrast to the widespread and quite public sympathy many North Americans express for people suffering with infertility (Ikemoto 2009). Feminist legal scholars have noted that African-American surrogate gestators are increasingly deemed appropriate womb-renters in the United States (and have long been hired as nannies for the children of the well-to-do, of course), but often remain the object of public opprobrium as mothers themselves (D. Roberts 1997; Roberts 2009; D. Roberts 2011).

A second useful concept is “moral pioneering” (Rapp 1999). It is my contention that local and ongoing gender, generation, class/caste relations, and religious regulation all provide a reassuringly continuous optic through which innovative technologies may be viewed and assessed. Women and their supporters may be forced to confront and opt in or out of new and quite invasive medical technologies, but they do not do so on “virgin territory.” Rather, they use available and long-standing resources to reason their way through a fraught and seemingly radically new situation. In a sense, they become “moral pioneers” by using comfortable resources to decipher uncomfortable situations, a form of constrained but real agency. The example drawn from Elizabeth Roberts’ research on Ecuadorian gamete donation among sisters and other female kin surely illustrates this concept, as do Lisa Vanderlinden’s report on German Turkish infertility treatment and the corpus of Marcia Inhorn’s scholarship on reconciling kinship, desire, religious authority, and the regional medical marketplace in the Muslim world of infertility treatment. How do individuals, couples, families, and kinship networks come to decisions to use or limit the
[Author: Which Roberts 2009 is intended here?]
use of ARTs? How might the sting of the new be already and almost always defanged by its emplacement within the old? In other words, how might prior social relations and cultural understandings condition the uses and beliefs that accompany the introduction of these most intimate of technologies?

By focusing on the absorption and transformation of the ARTs in cultural and political-economic contexts less familiar to most readers than those that occur in the Anglophone world, I do not mean to imply that conditions “at home” have stabilized around these technologies. As biotechnology garners capitalization and hence research and market velocity, there are continual reports of new generations of destabilization. In the United States, for example, we have evidence of moral pioneering as genetic-testing technology rapidly moves forward: tests for late-onset diseases increasingly affect both gendered and generational relations. In one study, women who have already tested positive as carriers of breast cancer susceptibility genes (BrCA 1 & 2) were asked experimentally whether they would use prenatal genetic diagnosis (PGD) in their upcoming pregnancies. This technology involves IVF, and a mainly but not entirely accurate determination of which embryos have a similar genetic status to the affected parent via the removal and diagnosis of its cells at a very early stage of development. A decision is then made to place only those embryos testing negative for the affected genes back into a woman’s uterus. Many women said “no,” they did not want to “play God” with genetic choices; and even those who were more positive expected “science to provide the cure for breast cancer” by the time their impending offspring might need it (Rubin 2011; cf. Gibbon 2007). Monica Konrad’s Narrating the New Predictive Genetics (2005) reports on families who have near relatives with Huntington’s disease (a late-onset neurological wasting disease that is inevitably fatal). People make exquisitely thoughtful decisions when they undertake genetic testing about which grown children and other near-relatives can be relied on to understand a diagnosis and to consider testing for themselves; they also decide that this fraught news of genetic disease status must be kept secret from selected others, thus driving a wedge (or reinforc-
ing a pre-existing one) among kin. And Margaret Lock’s research into Alzheimer’s disease also fits this concept of moral pioneering: she labels current genetic testing for near relatives of Alzheimer’s patients in terms of “the eclipse of the gene and the return of divination.” By this, Lock means that there are now known to be multiple alleles, each conferring a differential risk for Alzheimer’s (that is, some increase the carrier’s risk while others confer some protection). Yet genetic information merely “changes the numbers” by describing risk more accurately; it is not predictive of which individuals will actually succumb to Alzheimer’s. Near relatives of people who suffer from Alzheimer’s must make decisions about how significant testing information is to their daily life, and with whom they might share this knowledge. Lock et al. found that, in the main, subjects do not dwell on the results of genetic testing—they are far more preoccupied with issues of care-taking as a loved one for whom they are responsible spirals through degeneration (Lock 2005a, 2005b, 2009; Lock et al. 2006). In all these cases, gender, generation, racial-ethnic and class, educational attainment, and much more will all play a role in how a person in her embedded network seeks out and pioneers her way through new biomedical technology and the information it provides.

