

# American Sociological Review

VOLUME 72 • NUMBER 3 • JUNE 2007  
OFFICIAL JOURNAL OF THE AMERICAN SOCIOLOGICAL ASSOCIATION

## **INTERACTION & CONTEXT**

Rene Almeling  
**Gender and the Medical Market in Genetic Material**

David J. Harding  
**Neighborhood Cultural Context and Romantic Relationships**

Andrés Villarreal and Wei-hsin Yu  
**Globalization and Women's Employment in Mexico**

## **BELIEFS & INEQUALITY**

Matthew O. Hunt  
**Beliefs about Black/White Inequality, 1977–2004**

Troy C. Blanchard  
**Conservative Protestantism and Racial Segregation**

## **MOBILIZATION IN CHINA**

Joel Andreas  
**Charisma, Rebellion, and the Chinese Cultural Revolution**

Ethan Michelson  
**Grievances and the Justice System in Rural China**

# American Sociological Review

---

## ARTICLES

- 319 Selling Genes, Selling Gender: Egg Agencies, Sperm Banks, and the Medical Market in Genetic Material  
*Rene Almeling*
- 341 Cultural Context, Sexual Behavior, and Romantic Relationships in Disadvantaged Neighborhoods  
*David J. Harding*
- 365 Economic Globalization and Women's Employment: The Case of Manufacturing in Mexico  
*Andrés Villarreal and Wei-hsin Yu*
- 390 African American, Hispanic, and White Beliefs about Black/White Inequality, 1977–2004  
*Matthew O. Hunt*
- 416 Conservative Protestant Congregations and Racial Residential Segregation: Evaluating the Closed Community Thesis in Metropolitan and Nonmetropolitan Counties  
*Troy C. Blanchard*
- 434 The Structure of Charismatic Mobilization: A Case Study of Rebellion During the Chinese Cultural Revolution  
*Joel Andreas*
- 459 Climbing the Dispute Pagoda: Grievances and Appeals to the Official Justice System in Rural China  
*Ethan Michelson*

# Selling Genes, Selling Gender: Egg Agencies, Sperm Banks, and the Medical Market in Genetic Material

Rene Almeling

*University of California, Los Angeles*

*Eggs and sperm are parallel bodily goods in that each contributes half of the reproductive material needed to create life. Yet these cells are produced by differently sexed bodies, allowing for a comparative analysis of how the social process of bodily commodification varies based on sex and gender. Drawing on interview and observational data from two egg agencies and two sperm banks in the United States, this article compares how staff recruit, screen, market, and compensate women and men donors. Results show how gendered norms inspire more altruistic rhetoric in egg donation than in sperm donation, producing different regimes of bodily commodification for women and men. I conclude by discussing the implications of these findings for debates in sociology of gender about biological differences among women and men and the cultural norms attributed to these differences; debates in economic sociology about how social factors shape the expansion of the market; and debates in medical sociology about the intersection of the market and medical practice.*

## INTRODUCTION

Commodification is a core concept in sociological theory, but too often it serves as a conclusion to the research enterprise rather than as a starting point for analyzing how social factors shape the process of assigning economic value to market goods. This is especially true in the realm of bodily goods, where moralizing discourses about the sanctity of human life tend to

foreclose a rigorous examination of market practices. There are exceptions. Most notable are Zelizer's analyses of markets in life insurance (1979), children (1985), and intimacy (2005). Healy (2006) has recently built on this work and on that of Titmuss (1971) by demonstrating the importance of organizations to the procurement and distribution of blood and organs. While these studies reveal much about the interplay between social and economic factors in markets for bodily goods, these particular markets are not strongly differentiated based on sex. In other words, while boys and girls and men and women populate these studies, left unexamined is whether the social process of assigning value to the human body varies based on the sex and gender of the body being commodified.

This question is unavoidable when one considers the twenty-first century medical market in eggs and sperm. Egg agencies and sperm banks recruit young women and men to produce gametes for paying clients who are using reproductive technologies to conceive children. In egg donation, once a donor/recipient match is confirmed, the donor takes hormones for about six weeks, first to synchronize her menstrual cycle with the recipient's and then to stimulate egg

---

Direct correspondence to Rene Almeling, Department of Sociology, University of California, Los Angeles, 264 Haines Hall, Los Angeles, CA 90095-1551 (almeling@ucla.edu). Thanks to the egg agency and sperm bank staff for generously sharing their time, and to Gail Kligman, Ruth Milkman, Abigail Saguy, Carole Browner, Greta Krippner, Stefan Timmermans, John Evans, Adrian Favell, Jeff Ostergren, Gabrielle Raley, Kevin Riley, Daisy Rooks, Lynne Zucker, and to Jerry Jacobs and the anonymous reviewers for helpful comments on earlier versions of this article. I gratefully acknowledge funding from the National Science Foundation, the UCLA Center for Society and Genetics, and the UCLA Center for the Study of Women. This project received approval from the UCLA Office for the Protection of Human Subjects (#G02-04-071).

production. Outpatient surgery is performed to remove the eggs, which are mixed with sperm, and, if fertilization occurs, the embryos are implanted in the recipient's uterus. The American Society for Reproductive Medicine (ASRM) estimates that 1 to 2 percent of women undergoing treatment will require hospitalization for ovarian hyperstimulation, and less than one patient in a thousand will require major surgery due to complications of egg retrieval. Compensation to egg donors varies substantially, both within particular agencies and in different regions of the United States, but the national average is around \$4,200 (Covington and Gibbons 2007).

Egg donation is physically invasive and risky in a way that sperm donation is not, but sperm donation restricts a donor's activities for a much longer period of time. Men sign a contract and agree to produce sperm samples once or twice a week for at least one year, and each visit must be preceded by two days of abstinence from sexual activity. Each bank has several small rooms for donors furnished with sinks, chairs, and pornographic magazines. Across the hall is the laboratory, where technicians process the sample, after which it is frozen and stored in the bank's offices until purchased by recipients for use in artificial insemination. In contrast to women, who are paid regardless of how many eggs they produce, men are paid only for samples deemed acceptable based on sperm count and quality, things that can be negatively affected by stress, sickness, or having abstained for fewer than 48 hours. Much less variation occurs in sperm donor compensation. All donors within a particular bank are typically paid the same, usually between \$50 and \$100 per sample.

While biological differences between women and men affect the process of donating reproductive material, the products for sale in this medical market, eggs and sperm, are parallel bodily goods in that each contributes half of the reproductive material needed to create an embryo. Furthermore, there are organizational similarities in how these commercial agencies have developed stages in the donation process. Egg agency and sperm bank staff advertise to recruit gamete donors, employ a wide range of criteria to screen applicants, and generate individualized donor marketing materials to facilitate matches with recipient clients. They also

monitor the process of egg and sperm production before compensating donors.

It is the very fact that these reproductive cells are produced by differently sexed bodies that allows for a comparative analysis of the extent to which the market in eggs parallels the market in sperm. In each stage of the donation process, from recruitment to compensation, how similar are the procedures at egg agencies and sperm banks? If there are systematic differences, are these explained by biological differences between women and men? Or, given that this is an open market in genetic material, are differences shaped by mechanisms theorized in microeconomics, such as the supply of and demand for egg donors versus sperm donors? Since the intent of those purchasing gametes is to have children, do gendered cultural norms associated with motherhood and fatherhood influence the procedures at commercial donation programs?

Building on previous studies of sex and gender, the economy, and medicine, I develop a theoretical framework in this article for analyzing bodily commodification that incorporates biological, economic, cultural, and structural factors. Using qualitative interview and observational data from two egg agencies and two sperm banks in the western United States, I compare, stage by stage, how staff at commercial fertility agencies organize the process of egg and sperm donation. As my analysis reveals, the market in genetic material is organized differently depending on the type of body being commodified. Staff at medicalized donation programs assign value to reproductive cells and reproductive bodies based on economic definitions of scarcity and gendered cultural norms of motherhood and fatherhood. As a result, eggs and egg donors are much more highly valued than sperm and sperm donors.

## SEX AND GENDER IN MEDICAL MARKETS

To formulate an approach for answering the questions raised above about the medical market in genetic material, I draw on research in sociology of gender about the relationship between biological differences among women and men and the cultural norms attributed to these differences, research in economic sociol-

ogy about how social factors shape the expansion of the market, and research in medical sociology about the intersection of the market and medical practice.

### *SEX, GENDER, AND REPRODUCTION*

Central to an analysis of bodily commodification in this market is a long-standing distinction in feminist theory between “sex,” which is defined as biological differences between males and females, and “gender,” which is defined as the cultural meanings attributed to those biological differences (e.g., De Beauvoir [1952] 1989; Ortner 1974; Rubin 1975). Social scientists have paid more attention to gender, downplaying biological sex differences in favor of analyzing how cultural norms of femininity and masculinity shape women’s and men’s differential access to power. However, as Yanagisako and Collier argue, the failure to analyze sex is a mistake because “having conceded sex differences to biology in the interest of establishing our scholarly authority over socially and culturally constituted gender differences, we have limited our project and legitimized assumptions about sexual difference that return to haunt our theories of gender” (1990:132).

Even the social scientific literature on human reproduction, which must necessarily refer to sexed bodies, is mostly concerned with pregnancy, abortion, and birth, thus largely limiting research to women’s experiences of reproduction (e.g., Franklin 1997; Gordon 1976; Katz Rothman 1986; Kligman 1998; Luker 1984; Martin 1992). Within this literature, there are few studies of egg and sperm donation. Among those that do exist, most attention has focused on the recipients and offspring (e.g., Becker 2000; Becker, Butler, and Nachtigall 2005; Tober 2001). Donors, in contrast, are typically ignored, except when psychologists study their motivations for donating (e.g., Schover et al. 1991; Schover, Rothmann, and Collins 1992). Of the few social scientific studies of donors, researchers discuss either women’s motivations (Ragoné 1999) or men’s (Daniels and Lewis 1996). Only Haimes (1993) has conducted a gendered comparison of egg and sperm donation, but the focus was on the regulatory deliberations of legislators in Britain.