We also see this quite philosophical set of problems at work as we read recent reports of ramped-up programs in newborn screening, whose diagnostic capacities now may reveal very rare and ambiguous conditions: parents may receive information whose relevance is unknown or will only become knowable as the child develops. Across the United States, different states mandate diverse testing regimes. As genetic technologies become cheaper and become more accessible, long-standing public health newborn screening programs for PKU and sickle cell anemia, for example, now also offer tests for 40 or 50 far more rare and less well understood conditions. The tests produce inherently intimate but ambiguous knowledge about a newborn the parents cannot yet know, as several pioneering researchers have noted. Rachel Grob describes the premature closure of an introductory period in which parents usually fall in love with their newborn child, becom-
not sure what racial-ethnic is modifying; please review and revise
ing experts in her care and needs. Now, they hold highly consequential knowledge about the child’s health risks before they have welcomed her home, and are dependent on medical expertise before they feed or otherwise learn to nurture their new baby (2011). Stefan Timmermans and Mara Buchbinder focus on the high percentage of “false positives” newly expanded screening programs produce, and the social consequences of having a baby whose ambiguous diagnosis makes her a “patient in waiting” (forthcoming). Kelly Raspberry and Debra Skinner interviewed just-delivered women about their choice to have/not have newborn Fragile X screening:5 they view the test as an expansive instance of Foucauldian biopower at the bedside, where the women have been placed in a forced-choice situation (Raspberry and Skinner 2011).

It is worth highlighting that in all these examples, moral pioneering extends well beyond the moment of pregnancy: the “niche of reproduction” is now preconceptual, neonatal, predictive of late life-cycle disease that may impact on reproductive decisions. I would argue that the concept is useful in highlighting newly routinizing technologies in individual and familial life cycles where they fall on complex relational ground. Indeed, we might imagine that the niche of reproduction itself has now extended into consciousness and increasingly selective action throughout the life cycle, encompassing diverse and fraught moments for potential biotech intervention.6

My own current work bears out this suggestion. I am presently conducting anthropological fieldwork with my colleague, Faye Ginsburg, on the rise of special education in the United States. When we were children, almost no one in our public school classrooms was overtly referred for special education services; now 15 percent of American children are diagnosed, and local school boards are entailed to set aside budgets for these expensive remedial services. Broad social transformations—in deinstitutionalization, civil rights legislation and litigation, science and medicine—have both saved the lives of children receiving diagnoses and placed them into the homes and schools of their families.
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and communities. While much of our research lies beyond the scope of this essay, one aspect is highly relevant: although neonatal intensive care units (NICUs) date to the 1960s, their long-term impact now intersects the ARTs. Classically, NICUs preserve the lives of low birthweight (LBW) babies, a traditional scourge of the poor, especially the African-American poor (cf. Conley et al. 2003). Now, premature babies of the rich are also sustained by this technology: IVF babies are at high risk of prematurity, and diverse families anxiously await the “roller-coaster news” of stabilization that anthropologist Linda Layne described as the NICU experience. NICUs have become an extended reproductive technology. Approximately 25 percent of IVF babies will spend time in such intensive care, and there they meet the low birthweight preemies of the poor: these children are bound for special education at disproportionately high rates. But, needless to say, the children of those who can afford IVF are likely to have different educational and ultimately social careers from the LBW children of low-income communities. Nationally, our LBW population has risen steadily and now constitutes 8.3 percent of all births in the United States. A large increase occurred in the last decade, while IVF births were also dramatically expanding (Reuters 2011).