Sociologists of gender have yet to resolve how to incorporate biological factors without

reverting to tautological essentialism, in which sex differences between women and men are the beginning and end of explanations for gender inequality. To acknowledge bodily differences, Butler (1993) suggests a constructionist approach, but argues that bodies are anything but empty, “natural” vessels waiting to be filled with cultural meaning. Instead, she argues that bodies themselves, differences and similarities, cannot be understood outside of social processes, which means that sex differences are just as socially constructed as gender differences (see also Fausto-Sterling 2000; Fujimura 2006; Martin 1991). But what needs more elaboration are the mechanisms through which sex differences are constructed, both in terms of reproductive cells and reproductive bodies, and the degree to which this construction is shaped by cultural definitions of gender.

### *MARKETS AND COMMODIFICATION*

It is not only gendered constructions of the biological body, but their production within the structural context of a medicalized marketplace that must be included in an analysis of egg agencies and sperm banks. In recent decades, social scientists have produced empirical studies of market processes that emphasize the social organization of particular markets (e.g., Abolafia 1996; Baker 1984; Smith 1989; White 1981) and the cultural processes through which things become commodities (e.g., Appadurai 1986; Sharp 2000). Theorists note that the commodification of objects is likely to differ from that of services (Appadurai 1986:55) or people (Kopytoff 1986:86), but they do not elaborate on what these differences might be.

Thus, Zelizer’s research on the commodification of persons provides a useful theoretical framework on which to build. Her historical analyses of the emerging market in life insurance (1979), the changing cultural and economic valuation of children (1985), and the social and legal interpretations of monetary exchanges in domestic relationships (2005) each demonstrate the interrelationship between economic and noneconomic factors in market processes. In contrast to conventional economic assumptions of the market as separate and impervious, Zelizer (1988) formulates a sociological model in which economic, cultural, and structural factors interact to shape market

processes. She writes, "As an interactive model, it precludes not only economic absolutism but also cultural determinism or social structural reductionism in the analysis of economic processes" (1988:618). But as Zelizer's theoretical project is most developed in the commodification of intimate relationships, like those between husband and wife or parent and child, this analysis of the medical market in genetic material builds on her work by examining the intimate processes of bodily commodification outside the family.

My research also differs from Zelizer's in its focus on particular bodily goods as opposed to the commodification of whole persons. In this sense, the anonymous provision of gametes more closely resembles blood and organ donation, even though open markets for these goods do not exist in the United States.<sup>1</sup> In his classic study of blood donation, Titmuss (1971) dichotomizes national blood collection regimes predicated on the altruism or self-interest of donors. When he was conducting research in the 1960s, the United States relied on a mixed system of paid and voluntary donors, which he compared with the wholly voluntary, centralized blood collection system in the United Kingdom, concluding that voluntary systems produce safer blood and are morally preferable to market-based systems. He advocated for a system reliant on altruism in the United States, implicitly assuming altruism to be an individual characteristic.

Revisiting Titmuss's claims, Healy (2006) argues for a less normative, more explicit focus on how the organizational structure of blood and organ donation results in variation in the rates of individual giving. He notes, "The individual capacity for altruism and the social organization of procurement are not separate questions but rather two aspects of the same process. As organizations create 'contexts for giving' they elicit altruistic action differently across populations" (p. 67). As Healy's research relies mostly on statistical data to highlight differential rates of altruism, qualitative data analyzed in this

article will provide evidence of how organizational staff construct the meaning of donation in interaction with those who provide human goods.

Missing from these studies on the organizational production of altruism is attention to how those organizations are gendered. Since Kanter's (1977) classic study of a large U.S. corporation, which found women in subservient, nurturing roles and men in positions of authority, sociologists have demonstrated that organizational structures, and the individuals who work within them, are gendered (e.g., Acker 1990; Milkman 1987; Williams 1995). More directly related to altruism, Arlie Hochschild (1983) compares women flight attendants and men debt collectors to conceptualize "emotional labor," which includes managing feelings and producing emotion to fulfill job responsibilities. Smiling flight attendants must exhibit empathy for the customer's every concern, while debt collectors are required to manufacture anger with debtors over the phone. Hochschild argues that while emotional labor is required of both women and men, the different requirements and interactional contexts place an extra burden on women. As gendered and sexed organizations, egg agencies and sperm banks serve clients who wish to create families. This raises the question of whether in this market, altruistic rhetoric, a form of emotional labor, is shaped by gendered cultural norms of caring motherhood and distant fatherhood (e.g., Chodorow 1978; Hays 1996).

### MEDICALIZATION

Finally, I draw on research in medical sociology to incorporate a discussion of egg agencies and sperm banks as medicalized organizations. Like other instances of medicalization, in which the medical profession gains authority to define conditions as requiring medical intervention, developments in reproductive technology, such as artificial insemination and *in vitro* fertilization, have contributed to the definition of infertility as a medical "problem" (e.g., Conrad and Schneider 1980; Novaes 1998). In many cases, egg agencies and sperm banks are founded or staffed by physicians, nurses, social workers, or psychologists. Even when the staff at commercial programs are not medical professionals, they are representatives of a medicalized mar-

<sup>1</sup> The National Organ Transplant Act makes it illegal to sell one's organs. It is not illegal to sell blood, but most whole blood donors are not paid. Individuals do sell plasma (a part of blood), and sometimes people with rare blood types are paid to provide blood.

ket in genetic material and, as such, have the power to shape the process of producing and selling eggs and sperm. While medical sociologists have discussed the ways in which the practice of medicine is shaped by market forces (e.g., Conrad and Leiter 2004; Light 2004; McKinley and Stoekle 1988), less is known about how these market pressures produce variation in interactions in nominally medical settings.

Research on sex and gender, market processes, and medicalization provides scaffolding for the theoretical framework detailed in the next section, but the medical market in genetic material is not fully explained by any one of these literatures. It is not so purely altruistic as blood or organ donation because egg and sperm donors receive financial compensation for providing reproductive cells to the paying clients of commercial donation programs. Nor is it an occupational category like Kanter's secretaries or Hochschild's flight attendants. But gamete donation does occur in commercial programs predicated on the sexual differences between women and men. It is within these medicalized organizations that various factors—biological bodies, economic mechanisms, and gendered cultural norms—interact to shape processes of bodily commodification.

## THEORETICAL FRAMEWORK AND ANALYTIC AIMS

Building on Zelizer's tripartite model of a market, which incorporates economic, cultural, and structural factors, I add biological factors as arguably significant to analyses of bodily commodification. For the purposes of my analysis, the biological factors are the sexed bodily cells of eggs and sperm, which are produced by the reproductive bodies of women and men donors.<sup>2</sup> The economic factors are the supply, demand,

and pricing of genetic material and the individuals who provide it. The cultural factors are the gendered norms of parenthood, with a focus on altruistic rhetoric. The structural factors are the organizational context of medicalized, commercial egg agencies and sperm banks, including their staged procedures for recruiting, screening, marketing, and compensating women and men donors. The primary research question is: How do these biological, economic, cultural, and structural factors interact to shape the market in eggs versus the market in sperm? Previous research generates contradictory expectations, which coalesce around the biological factors of reproductive cells and reproductive bodies:

REPRODUCTIVE CELLS. One egg and one sperm are needed to create an embryo. The first possibility is that this biological parallel, in which each cell provides half of the chromosomes, results in parallel procedures for recruiting, screening, marketing, and compensating donors at egg agencies and sperm banks. However, the female body has a limited supply of eggs while the male body replenishes sperm. Moreover, extracting eggs from the human body is more difficult and risky than extracting sperm, a point made by the ASRM Ethics Committee (2000) in justifying financial compensation for egg donors. This leads to a second possibility, suggested by economic theory: eggs are a scarce resource compared to sperm, and thus women's donation of eggs will be more highly valued than men's donation of sperm. A third possibility is raised by Martin's (1991) analysis of metaphors in medical textbooks, including those around the bodily production of reproductive cells. She finds that "cultural ideas about passive females and heroic males [are imported] into the 'personalities' of gametes" (p. 500), which suggests

<sup>2</sup> Referencing biology brings to mind recent developments in evolutionary psychology, which argue that pressures of natural selection shape human behavior (for a review, see Freese, Li, and Wade 2003). Providing genetic material to create children to whom one has no obligations might constitute an ideal case study in this field, but in fact, donation programs reject most applicants, a significant organizational constraint on individual behavior. Furthermore, Emond and Scheib (1998) find that

men are more willing to donate sperm for research than for reproduction, inferring that masturbating in a clinic is too far removed from sexual intercourse, historically the mode through which reproduction is accomplished (p. 317). These findings might be extended to egg donation. Rather than speculate about the extent to which evolutionary mechanisms have shaped this market, I focus on how contemporary biological processes are valued.

that eggs will be less valued than sperm because of gendered inequalities.

**REPRODUCTIVE BODIES.** Eggs and sperm are produced by the reproductive bodies of women and men donors. The first possibility is again that biologically, because gametes are required from one woman and one man to create an embryo, these reproductive bodies will be equally valued. The second possibility, grounded in economic theorizing, is that donors are considered reproductive service workers. As egg agencies and sperm banks are not only gendered but also sexed organizations, and because occupational segregation by sex is associated with income inequality, especially in service work and care work (see England and Folbre 2005 for an overview), this suggests that egg donors will be less valued than sperm donors. Yet this same association with caring suggests that donors might be perceived as altruistic helpers who are providing recipients the opportunity to have children. Because “women, love, altruism and the family are, as a group, [viewed as] radically separate and opposite from men, self-interested rationality, work and market exchange” (Nelson and England 2002:1), a third possibility is that egg donors, who are contributing to a motherhood project, may be thought of as donating something more special than sperm donors, who are contributing to a fatherhood project. But while egg donors may receive more cultural validation, women’s association with the family has historically resulted in economic penalties (Kessler-Harris 1990).

## METHODS

Data for the following analysis were gathered at two egg agencies, Creative Beginnings and OvaCorp, and two sperm banks, CryoCorp and Western Sperm Bank (all pseudonyms), located in metropolitan areas in the western United States. In each program, I interviewed staff about how they organize the process of donating genetic material, including those with decision-making authority (e.g., the founder, executive director, and program managers) and those who have the most contact with donors (e.g., donor coordinators and office assistants). In 2002, I interviewed Creative Beginnings’s founder/executive director, assistant director, financial manager, office manager, and sever-

al office assistants. I attended two information meetings for women interested in egg donation and observed for six days at the agency’s office. At OvaCorp in 2002, I interviewed the donor manager, several of her assistants, and two psychologists who screen donors. I spent one day observing agency staff and attended a weekly staff meeting, which included the agency director, a psychologist, the donor manager and her staff, and a lawyer.

In sharp contrast to the two egg agencies, sperm banks were more reticent about granting access.<sup>3</sup> In 2002, I interviewed the marketing director of CryoCorp and toured the bank but was denied access to other staff. Through a different contact, I returned to CryoCorp in 2006 to interview the founder/medical director, CEO, two recipient and two donor managers, donor recruiter, genetics counselor, and human resources manager. At Western Sperm Bank in 2002, I submitted a detailed research plan, résumé, and writing sample before being allowed to interview the donor manager, research director, and donor/recipient staff person. In 2004, I interviewed the executive director and toured the sperm bank.

In each of the four programs, I collected blank donor applications, medical releases, legal consents, and marketing materials. With the exception of an interview with an OvaCorp psychologist, I taped all interviews and observations, and I transcribed and coded all interviews, observational data, field notes, and written materials.

To analyze the medical market in genetic material, I examine how staff at commercial programs organize the process of donating gametes into distinct stages. These include recruiting and screening donors, supervising the construction of donor profiles, confirming “matches” between donors and recipients, and monitoring donors during the production of eggs and sperm. Within each stage, I compare the procedures at egg agencies with those at sperm banks, but it is important to note that these stages are analytical and do not occur in the same order for egg and sperm donation. For

<sup>3</sup> Schmidt and Moore (1998) also discuss such “organizational gatekeeping” by sperm banks, which is probably related to the emphasis on anonymity in sperm donation (see note 7).

example, women are “matched” with a particular recipient before they undergo medical and psychological screening. Men are screened first, and then their sperm samples are made available for purchase. But the stages are analogous even if they are not contemporaneous. Within each stage, I examine how ideas about cells and bodies, supply and demand, and motherhood and fatherhood interact to shape the commodification of eggs and sperm in medicalized donation programs.

### THE MARKET IN EGGS AND SPERM

While commercial sperm banks have been operating in the United States for decades, egg agencies only appeared in the late 1980s after the development of *in vitro* fertilization technology. ASRM estimates that infertility affects about 10 percent of the reproductive-age population in the United States. Now, as people enter the medical system, those with financial means may consider fertility drug regimens, surgical repair of reproductive organs, *in vitro* fertilization, and other forms of “assisted reproduction,” including egg and sperm donation. At egg agencies, most recipient clients are heterosexual couples. In sperm banks, a larger proportion of single women and lesbian couples make up the customer base.

Whereas Creative Beginnings has been open for just a few years, OvaCorp was one of the first agencies in the country to expand its assisted reproduction services to include egg donation. Both sperm banks have been open for more than 20 years, but CryoCorp is one of the largest in the country while Western Sperm Bank is a smaller nonprofit program with roots in the feminist women’s health movement. Despite institutional differences like tax status, size, and date of establishment, the staff in each program perceive their role to be service providers to recipient clients. To maintain their businesses, they must recruit “sellable” donors who provide “high-quality” gametes to recipients who “shop” different egg agencies and sperm banks. In addition, staff cultivate networks with referring physicians, belong to professional medical associations, set goals for expanding their businesses, charge a variety of fees for different services, and develop official

protocols for dealing with donors and recipients.<sup>4</sup>

Economic language permeates their talk, yet egg agency and sperm bank staff are very aware of being in a unique business. They discuss “people-management” strategies and point out that they are not “manufacturing toothpaste” or “selling pens.” They also consistently refer to the women and men who produce genetic material as “donors” who “help” recipients, and they refer to the donor-recipient exchange as a “win-win situation.” This confluence of economic logic with altruistic rhetoric develops through each stage of the donation process and results in bodily commodification that occurs in very different ways for women and men.

### RECRUITING “SELLABLE” DONORS

Programs advertise for donors in a variety of forums (college newspapers, free weekly magazines, radio, and Web sites), hold “Donor Information Sessions,” and encourage previous donors to refer friends, roommates, and siblings. Sperm bank advertisements highlight the prospect of financial compensation. They often include cartoonish illustrations of sperm, and some even joke that men can “get paid for what you’re already doing.” CryoCorp and Western Sperm Bank are located within blocks of prestigious four-year universities, and such advertising is directed at cash-strapped college students. The marketing director of CryoCorp, which requires that donors be enrolled in or have a degree from a four-year university, explains that the location was a deliberate choice because “the owners of the sperm bank thought that that was a good job match, and it really works out well for the students. They’re young and therefore healthy. They don’t have to make a huge time commitment. They can visit the sperm bank anytime.” Nevertheless, the staff at both banks lament difficulties in recruiting men and offer hefty “finder fees” to current donors who refer successful applicants.

<sup>4</sup> Gamete donation also occurs outside of commercial programs. With “known” or “private” donation, the recipient recruits a friend, family member, or more recently, a donor from the Internet. Some infertility clinics, doctors’ offices, and universities also run small donor programs.

In contrast, Creative Beginnings receives several hundred applications from women each month, and OvaCorp receives more than a hundred each day. The egg agencies adorn their advertisements with images of plump babies and appeal to the joys of “helping” infertile couples; some do not even list the amount donors will be paid. Creative Beginnings’s director explains the impetus behind her marketing strategy: “We appeal to the idea that there’s an emotional reward, that they’re going to feel good about what they’ve done, that it’s a win-win situation, that they’re going to help someone with something that person needs, and they’re going to get something they need in return.” Indeed, both agencies report that “young moms are the best donors [because] they pay the best attention and show up for appointments” because they understand the importance of a child to recipient clients. While the sperm bank staff explicitly acknowledge that donors are most interested in a “job,” egg agencies are far more likely to reference altruism, even as they also note that donors will get “something” in return.

When a potential donor calls or e-mails a program for the first time, the staff initiate an extensive screening process by asking applicants about their age, height/weight ratio, family health history (including physical, mental, and genetic disease), and social characteristics. Guidelines for age and height/weight ratios are issued by ASRM and are stringently followed by egg agencies to select donors who will respond well to fertility medications. Some screening standards are based on biomedical guidelines for genetic material most likely to result in pregnancy, but many reflect client requests for socially desirable characteristics. For example, both sperm banks have height minimums of 5’8” or 5’9”.

Even some of the nominally biomedical factors are better understood as social characteristics, as in this description of screening standards by Western Sperm Bank’s donor manager:

We have to not take people that are very overweight because of a sellable issue. It becomes a marketing thing, some of the people we don’t accept. Also height becomes a marketing thing. When I’m interviewing somebody to be a donor, of course personality is really important. Are they gonna be responsible? But immediately I’m also clicking in my mind: Are they blond? Are they

blue-eyed? Are they tall? Are they Jewish? So [I’m] not just looking at the [sperm] counts and the [health] history, but also can we sell this donor? And anyone that’s [willing to release identifying information to offspring at age 18], obviously we will ignore a lot; even if they’re not quite as tall as we’d like, we’ll take them. Or maybe if they’re a little chunky, we’ll still take them, because we know that [their willingness to release identifying information] will supersede the other stuff.

Likewise, in explaining the screening process for women applying to be donors, Creative Beginnings’s office manager says that “this is a business, and we’re trying to provide a service.” Later that day, her assistant notes that recipients “basically go shopping and they want this and they want that.”

OvaCorp’s donor manager also emphasizes social characteristics, including educational level and attractiveness, in describing what makes a donor “sellable”:

You will find that a donor’s selling tool is her brains and her beauty. That’s a donor’s selling point, as opposed to she’s a wonderful person. That’s nice. But bottom line, everyone wants either someone that’s either very attractive, someone very healthy, and someone very bright. That’s her selling point/tool. That’s why I also work with women who don’t have children, because I get a higher level of academia with a lot of our single donors because they’re not distracted by kids.

Research on how recipients select donors suggests that staff are responding to client interest in attractive and intelligent donors whose phenotypes are similar to their own (Becker 2000; Becker et al. 2005).<sup>5</sup> Egg agencies and sperm banks use education as a signifier of genetic-based intelligence, but as the donor manager quoted above suggests, women without children have more time to pursue additional schooling (Rindfuss, Morgan, and Offutt 1996).

During this early phase of recruitment, egg agency staff also assess an applicant’s level of responsibility, which is often glossed as “personality” or “helpfulness,” as in this quote from Creative Beginnings:

<sup>5</sup> These studies are limited to heterosexual couples and do not include systematic comparisons of how recipients select egg donors versus sperm donors.

*Assistant Director:* Personality is a big thing. We always want this to be a positive experience, if it is going to bring them to a different point in their life instead of just doing it to do it. A lot of them don't care about the money, they just want to help somebody, and that's all the more reason to continue with them.

*RA:* So if donors don't ever meet the recipient though, why would their personality matter technically?

*Assistant Director:* Well, we don't really look at the personality for them to meet the recipient. If they have a good personality, then we can trust them. They really want to go forward with this, they're more likely to continue with the process by getting their profile finished in a timely manner, get their pictures into us, and all the release forms that they need. Then it just shows responsibility.

At the same time, according to Creative Beginnings's director, the staff are responding to recipients who "want to know that the person donating is a good person. They want to know that person wasn't doing it for the money, that person's family history is good, that person was reasonably smart, that they weren't fly-by-nights, drug abusers, or prostitutes." Intersecting with gendered expectations about egg donors having, or at least expressing, altruistic motivations, are class-based concerns in defining "appropriate" donors.