Beyond the immediate health effects of LBW and its increased risk of mild to moderate cognitive impairment, Faye and I are arguing that the life cycle, domestic cycle, and community life of Americans drawn from a range of culturally diverse social milieux are changing as they take on the extended advocacy that parenting a child with a learning difference entails (Ginsburg and Rapp 2010; Rapp and Ginsburg 2010, 2011a, 2011b, 2012; Rapp 2011, 2012). For many, reproductive entanglements do not stop with the pregnancy, successful birth, or graduation from the NICU that brings their valued child home: technologically assisted reproduction provides an optic through which we can view potent transformations in kinship, the legal apparatus affecting medicine, schools, the built environment, equity in employment, and more. Should we expect the situation to be any less complex as neonatal intensive care units, neonatal genetic screens, and late-onset genetic
disease tests become available to rich elites in poor countries?

An army of emergent scholars is now positioned to observe these phenomena as they percolate across national boundaries and contexts. With apologies to the scores who have shared their nascent work with me, my illustrations are necessarily brief and selective. At the Tarrytown meetings, a conference held on July 25–27, 2011, I heard Rajani Bhatia report on two US sex selection clinics: wealthy clients fly to their sites from the many parts of the world in which this practice is prohibited to the United States, where it is unregulated. Both clinics have also established satellites in developing nations, where US personnel regularly collect and plate embryo cell samples produced via IVF, flying them home for sex chromosome analysis, which is then phoned into the distant clinic in time to select which embryos will be implanted. Bhatia pointed out that the “glocal” in this example is thoroughly imbricated, as people, cells, and commerce traverse national boundaries in multiple directions on a regular basis. Daisy Deomampo is completing a thesis on surrogacy in India. In her observations, some women move “up” from serving as paid surrogates to become entrepreneurial recruiters of new surrogates, a change that increases both their earnings and the density of recruitment networks. Emily Smith-Beitiks is analyzing noninvasive prenatal diagnosis (NIPD), an early blood test that yields chromosome information on “conditions” like sex and trisomies within a few weeks of the establishment of a pregnancy; such tests make trait selection via early medical abortion easier and more plausible. Many others have brought their painstaking observations to bear on egg sales in Eastern Europe; sex selection in Asia as well as North America; and embryo donation for stem cell research in several Asian countries.

As capitalization of the life sciences expands apace, the aspirations for parenthood, childhood, and safe health link us all across many sites on the globe. These are the compelling words of sociologist Arlie Hochschild:

Person to person, family to family, the First World is linked
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to the Third World through the food we eat, the clothes we wear, and the care we receive. That Filipina nanny who cares for an American child leaves her own children in the care of her mother and another nanny. In turn, that nanny leaves her younger children in the care of an eldest daughter. First World genetic parents pay a Third World woman to carry their embryo. The surrogate’s husband cares for their older children. The worlds of rich and poor are invisibly bound through chains of care (2009).

“Globalization” is an apt description, but its abstraction may remove us far from the concrete market-driven choices that confront women and their kin whose constrained options and contradictions are embedded in their specific life circumstances. All of our lives are not only globalized; they are stratified as well. As in reproduction, so in biotechnology: there is a cash metric corroding any notion of human equity as some are deemed worthy contractors of the gametes, reproductive services, or experimental stem cell treatments at whatever best bargain they can strike; while others are increasingly mobilized as “natural resources” whose own future reproduction or health does not enter into sales, surveillance, or any vestige of monitoring or access to care. The experiences and aspirations of women from the global South and their networks of kin and community constitute, in turn, an important and nuanced critique of any simple, Western-centered notion of bodily autonomy, privacy, or the rights to fair labor and gender practices.