Sperm banks, in comparison, expect donors to be financially motivated, and the staff speak directly about responsibility rather than couching it in terms of altruistic motivations. Western Sperm Bank's donor manager explains:

Aside from personality, the other thing that makes me fall in love with a donor is someone that's responsible. It is so rare to get someone that's truly responsible, that comes in when they're supposed to come in, or at least has the courtesy to call us and say, "I can't make it this week, but I'll come in next week twice." Then of course the second thing that makes him ideal is that he has consistently very high [sperm] counts, so I rarely have to toss anything on him [i.e., reject his sperm sample]. And then, I guess the third thing would be someone that has a great personality, that's just adorable, caring, and sweet. There are donors, that their personalities, I think ugh. They have great [sperm] counts, they come in when they're supposed to, but I just don't like them. That's a personal thing, and I think, huh, I don't want more of those babies out in the world.

While egg agencies and sperm banks are interested in responsible women and men who fulfill their obligations, donors are also expected to embody middle-class American femininity or masculinity. Staff expect egg donors to conform to one of two gendered stereotypes: highly educated and physically attractive or caring and motherly with children of their own. Sperm donors, on the other hand, are generally expected to be tall and college educated with consistently high sperm counts.

In terms of other characteristics, egg agencies and sperm banks work to recruit donors from a variety of racial, ethnic, and religious backgrounds to satisfy a diverse recipient population. In fact, race/ethnicity is genetically reified to the degree that it serves as the basis for program filing systems. In Creative Beginnings's office, there is a cabinet for "active donor" files. The top two drawers are labeled "Caucasian," and the bottom drawer is labeled "Black, Asian, Hispanic." During a tour of CryoCorp, the founder lifted sperm samples out of the storage tank filled with liquid nitrogen, explaining that the vials are capped with white tops for Caucasian donors, black tops for African American donors, yellow tops for Asian donors, and red tops for donors with "mixed ancestry." All four programs complain about the difficulty of recruiting African American, Hispanic, and Asian donors, and Jewish donors are in demand for Jewish clients. In one case, even though the director thought a particular applicant was too interested in financial compensation, she was accepted into the program because she was Catholic, reflecting an interest in diversifying the donor catalogue.

The final phase of recruitment involves reproductive endocrinologists, psychologists, and geneticists or genetic counselors, who serve as professional stamps-of-approval in producing reproductive material for sale. Applicants are examined by a physician and tested for blood type, Rh factor, drugs, and sexually transmitted infections. Both egg agencies require a psychological evaluation and the Minnesota Multiphasic Personality Inventory, but neither sperm bank requires that donors be psychologically screened. All four programs require donors to prepare a detailed family health history for three generations (and

thus do not accept adoptees); in some programs, this history is evaluated by genetic counselors or geneticists, who might request specific genetic tests.<sup>6</sup> In at least one case, though, a positive result for cystic fibrosis was not enough to disqualify an “extraordinary” egg donor. The director of Creative Beginnings explains:

All the time there are calls coming in about problems or questions. Like today, there is a donor who’s mixed. She’s got Black and Caucasian, and her cystic fibrosis screening turned out that she’s a carrier. She’s a really pretty girl, and the recipient really wants her badly because she’s fair skinned, she’s very pretty, and the recipient knows that this donor is extraordinary. But then [the recipient’s] torn because her husband’s saying well, do we want to introduce something into our gene pool? They could go ahead and use her, but the husband just has to be tested to see if he’s a carrier.

Staff at each of the four programs view donor screening as a staged process that requires more of a monetary investment at every step. According to one of OvaCorp’s psychologists, the psychological screening in egg donation is often performed before the medical tests because it is cheaper. Similarly, in sperm donation, banks confirm that a donor passes one set of tests before advancing him because, according to a Western Sperm Bank donor screener, “at each step of the game we’re spending more money on them.” CryoCorp’s marketing director takes this rationale a step further:

Once someone goes through our screening process, it’s in our best interest to continue them in the program because we’ve invested a huge amount of money. We’ve spent thousands and thousands of dollars just to screen the donors. So the more vials we can collect from any given donor before they drop out of the program, the better. Especially if that donor’s a popular donor, we want our clients to be able to have vials from that donor.

In this, the first stage in the process of donating genetic material, there are structural similarities in that both egg agencies and sperm banks expend funds to advertise for donors,

employ a range of medical and social standards to garner “sellable” donors, and “invest” in medical and genetic screening. But comparing how staff evaluate both the donors and their genetic material in terms of marketability reveals how gendered stereotypes shape the definition of “high quality” eggs and sperm. Despite findings in the psychological literature that both egg and sperm donors report a range of altruistic and financial motivations (Schover et al. 1991; Schover et al. 1992), egg agency advertisements appeal to women’s altruism while men are informed of a job opportunity. In the screening process, both women and men are screened for infectious and genetic diseases, suggesting parallel concerns raised by the exchange of bodily tissue, but “girls who just want to lay their eggs for some quick cash” are rejected while men are expected to be interested in making money.

These gendered assumptions about donor motivations correspond to traditional gendered definitions of parenthood (Hays 1996), a link between individual reproductive cells and cultural understandings of motherhood and fatherhood that is made especially clear in the psychological evaluations, which are required only of egg donors. Part of each session is devoted to evaluating the psychological stability of the potential donor, but women are also asked how they feel about “having their genetics out there.” Sperm banks do not require that men consider this question with a mental health professional, suggesting that women are perceived as more closely connected to their eggs than men are to their sperm.

The vast majority of women and men applying to be donors at commercial fertility programs are not accepted. Both sperm banks reject over 90 percent of applicants because of the need for exceptionally high sperm counts, required because freezing sperm in liquid nitrogen significantly reduces the number that are motile. Both egg agencies estimate that they reject over 80 percent of women who apply. In short, donor recruitment is time-intensive, rigorous, and costly. As staff sift through hundreds of applications, the initial framing of egg donation as an altruistic win-win situation and sperm donation as an easy job shapes subsequent staff/donor interactions, from constructing individualized donor profiles to the actual production of genetic material for sale.

<sup>6</sup> There is less screening of recipients. Creative Beginnings asks for recipients’ health histories and doctors’ names to confirm that they actually do “need” egg donation. OvaCorp and both sperm banks require certification that recipients are working with a doctor.

### CONSTRUCTING DONOR PROFILES

Once applicants pass the initial screening with program staff, they are invited to fill out a "donor profile." These are lengthy documents with questions about the donor's physical characteristics, family health history, educational attainment (in some cases, standardized test scores, GPA, and IQ scores are requested), as well as open-ended questions about hobbies, likes and dislikes, and motivations for donating. Once approved by staff, egg donor profiles, along with current pictures, are listed on the agency's password-protected Web site under the woman's first name. The donor then waits to be selected by a recipient before undergoing medical, psychological, and genetic screening. In contrast, sperm banks do not post profiles until donors pass the medical screening and produce enough samples to be listed for sale on the bank's publicly accessible Web site. Western Sperm Bank's donor manager explains:

From the moment the donor is signed on, it's really nine months before we even see any profit from them. They have six months worth of quarantine [for HIV], and then another three months before we can really release enough inventory so that people aren't upset at us. If we release five vials, and 20 women call, only two women are gonna be happy. The others are gonna be really upset that that's all we got on him this month.

Sperm banks are much more concerned about donor anonymity, so men's profiles are assigned an identification number and do not include current photographs.<sup>7</sup> Both banks do offer a "photo-matching service," in which recipients pay staff to select donors with specified phenotypes.

Profiles serve as the primary marketing tool for both the program and the donor. For donation programs, posted profiles represent the full range of donors available and thus are used

<sup>7</sup> Throughout its long history, artificial insemination has been marked by extensive secrecy (Daniels and Golden 2004). In contrast, according to an OvaCorp psychologist, egg agencies, especially those in the western United States, are built on the pre-existing model of surrogacy programs, which are less concerned about anonymity than are sperm banks. More historical research is needed on sperm and egg donor programs and the extent to which developments in one influenced the other.

to recruit recipient clients. The director of Creative Beginnings explains that she would prefer not to have profiles on the Web site because she thinks they are impersonal, but that she needs them to be "competitive" with other programs. For donors, the profiles are the primary basis upon which they will be selected by a recipient. Typically, recipients also consult with staff about which donors to choose; in rare cases, egg recipients will ask to meet a donor, but under no circumstances are sperm recipients allowed to meet donors. If a donor's profile is not appealing, recipients are not likely to express interest in purchasing that donor's reproductive material.

This explains why programs spend a great deal of energy encouraging applicants to complete the questionnaires, and, in the case of egg donation, to include attractive pictures. During an information meeting for women interested in egg donation, Creative Beginnings's staff offer explicit advice about how donors should appeal to recipients:

*Assistant Director:* The profile really gives recipients a chance to get to know you on another level, even though it's anonymous. It feels like it's personal. It feels like they're making a connection with you. They want to feel like it's less clinical than just looking it up on the Web site, and they want to see which girl best suits their needs. It's about who looks like they could fit into my family, and who has the characteristics that I would like in my offspring? You can never be too conceited or too proud of your accomplishments because they really like to feel like wow, this is a really special and unique person. And they want to feel like they're helping you just like you're helping them. They know that money is a good motivator, but they also want to feel like you're here for some altruistic purposes. So I always say to let your personality show, but also you can kind of look at the question and think, if I were in their position, how would I want somebody to answer that question? I don't want you to be somebody that you're not, but think of being sensitive to their needs and feelings when you're answering them. That's the big portion of it. The pictures is another portion. We always ask for one good head and shoulder shot. It's whatever is your best representation, flattering, and lets you come out.

*Donor Assistant:* You don't want something where your boobs are hanging out of your top [laughter]. These people are not looking for sexy people.

*Assistant Director:* We get girls who send in pictures from their homecoming dance, but everybody

takes those pictures where they're half-wasted and they've got their drink in one hand and their cigarette in another. Recipients don't need to see it. It's like your parents, ignorance is bliss.

Egg donors are encouraged by agency staff to construct properly feminine profiles for the recipients, who are continually referenced as an oblique "they" who will be reading the donors' answers and making judgments about their motivations. Although it is important for the "girls" to let their "personalities" shine through, the recipients do not necessarily need to know about their flaws, like wearing revealing clothing, drinking, or smoking.

If a donor's profile is deemed unacceptable by staff, or if she sends in unattractive pictures, agencies will "delete" her from the database. Creative Beginnings's office manager explains, "We have to provide what our client wants, and that's a specific type of donor. Even though [the recipients] may not be the most beautiful people on the face of the earth, they want the best. So that's what we have to provide to them." In contrast, sperm recipients are not allowed to see photographs of donors, and thus men's physical appearance is not held to the same high standard as is women's.

Sperm bank staff will take extra time with donors who discuss only financial motivations in their profiles, but they are much less explicit about the need to appear altruistic. This dynamic is clear as Western Sperm Bank's donor manager explains how she came to understand the importance of profiles:

[Prior to this job,] when I worked on the infertility side, women would come in with their little donor vials. Some of them would show me the [donor profile and say] doesn't he sound wonderful? And of course this is all they've got. This is their person, this little sheet. So [the bank's screeners] will look at [the profile] and if someone's sort of negative, to really question the donor. Do you really mean that money is the only thing for you? And if it is, we are honest enough to just leave it that way. But a lot of times [donors will] say, well, it's not just the money, it's also. [So the screeners will say] why don't you rewrite this little portion to reflect that also? The new [screeners] became more conscious and willing to put in the effort to make more complete answers because they did care about what was presented to the recipients, to give them a fuller image of what the person was like.

While egg agencies specifically use the terms "help" and "altruism" in advising donors about profiles, the sperm donor manager does not specify what other motivation the donor is expected to have besides financial compensation. He is only supposed to revise the profile with the "also" in mind. These gendered coaching strategies result in statistically significant differences in the number of women and men who report altruistic and financial motivations in response to the profile question "Why do you want to be a donor?" (Almeling 2006).<sup>8</sup>

Both egg agencies and sperm banks believe that donor profiles offer recipient clients "reassurance" in the form of extensive information about the donor. The director of Creative Beginnings explains that infertility "is emotionally devastating, and [recipients] feel like they have no control. So those first appointments, sometimes people are really excited about the profiles because they want to see what the people are like that we are going to be supplying to them. They're really happy when they see the quality of the donor and the amount of information they get." Similarly, the donor screener at Western Sperm Bank notes that "it's hard on the recipient end to be taking this leap of faith, buying reproductive fluid from unseen, unknown strangers, so I understand the desire to know as much as you possibly can. So we try and glean stories about [the donors], and then it's just nice reassurance for the recipients, that these are real people." In the same breath, staff draw on both economic and social understandings to describe donors as "real people" who are "supplied" to recipients.

Egg agencies and sperm banks use donor profiles to recruit clients, and recipients who select particular women and men based on details about eye color, family health history,

<sup>8</sup> Preliminary data collection at a university-based infertility clinic in the southern United States, which offers both egg and sperm donation, suggests that these differences do not simply result from gamete donation occurring in sex-specific firms. A nurse responsible for screening donors uses the same preliminary questionnaire for both women and men, but most egg donor sheets include a scribbled note about why the woman wants to donate (e.g., "why—wants to help" or "why—loves kids"). None of the sperm donor forms include these notations about motivations.

favorite movie, and SAT scores begin to think of the donor as that profile. But donors are not producing unmediated texts that travel from keyboard to Web site display. Gendered cultural norms, formalized through organizational processes, result in expectations that women reflect altruistic sentiments beneath an attractive photograph, while sperm donors are vaguely encouraged to provide a “fuller image.” While the recipient is actually buying eggs or sperm, this genetic material becomes personified through the donor profile, and it is this gendered, commodified personification of the donor that the recipient is purchasing.

### *MATCHMAKING AND FEES*

Donor profiles are used to attract recipient clients to a particular program, and a match is made when a recipient chooses a specific donor. In egg agencies, a recipient chooses a particular egg donor, who then is medically and psychologically screened before signing a legal contract with “her couple.” In sperm banks, there is a limited “inventory” of sperm vials from each donor, and this supply is replenished as men continue to donate throughout their year-long commitment to the bank. The vials are listed in the bank’s “catalogue,” so a recipient who calls to place an order is advised to choose two or three different donors to ensure that at least one will be available for purchase.

Matches are the primary source of income for agencies and banks, and the staff work hard to confirm them. Recipients are urged to browse donor profiles, but staff also take the time to discuss various donors’ attributes, thereby shaping recipients’ perceptions.<sup>9</sup> This intermediary role is made clear in the following excerpt, which is one side of a telephone conversation between Creative Beginnings’s executive director and a

recipient who is in the process of choosing a donor:

*Executive Director:* We have a donor that I’d like you to look at . . . She just donated in the last couple of days, 27 eggs, and she had 23 beautiful embryos, and her name is Meredith . . . She is beautiful and bright and tall, and she has a degree in fine arts I think, and she’s a student, a real good student . . . Photography school . . . It’s a good place for us to get donors [laughs]. All that equipment and film costs a lot of money . . . She’s a really bright, classy lady . . . Take a look at Meredith, she’s a great opportunity . . . And I think Heidi would be a great choice . . . I love ’em all! . . . And check out Heidi too because she’s still an option for you, but not much longer. People are going to go after her soon. Somebody’s going to grab Meredith too because she just finished a cycle . . . No, it would be like six weeks before she could do one . . . But Heidi is ready to go . . . Go look . . . Okay, bye, you’re welcome.<sup>10</sup>

Both the donor and her embryos are labeled “beautiful,” and she is “bright” and “a really good student,” which provides an innocuous explanation for why she needs money from egg donation. Positive descriptions such as these help agencies create a sense of urgency about the donor being “grabbed” by some other recipient if the caller does not act quickly. This strategy is helpful in confirming a match, because as OvaCorp’s donor manager explains, “99.9 percent of the time [recipients] will go with [a donor], especially if they know someone else is waiting.”

Egg agencies find some donors easier to match than others. The most sought-after are “repeat donors,” who have proven their reliability by completing at least one donation cycle, or “proven donors,” whose eggs have resulted in pregnancy for a previous recipient, thus providing evidence of fertility. All sperm donors are screened for exceptionally high sperm counts, so sperm banks do not label their donors as “proven.” In fact, neither sperm bank had ever considered dropping a donor whose sperm had not resulted in any pregnancies. Some donors are also labeled “popular” because their profiles generate almost daily calls from potential recipients visiting the Web site. OvaCorp’s donor manager, leafing through a profile she had just

<sup>9</sup> While recipients receive extensive information from donor profiles and staff, this flow of information does not go both ways. Sperm donors are not given any information about who purchases their sperm, Creative Beginnings’s donors are given vague, nonidentifying information (e.g., the recipients are “schoolteachers in their forties who have been trying for a long time to have children”), and OvaCorp donors are given a short letter called a “bio” written by the recipients to the donor explaining why they are using egg donation.

<sup>10</sup> All names have been changed.

received, says "I can tell when I can match a girl quick":

Well number one, she's attractive. Number two, she has a child, which is a huge plus. I mean look [shows RA picture and profile]. And the kindest woman. She has a really good background. See, definitely it's not for the money. She makes 65 grand a year. Great height and weight. Obviously Hispanic, and I start reading a little bit about her, and she has phenomenal answers about why she wants to do this. She's given the couple total leadership, and that's wonderful. She can travel because she's in Texas. So she'd be an easy match. Young, 26, young child. There's definitely proven fertility. 5'7", 110 [pounds]. She's Caucasian enough, she's white enough to pass, but she has a nice good hue to her if you have a Hispanic couple. Educated, good family health history. Very outgoing. Easy match. Easy match.

This stream-of-consciousness perusal of a donor profile reveals the intersection of sex and gender with race and class in defining popular donors. The donor's own child attests to her body's ability to create pregnancy-producing eggs. Her relatively high salary and eloquence on the page demonstrate her altruism. And her "hue" makes her phenotypically flexible to match either Caucasian or Hispanic recipients.

If a donor is not currently available, as is the case with many of the most popular donors, then an egg recipient can "reserve" her for a future cycle. If a sperm donor's vials are "sold out" for that month, recipients can be placed on a waiting list. Sperm recipients also have the option of creating a "storage account," in which they buy multiple vials of a particular donor's sperm to guarantee its availability if they do not become pregnant during initial inseminations. In explaining this system, CryoCorp's marketing director blurs the line between the donor and the donor's sperm when she discusses the bank's "inventory":

We do limit the number of vials available on any given donor by limiting the amount of time a donor can be in the program. All of our specimens are available on a first-come, first-serve basis. We are dealing with human beings here, and the donors have finals and they don't come in, and they go away for the summer. So our inventory is somewhat variable. So we suggest [recipients] open a storage account, which just costs a little bit additionally, and then purchase as many vials as they want.

For each visit to the bank in which they produce a sample deemed acceptable based on sperm count and quality, men are paid \$75 at CryoCorp and \$50 at Western Sperm Bank (the latter is a nonprofit that charges less for sperm). Sperm samples that do not pass the banks' requirements are discarded, and the donor receives no compensation. Acceptable samples are usually split into several vials, which are cryogenically stored at the bank until purchased by a recipient. One of the sperm banks charges a minimal fee to register clients with the bank (\$50), but sperm vials all cost the same amount of money: \$215 at CryoCorp and \$175 at Western Sperm Bank.<sup>11</sup>

CryoCorp, one of the largest sperm banks in the country, lists 125 donors on its Web site and distributes approximately 2,500 vials every month. Western Sperm Bank lists 30 donors and serves just 400 recipients each year. Creative Beginnings lists more than 100 egg donors on its Web site catalogue and had 23 active donor/recipient matches in the summer of 2002. OvaCorp, one of the largest egg agencies in the country, catalogues nearly 500 donors and had more than 100 active matches that summer. Both egg agencies charge recipient clients an agency fee of \$3,500 in addition to the donor's fee and her medical and legal expenses.<sup>12</sup>

In direct contrast to the set amount paid to sperm donors, the final stage of confirming an egg donation match is negotiating the donor's fee. First-time donors are paid the least, around \$4,000, and with each additional cycle, especially if it results in a pregnancy, the fee will increase. In the process of confirming a match over the phone, Creative Beginnings's office manager explains to the recipient how the "market" determines donor fees while also communicating that the donor would "love to work with you":

*Office Manager:* We got your message yesterday about Denise, and I spoke with her this morning . . . Denise said that she'd love to work with you,

<sup>11</sup> Sperm banks do charge more for vials of "washed" sperm, a procedure required for intrauterine insemination but that is not associated with a donor's characteristics.