As an “imagined community,” women who transact parts of their bodies and lifespan under market constraint have piqued the passions and policy initiatives of feminist scholars in many parts of the world (see, for example, Spar 2006; Briggs 2010). Working from a feminist bioethics perspective, some scholars and activists are now exploring the umbrella of human rights. Just as the women’s health movement in all its international diversity shifted strategically to the use of human rights discourse to intervene in international tribunals, national regula-
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tions, and UN frameworks and conventions in the 1990s, so, too, many feminists within bioethics are now considering what strategy might best bring their transborder concerns with the protection, rights, and limits on the exploitation of women as gamete “donors” and surrogate gestators under emergent conditions of rapid commercialization (Chavkin 2010; Ryan 2009). Informed consent is an extremely important contract, but if all the burdens of egg/embryo “donation” (which is overwhelmingly to say, “sales”) and surrogacy are left to this signatory exchange, the encompassing world of profound inequality in which social justice/injustice, poverty and development, and of course patriarchal punishment all flourish will continue to be left in the regulatory shadows. The conversation in which scholars, policy activists, and the general public address this volatile topic is a crucial one. At the same time, fine-grained qualitative research also reveals the contradictory and unstable terrain on which that discussion is being mounted: many are exploited, yet some use their constrained agency, or even see new embodied entrepreneurialism as a logical escape hatch that provides a time-limited opportunity for themselves and their family members. In other words and at the risk of repetition: some are struggling to get into a global market on the best terms they can muster while others attempt to regulate or suppress it.

Scientific interventions and debates about regulatory processes in the world of assisted reproduction are dizzying in their velocity of change. Yet they are clearly works in progress—taken up, transformed, and reformulated in exquisitely specific locations in a global marketplace. These may have unintended consequences on our gender, generational, kinship relations, and religious communities. Our regulatory apparatuses reflect both this densely stratified and competitive marketplace where the most intimate of aspirations, technologies, and family fortunes potently mingle. They also point to the need for a more capacious analysis of the social movements that develop to address them. In all these social locations, reproductive entanglements make our global bonds and local strategies more visible.
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NOTES


2. There is an extensive literature on ARTs in the predominantly Euro-American or “overdeveloped” world, with a bow to Sandra Harding’s label. Orienting resources mapping the rich terrain of such studies include Kaufman and Morgan (2005); Casper and Morrison (2010); and Rubin and Philips (2011); cf. Levine (2008).

3. Stem cells are at present a highly unstandardized and complex source of widespread scientific investigation (Hogle 2010).

4. Many developing nations have become “body-part specialists” in the international medical market place; for example, Brazil and Argentina are Meccas of plastic surgery and Thailand is known for its joint replacement facilities.

5. Although far less well known than Down syndrome, Fragile X is also a leading cause of genetically induced cognitive impairment, amenable to prenatal or neonatal diagnosis.

6. My thinking about the expanded niche of reproduction in the United States has evolved collaboratively with Faye Ginsburg.

7. The United States has a particularly high rate of multiple pregnancies with heightened risk of devastating health consequences after successful IVF. Many other developed nations regulate the implantation of single or twin embryos to avoid this health problem. For example, after legislation declaring that only a single embryo could be implanted via IVF, Sweden saw its NICU usage rates plummet, as did Belgium, and now much of the European Union has followed suit. In the United States, however, the professional organizations that sell fertility services are self-regulating. Thus, the American Society of Reproductive Medicine and the Society for Assisted Reproductive Technologies recommended a sliding scale in the number of embryo transfers depending on the woman’s age and IVF history in 2009, clearing the way for twin and higher order pregnancies. While US fertility service providers generally adhere to these guidelines, Social...
Research readers will surely remember the “OctoMom” story of an octuplet IVF birth that titillated our news for months during 2009.

REFERENCES


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Mulay, Shree. “Global Challenges and Opportunities: Reproductive
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Thompson, Charis Cussins. Making Parents: The Ontological Choreography of
Is this a manuscript?
cite unclear; paper given at APA in 2011?


———. “German Genes and Turkish Traits: Ethnicity, Infertility, and Reproductive Politics in Germany.” Social Science and Medicine 69 (2009b): 266–73.