<sup>12</sup> To maintain comparability between the four agencies, all figures are for 2002.

love to be your donor. We're going to get her started on the preliminary stuff as far as the genetic evaluation, the psychological, and probably even having her first doctor's visit . . . You have our contract? . . . I just wanted to confirm her fee with you . . . It's \$5,000 . . . It's actually how it starts out for donors in Los Angeles . . . It's actually not on the high end . . . I do understand what you're saying. It's just that the way we've done it with all of our donors is we go off what the market is telling us to do, and usually donors in the Los Angeles area start off at \$5,000. It's usually donors in Ventura County or north that start at a lower fee. If the donor goes through an additional cycle, then we increase the fee. So if Denise had donated before, her fee could be \$6,000.

At OvaCorp, highly educated donors command higher fees, and due to the difficulty in maintaining a diverse pool of donors, both egg agencies often increase the fee for donors of color.

In negotiating with clients, staff continue their intermediary role by trying to determine what recipients can afford while also securing the highest possible fee for donors, in part to cultivate donor loyalty in a metropolitan area with several other egg agencies. If recipients are perceived as wealthy, the staff will often ask for a higher donor fee, as when an assistant mentions that "gay men, single men have a lot of money, and they think nothing of seven, eight thousand dollars." However, staff do not appreciate "girls that really ask you to negotiate" a higher fee. Creative Beginnings's director expresses "disappointment" in these women, saying, "I really don't like that. It's really uncomfortable, and couples don't like it."

If recipients experience a "failed cycle" with an egg agency's donor, the staff might offer a discounted rate on the second cycle. In some cases, the staff will even explain the situation to donors and ask them to accept a lower fee. Neither sperm bank reports offering discounts, but in an effort to help recipients afford sperm donation, one of the banks uses a payment plan called "CareCredit," a name that perfectly encapsulates the blurring of emotional and economic spheres in medicalized markets.

Staff within particular agencies also consult with one another about appropriate fees for different donors. During a weekly staff meeting, the donor manager and the director of OvaCorp discuss a match between a wealthy recipient and a woman they call "an ace in the hole" and

a "sure bet" because her eggs consistently result in recipient pregnancies:

*Donor Manager:* We're going with Helen. I told her she was getting 10 [thousand dollars].

*Donor Assistant:* [The recipient] said I don't care what she's asking for, he says I want a baby.

*Director:* I always felt that we would give her maybe 12, she's done it so many times.

*Donor Manager:* Well, why don't we give her 12 on confirmation of pregnancy?

*Director:* Yeah, something like that. Just because she's gone so many times.

*Donor Manager:* She's made a whole bunch of money.

*Director:* And the [recipients] can afford it.

*Donor Manager:* So why don't we do it as a gift?

*Director:* Yeah. We'll do 10, and then 2,000 on confirmation of pregnancy, or first trimester, or whatever you want to do. You know there's going to be a pregnancy.

In this stage of the process, a donor's attributes, encapsulated in the profile and extolled by staff, are used to generate income for the programs through matches, but the economic valuation of women's eggs is more intimate than that of men's sperm. Women are paid to produce eggs for a particular recipient who has agreed to a specific price for that donor's reproductive material. At the same time, staff tell recipients the "donor would love to work with you," while they inform donors that the recipients just "loved you and had to have you." Thus, egg agencies structure the exchange not only as a legalistic economic transaction, but also the beginning of a caring gift cycle, which the staff foster by expressing appreciation to the donors, both on behalf of the agency and the agency's clients.

OvaCorp's donor manager explains, "We have the largest donor database. The reason is we treat them like royalty. They are women, not genetics to us. A lot of times a couple doesn't meet them, so we want them to feel our warmth, feel the reality that we're so grateful for what they're doing for us, as well as because they're making our couple happy." Likewise, CryoCorp's marketing director notes, "We have to walk that tightrope and make sure the donors are happy, because if we don't have happy donors, then we don't have a program, and yet make sure the clients are happy as well [laughs], so we're always mindful of that." But in the sperm banks, a "happy donor," whose reproductive material is purchased by many different recipients months after he has produced it, is not

predicated on being placed in the position of “loving” and “being loved by” extremely grateful “future parents.”

### ***PRODUCING GENETIC MATERIAL: JOB OR GIFT?***

Programs screen applicants for “responsibility,” and staff must carefully monitor donors as they fulfill contractual obligations to produce genetic material. Egg agency staff are always on the phone with donors and doctors to find out when women begin menstruating, start fertility shots, miss doctors’ appointments, and schedule egg retrievals. Creative Beginnings’s director explains, “Most of the donors are very conscientious, and especially our donors, because we look for girls that are going to be compliant and do things right.” To maintain “inventory,” sperm bank staff are continually assessing which donors miss appointments, need blood drawn for periodic disease testing, or register unusually low sperm counts. According to a donor screener, Western Sperm Bank must be vigilant because donors “are creating a product that we’re vouching for in terms of quality control.”

In each of the four programs, staff identify the donor’s responsibilities as being like those in a job, but in the case of egg donation, it is understood to be much more meaningful than any regular job. At the information meeting for potential egg donors, Creative Beginnings’s director explains, “You get paid really well, and so you have to do all the things you do for a normal job. You have to show up at the right time and place and do what’s expected of you.” Her assistant adds, “If you really simplify the math, it’s \$4,000 for six weeks of work, and it’s maybe a couple hours a day, if that. And to know that you’re doing something positive and amazing in somebody’s life and then getting compensated for it, you can’t ask for anything better than that.” Agency staff simultaneously tell potential donors to think of donation “like a job” while also embedding the women’s responsibility in the “amazing” task of helping others.

Contact between staff and donors does not necessarily end on the day of the egg retrieval or when sperm donors provide their last sample. Sperm donors must return to the bank for HIV testing six months after they stop donating, and men who agree to release identifying information to offspring must update their addresses

with the bank indefinitely. If an egg donor performs well in her first cycle, then agencies hope to match her with future recipients. However, OvaCorp’s donor manager is careful not to ask a woman too early about another cycle. She explains, “If it’s a first-timer, I won’t ask her to do it again until she’s cleared the cycle because I don’t want her to think I’m being insistent upon a mass-producer. I’ll say, there’s another couple that would love to work with you. However, let’s just concentrate on this one couple that we’re talking about.”

But women who attempt to make a “career” of selling eggs provoke disgust among staff, in part because they violate the altruistic framing of donation. Egg agencies generally follow ASRM guidelines limiting women to five cycles, recommendations designed to minimize health risks. However, it is not concern for the woman’s health that the OvaCorp donor manager expresses in this denunciation of one such egg donor: “She’s done this as a professional. It’s like a career now. I said, there’s something about that girl. Then I called [the director of another egg agency], and she’s like ‘oh yeah, why’s she calling you? I won’t work with her anymore, she worked with me eight times.’ I said eight times?! She’s got four kids. She’s on the county. Yeah, I remember that name.”

Sperm banks also limit the number of vials from each donor. The focus, however, is not on the donor so much as efficiently running a business without offending the sensibilities of the bank’s clients. CryoCorp’s CEO explains:

There’s an ongoing debate of how many vials should you collect from any one donor. If you have 10 donors and collect 10,000 vials from all of them, and you have to replace one [donor because of genetic or medical issues], it’s taken a hit to your business. If you wind up with 10,000 donors and only collect 10 vials from every single one, you’re inefficiently operating your business. You need to figure out what that sweet spot is. But then there’s the emotional issue from a purchaser. If a client knows that with x thousand vials out there that there could be 100 or 200 offspring, what’s that point where it just becomes emotionally too many? With my MBA hat on, we are not collecting enough vials per donor because we’re not operating as efficiently as we should. With my customer relations consumer hat on, we’re collecting the right number of vials because clients perceive that it’s important to keep that number to something emotionally tolerable. At what point do you say that’s just not someone I want to be the

so-called father of my child because there's just way too many possible brothers and sisters out there?

Given the extensive investment required to screen gamete donors, one would expect programs to gather as much reproductive material as possible from each donor. Instead, women are discouraged from becoming "professional" egg donors and men are prevented from "fathering" too many offspring.

In keeping with the focus on altruism in egg donation, both OvaCorp and Creative Beginnings's staff encourage recipients to send the donor a thank-you note after the egg retrieval. This behavior is not present in the sperm banks. In many cases, egg recipients also give the donor flowers, jewelry, or an additional financial gift, thereby upholding the constructed vision of egg donation as reciprocal gift-giving, in which donors help recipients and recipients help donors. Creative Beginnings's director explains that if recipients ask her "about getting flowers for the donors, I ask them not to do that because flowers get in the way. The donor's sleeping, and she's not thinking about flowers. If you want to get a gift, get a simple piece of jewelry because then the donor has something forever that she did something really nice." This rhetoric even extends to accounting practices; while three of the programs inform donors that they will be sent a 1099 tax form, which is designed for independent contractors providing a service, one of the egg agencies considers the donor's fee a nontaxable "gift" from the recipient.

The most extreme case I heard of postcycle giving was reported by OvaCorp's donor manager:

*Donor Manager:* I paid a donor \$25,000. That's only because it was \$10,000 for the donor's fee, and then when their kids were born, they gave her an additional gift of \$15,000.

*RA:* Are you serious?

*Donor Manager:* Oh yeah. That was a gift to her. They said, what do we do? Well, you bought me and [the donor] a pair of \$3,000 earrings. They're a very wealthy couple. I love them. She had [the earrings] made by somebody in Italy. Mine had rubies at the end of them, the donor's had emeralds, and the couple's, hers had sapphires. So when her girls were born, she says maybe I'll get her some more earrings. I said the likelihood of her wearing those earrings is very slim [because] she's really low-key. I said, give her a financial com-

pensation. She's like, "Okay, I'll give her \$15,000, seven-five per girl." She had twins.

Here, the monetary value of the recipient's gift to the donor is explicitly tied to the number of children she had as a result of the donor's eggs, making the line between gift and sale indistinguishable.

In egg donation, the earlier stage of fee negotiation gives way to an understanding that donors are providing a gift, to which recipients are expected to respond with a thank-you note, and many choose to give the donor a gift of their own. In sperm donation, men are far more likely to be perceived as employees, clocking in at the sperm bank at least once a week to produce a "high-quality" sample. Indeed, this framing of donation as job leads some men to be so removed from what they are donating that when a new employee at Western Sperm Bank excitedly told a donor that a recipient had become pregnant with his samples, she said it was like "somebody hit him with this huge ball in the middle of his head. He just went blank, and he was shocked." During his next visit, the donor explained, "I hadn't really thought about the fact there were gonna be pregnancies." The donor manager describes this state of mind as "not uncommon."

As Rayna Rapp (2000:*xiv*) notes, "Contemporary biomedical rationality . . . [is] operating to reproduce older forms of gender, ethnoracial, class, and national stratification even (or perhaps especially) on its technologically 'revolutionary' edges." Indeed, these gendered portrayals of selfless motherhood and distant fatherhood fit a very traditional pattern, and this sperm donor's reaction exposes the reflexive application of gendered norms in the medical market in genetic material. While most egg donors will never meet their genetic children, women are expected to reproduce well-worn patterns of "naturally" caring, helpful femininity, guiltily hiding any interest they might have in the promise of thousands of dollars. This same emotional labor is not required of sperm donors. Men, who are more likely to be contacted through the banks' identity release programs, often do not even consider that children will result from regular deposits at the sperm bank.

## DISCUSSION

Casual observers of the market in genetic material point to biological differences between women and men and consider them explanation enough for the greater economic and cultural valuation of egg donors. Indeed, individual women have fewer eggs than individual men have sperm, and egg retrieval requires surgery while sperm retrieval requires masturbation, a comparison made by many program staff in this study. But shifting the lens from individual bodies to the market in genetic material reveals an oversupply of women willing to be egg donors. Both the year-long commitment and stringent requirements make men difficult to recruit, while hundreds of women's profiles languish on agency Web sites, far outstripping recipient demand. Despite this abundance, egg donor fees hold steady and are often calibrated by staff perceptions of a woman's characteristics and a recipient's wealth. Moreover, these high levels of compensation coexist seamlessly with altruistic rhetoric because agency staff draw on cultural norms of motherhood to construct egg donation as a gift exchange.

It is not that altruistic rhetoric is completely absent in sperm banks, or that men cannot make a couple of thousand dollars a year providing weekly samples, but the dynamic interplay between biological, economic, cultural, and structural factors differentiates the market in eggs from that in sperm in each stage of the donation process. In recruiting marketable donors, both egg agencies and sperm banks place advertisements listing biological requirements (e.g., age), but egg agencies emphasize the ability to help while sperm banks portray donation as a job, an early distinction shaped by gendered stereotypes of parenthood that is maintained throughout. The greater cultural acceptance of egg donation probably results in more women applicants than men, and staff screen women based on biological factors like medical history, but also under review are a woman's physical appearance and stated motivations. Men's health history is similarly scrutinized, and those willing to release identifying information to offspring, arguably an altruistic gesture, are preferred, but responsibility, height, and sperm count ultimately define the ideal donor.

Once accepted into a donation program, a woman's profile will be used to match her with

a specific recipient client, as eggs cannot yet be frozen like sperm. Men must build enough "inventory" for their profiles to be posted to the Web site, and their vials are available on a first-come, first-serve basis. Stored by the hundreds in large tanks, men's donations resemble a standardized product more so than the eggs that are removed from an individual woman and placed into "her" recipient a few days later. This is probably partly responsible for the different approaches to compensation, in which men are paid a standard rate only for those samples deemed acceptable. While most egg donors receive the market rate, it is common for a woman's characteristics (such as prior donations, race, and education level) to increase her fee. The personalistic one-to-one relationship between altruistic egg donor and grateful egg recipient is codified into an actual gift exchange when staff encourage recipients to write a thank-you letter or provide a small token of appreciation. Bank staff do not request similar displays of gratitude to sperm donors.

Neither the biological differences between women and men nor the economic law of supply and demand fully explain the medical market in genetic material. Reproductive cells and reproductive bodies are filtered through economic and cultural lenses in a particular structural context, that of medicalized egg agencies and sperm banks. It is not just that individual women have fewer eggs than individual men have sperm, or that eggs are more difficult to extract, that results in both high prices and constant gift-talk in egg donation, but the close connection between women's reproductive bodies and cultural norms of caring motherhood. In contrast, men are much more difficult to recruit, but are paid low, standardized prices because sperm donation is seen as more job than gift. As a result, both eggs and egg donors are more highly valued than sperm and sperm donors in this medical marketplace, where it is not just reproductive material, but visions of middle-class, American femininity and masculinity, and more to the point, motherhood and fatherhood, that is marketed and purchased.

## CONCLUSION

Zelizer's tripartite model, discussed earlier in this article, effectively challenges two long-standing claims about the market. By empiri-

cally demonstrating how the interaction of economic, cultural, and structural factors shapes particular markets, she undermines claims that money and intimacy are fundamentally incompatible or that economic exchanges are reducible to nothing but culture or nothing but structure. She concludes, "The cases of life insurance and the pricing of children show that the process of rationalization and commodification of the world has its limits, as the market is transformed by social, moral, and sacred values" (1988:631). As would be expected from Zelizer's research, there is no separation between economic and cultural spheres in which the economic valuation of genetic material trumps the cultural framing of altruistic donation. But it is not until biological factors are included in the model, making possible a comparison of how different kinds of bodies are valued, that it becomes clear how these social processes of commodification vary based on whether the reproductive cells come from a woman or a man.

Feminists have historically avoided biological explanations, which is understandable given the regularity with which sex differences are referenced to deflect criticism of social inequalities. But decades of research on women's disadvantage do not lead one to expect a market in which women are paid more than men, and where having a child can actually make a woman a more desirable candidate. These unexpected findings are explained, however, once the body is taken into account, both in its materiality, including differentiated reproductive organs, and in the meanings associated with this differentiated materiality, such as economic interpretations (e.g., eggs as scarce resource) and cultural readings (e.g., women as nurturing).

Thus, as Butler (1993) theorizes, the body does matter, but biology does not provide a set of static facts to be incorporated into sociological analyses because biological factors alone do not predict any particular outcome. Indeed, empirical investigations into the meaning and interpretation of reproductive cells and bodies reveal considerable variation in different social contexts. For example, whereas Martin (1991) finds that metaphors in medical textbooks privilege male bodies, in this medical market, some of these same "biological facts" result in higher monetary compensation and more cultural validation for women—validation that is based

on a different set of gendered stereotypes about caring motherhood and distant fatherhood.

But it is not only sex and gender that influence the valuation of eggs and sperm. Egg agencies and sperm banks have difficulty recruiting diverse donors, so an African American woman might be paid a few thousand dollars more, while sperm banks might relax height restrictions to accommodate a Mexican man. This paradoxical finding, that women of color are often compensated at higher levels for their reproductive material than are white women, directly contradicts intersectionality theory, which contends that race, gender, and class combine to increase women's disadvantage (e.g., Hill Collins 2000; Roberts 1997). In this market, race and ethnicity are biologized, as in references to Asian eggs or Jewish sperm, and it is one of the primary sorting mechanisms in donor catalogs, along with hair and eye color. This routinized reinscription of race at the genetic and cellular level in donation programs, which as medicalized organizations offer a veneer of scientific credibility to such claims, is worrisome given our eugenic history (Duster 2003).

This analysis of the medical market in genetic material demonstrates how essential it is for sociologists to attend to biological factors while simultaneously resisting essentialized biological explanations. While reproductive cells and bodies are the salient biological factors in this market, sociologists working in other contexts are likely to encounter other biological factors. For example, in blood donation, it may not be sex and gender per se, but biologized assumptions about sexuality that shape who is allowed to give, as when the Food and Drug Administration does not allow "men-who-have-sex-with-men" to donate because of assumptions about HIV risk. Incorporating biological factors into sociological analyses can also mean measuring the physical effects of gendered inequalities. For example, while Hochschild discusses the biological basis of emotion, she does not focus on the biological consequences of different kinds of emotional labor. She concludes that women flight attendants experience more cognitive dissonance than do men debt collectors, but the long-term biological effects of manufactured smiling may actually be less severe than those of manufactured anger, which has clear cardiovascular implications (Rose and Lewis 2005).

This analysis also underscores the importance of empirical investigations into market practices, rather than relying on abstract distinctions between the realm of the commodity and the realm of the gift. Such distinctions are common in bioethical formulations of commodification, as in this excerpt from Thomas Murray on egg donation:

Are children more likely to flourish in a culture where making children is governed by the same rules that govern the making of automobiles or VCRs? Or is their flourishing more assured in a culture where making children is treated as a sphere separate from the marketplace? A sphere governed by the ethics of gift and relationship, not contract and commerce? (1996:62)

But today, when the very stuff of life is assigned a price, listed on a Web site, and purchased with a credit card, these questions no longer make sense. They ignore the easy confluence of payments in the thousands of dollars with altruistic rhetoric, continuing to assume a clear separation between commodities and gifts, between market and family. Furthermore, such questions reveal an understanding of commodification as a generic social process. Instead, the commodification of the human body can be expected to vary based on the sex and gender of that body, as economic valuations intertwine with cultural norms in specific structural contexts.

*Rene Almeling is a Ph.D. candidate in sociology at the University of California, Los Angeles. Her dissertation expands on the research presented here with data from two additional donation programs, as well as interviews with 40 egg and sperm donors to examine how variation in the organization of this medical market affects women's and men's experiences of bodily commodification.*

## REFERENCES

Abolafia, Mitchel. 1996. *Making Markets: Opportunism and Restraint on Wall Street*. Cambridge, MA: Harvard University Press.

Acker, Joan. 1990. "Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations." *Gender and Society* 4:139–58.

Almeling, Rene. 2006. "Why Do You Want To Be a Donor?": Gender and the Production of Altruism in Egg and Sperm Donation." *New Genetics and Society* 25:143–57.

American Society for Reproductive Medicine Ethics Committee. 2000. "Financial Incentives in

Recruitment of Oocyte Donors." *Fertility and Sterility* 74:216–20.

Appadurai, Arjun. 1986. "Introduction: Commodities and the Politics of Value." Pp. 3–63 in *The Social Life of Things*, edited by A. Appadurai. Cambridge, England: Cambridge University Press.

Baker, Wayne. 1984. "The Social Structure of a National Securities Market." *American Journal of Sociology* 89:775–811.

Becker, Gay. 2000. *The Elusive Embryo: How Women and Men Approach New Reproductive Technologies*. Berkeley, CA: University of California Press.

Becker, Gay, Anneliese Butler, and Robert Nachtigall. 2005. "Resemblance Talk: A Challenge for Parents Whose Children were Conceived with Donor Gametes in the US." *Social Science and Medicine* 61:1300–09.

Butler, Judith. 1993. *Bodies that Matter: On the Discursive Limits of Sex*. New York: Routledge.

Chodorow, Nancy. 1978. *The Reproduction of Mothering: Psychoanalysis and the Sociology of Gender*. Berkeley, CA: University of California Press.

Conrad, Peter and Valerie Leiter. 2004. "Medicalization, Markets and Consumers." *Journal of Health and Social Behavior* 45:158–76.

Conrad, Peter and Joseph Schneider. 1980. *Deviance and Medicalization: From Badness to Sickness*. Philadelphia, PA: Temple University Press.

Covington, Sharon and William Gibbons. Forthcoming (2007). "What is Happening to the Price of Eggs?" *Fertility and Sterility*.

Daniels, Cynthia and Janet Golden. 2004. "Popular Eugenics, Artificial Insemination and the Rise of the American Sperm Banking Industry." *Journal of Social History* 38:5–27.

Daniels, Ken and Gillian Lewis. 1996. "Donor Insemination: The Gifting and Selling of Semen." *Social Science and Medicine* 42:1521–36.

De Beauvoir, Simone. [1952] 1989. *The Second Sex*. New York: Vintage.

Duster, Troy. 2003. *Backdoor to Eugenics*. New York: Routledge.

Emond, Michael and Joanna Scheib. 1998. "Why Not Donate Sperm? A Study of Potential Donors." *Evolution and Human Behavior* 19:313–19.

England, Paula and Nancy Folbre. 2005. "Gender and Economic Sociology." Pp. 627–49 in *The Handbook of Economic Sociology*, edited by N. Smelser and R. Swedberg. Princeton, NJ: Princeton University Press.

Fausto-Sterling, Anne. 2000. *Sexing the Body: Gender Politics and the Construction of the Body*. New York: Basic Books.

Franklin, Sarah. 1997. *Embodied Progress: A Cultural Account of Assisted Conception*. London: Routledge.

Freese, Jeremy, Jui-Chung Allen Li, and Lisa Wade.

2003. "The Potential Relevance of Biology to Social Inquiry." *Annual Review of Sociology* 29:233–56.
- Fujimura, Joan. 2006. "'Sex Genes': A Critical Sociomaterial Approach to the Politics and Molecular Genetics of Sex Determination." *Signs* 32:49–82.
- Gordon, Linda. 1976. *Woman's Body, Woman's Right: A Social History of Birth Control in America*. New York: Viking Press.
- Haines, Erica. 1993. "Issues of Gender in Gamete Donation." *Social Science and Medicine* 3:85–93.
- Hays, Sharon. 1996. *The Cultural Contradictions of Motherhood*. New Haven, CT: Yale University Press.
- Healy, Kieran. 2006. *Last Best Gifts: Altruism and the Market for Human Blood and Organs*. Chicago, IL: University of Chicago Press.
- Hill Collins, Patricia. 2000. *Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment*. New York: Routledge.
- Hochschild, Arlie. 1983. *The Managed Heart: Commercialization of Human Feeling*. Berkeley, CA: University of California Press.
- Kanter, Rosabeth M. 1977. *Men and Women of the Corporation*. New York: Basic Books.
- Katz Rothman, Barbara. 1986. *The Tentative Pregnancy: Prenatal Diagnosis and the Future of Motherhood*. New York: Viking.
- Kessler-Harris, Alice. 1990. *A Woman's Wage: Historical Meanings and Social Consequences*. Lexington, KY: University of Kentucky Press.
- Kligman, Gail. 1998. *The Politics of Duplicity: Controlling Reproduction in Ceausescu's Romania*. Berkeley, CA: University of California Press.
- Kopytoff, Igor. 1986. "The Cultural Biography of Things: Commoditization as Process." Pp. 64–91 in *The Social Life of Things*, edited by A. Appadurai. Cambridge, England: Cambridge University Press.
- Light, Donald. 2004. "Ironies of Success: A New History of the American Health Care System." *Journal of Health and Social Behavior* 45:1–24.
- Luker, Kristen. 1984. *Abortion and the Politics of Motherhood*. Berkeley, CA: University of California Press.
- Martin, Emily. 1991. "The Egg and the Sperm: How Science has Constructed a Romance Based on Stereotypical Male-Female Roles." *Signs* 16:485–501.
- . 1992. *The Woman in the Body: A Cultural Analysis of Reproduction*. Boston, MA: Beacon.
- McKinley, John and John Stoekle. 1988. "Corporatization and the Social Transformation of Doctoring." *International Journal of Health Services* 18:191–205.
- Milkman, Ruth. 1987. *Gender at Work: The Dynamics of Job Segregation by Sex During World War II*. Chicago, IL: University of Illinois Press.
- Murray, Thomas. 1996. "New Reproductive Technologies and the Family." Pp. 51–69 in *New Ways of Making Babies*, edited by C. Cohen. Bloomington, IN: Indiana University Press.
- Nelson, Julie and Paula England. 2002. "Feminist Philosophies of Love and Work." *Hypatia* 17:1–18.
- Novaes, Simone Bateman. 1998. "The Medical Management of Donor Insemination." Pp. 105–30 in *Donor Insemination*, edited by K. Daniels and E. Haines. Cambridge, England: Cambridge University Press.
- Ortner, Sherry. 1974. "Is Female to Male as Nature is to Culture?" Pp. 67–87 in *Woman, Culture and Society*, edited by M. Rosaldo and L. Lamphere. Stanford, CA: Stanford University Press.
- Ragoné, Hélène. 1999. "The Gift of Life: Surrogate Motherhood, Gamete Donation and Constructions of Altruism." Pp. 65–88 in *Transformative Motherhood*, edited by L. Layne. New York: New York University Press.
- Rapp, Rayna. 2000. "Foreword." Pp. xiii–xvi in *Ideologies and Technologies of Motherhood*, edited by H. Ragoné and F. W. Twine. New York: Routledge.
- Rindfuss, Ronald, S. Philip Morgan, and Kate Offutt. 1996. "Education and the Changing Age Pattern of American Fertility: 1963–1989." *Demography* 33:277–90.
- Roberts, Dorothy. 1997. *Killing the Black Body: Race, Reproduction and the Meaning of Liberty*. New York: Pantheon.
- Rose, Susan and Tené Lewis. 2005. "Psychosocial Factors and Cardiovascular Diseases." *Annual Review of Public Health* 26:469–500.
- Rubin, Gayle. 1975. "The Traffic in Women." Pp. 157–210 in *Toward an Anthropology of Women*, edited by R. Reiter. New York: Monthly Review Press.
- Schmidt, Matthew and Lisa Jean Moore. 1998. "Constructing a 'Good Catch,' Picking a Winner: The Development of Technosemen and the Deconstruction of the Monolithic Male." Pp. 21–39 in *Cyborg Babies*, edited by R. Davis-Floyd and J. Dumit. New York: Routledge.
- Schover, L. R., R. L. Collins, M. M. Quigley, J. Blankstein, and G. Kanoti. 1991. "Psychological Follow-up of Women Evaluated as Oocyte Donors." *Human Reproduction* 6:1487–91.
- Schover, L. R., S. A. Rothmann, and R. L. Collins. 1992. "The Personality and Motivation of Semen Donors: A Comparison with Oocyte Donors." *Human Reproduction* 7:575–79.
- Sharp, Lesley. 2000. "The Commodification of the Body and its Parts." *Annual Review of Anthropology* 29:287–328.
- Smith, Charles. 1989. *Auctions: The Social Construction of Value*. New York: Free Press.
- Titmuss, Richard. 1971. *The Gift Relationship: From*

- Human Blood to Social Policy*. New York: Pantheon Books.
- Tober, Diane. 2001. "Semen as Gift, Semen as Goods: Reproductive Workers and the Market in Altruism." *Body and Society* 7:137–60.
- White, Harrison. 1981. "Where Do Markets Come From?" *American Journal of Sociology* 87:517–47.
- Williams, Christine. 1995. *Still a Man's World: Men Who Do Women's Work*. Berkeley, CA: University of California Press.
- Yanagisako, Sylvia and Jane Collier. 1990. "The Mode of Reproduction in Anthropology." Pp. 131–41 in *Theoretical Perspectives on Sexual Difference*, edited by D. Rhode. New Haven, CT: Yale University Press.
- Zelizer, Viviana. 1979. *Morals and Markets: The Development of Life Insurance in the United States*. New York: Columbia University Press.
- . 1985. *Pricing the Priceless Child: The Changing Social Value of Children*. New York: Basic Books.
- . 1988. "Beyond the Polemics of the Market." *Sociological Forum* 3:614–34.
- . 2005. *The Purchase of Intimacy*. Princeton, NJ: Princeton University Press.