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2012

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UNIVERSITY OF CALIFORNIA

Los Angeles

Liquid Gold: Breast Milk Banking in the United States

A dissertation submitted in partial satisfaction of the
requirement for the degree Doctor of Philosophy
in Sociology

by

Marisa Gerstein Pineau

2012

ABSTRACT OF THE DISSERTATION

Liquid Gold: Breast Milk Banking in America

by

Marisa Gerstein Pineau

Doctor of Philosophy in Sociology

University of California, Los Angeles, 2012

Professor Rebecca Emigh, Chair

Over the course of the 20th Century, breast milk banks have facilitated the exchange of breast milk from mothers with an excess supply to infants in need. But while early banks used a seller model, purchasing milk as a commodity from lower class women, today banks use a donor model, relying on middle class women who give their milk away as a gift. This dissertation explores why the commodified model of breast milk banking first arose, and why banked breast milk was giftified (but still commodified) by the end of the century. I use content analysis of institutional records from three banks operating in three different eras, and interviews with current milk bank managers, donors, and parents of recipients to address these questions. My analysis indicates that in each era a confluence of factors, in particular women's employment, conceptions of motherhood, medical practices and beliefs, and technologies shapes the exchange of banked breast milk. In the early 20th century new technologies made the physical disembodiment of breast milk possible, while mothering practices and medical authorities' preferences promoted breast milk's symbolic disembodiment, promoting the milk's

commodification, while limited employment opportunities created a pool of willing sellers. During the 1960s new mothering practices and related changes in physicians' preferences sacralized the milk, making its sale by mothers culturally inappropriate. Today, high levels of maternal employment and portable, efficient breast pumps create an excess supply of milk that mothers are loath to dispose of due to its sacralized status, sustaining the donor model. But banks still sell the milk as a commodity, albeit a non-profit one, to parents who use the milk both as food and as a form of good parenting in a bottle. Breast milk banking therefore involves both gift and commodity exchange. And as interviews with donors and parents of recipients demonstrate, many middle class donors want to be paid, while middle class parents who purchase the milk reject the idea of donor compensation, pointing to breast milk's ambiguous status even among those intimately involved in its exchange, and the role of social class in mediating actors' perceptions and experiences.

This dissertation of Marisa Gerstein Pineau is approved.

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2012

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ACKNOWLEDGMENTS

Although I spent many lonely hours researching and writing this dissertation, I think of it as a group project that could not have been completed without the input and support of my family, friends, and academic mentors. If it takes a village to raise a child, it certainly takes one to create a dissertation, and therefore I must acknowledge the many wonderful people in my life who made this project possible and supported and cared for me throughout graduate school and my life up to now.

First I would like to thank my committee, in particular my chair Rebecca Emigh, whose guidance, drive, and insistence that I always make things as clear as possible provided me with a roadmap for navigating both the dissertation and graduate school in general. She always balanced her insistence on clarity with support for my choices, for which I am grateful. It is rare to find an advisor who is willing to provide so much time to her students' work, and I know I benefited a great deal from her guidance.

I am also grateful to Hannah Landecker, Abigail Saguy, and Mary Terrall for their invaluable insights and their gentle reminders to think beyond of my occasionally narrow approach to my data. Hannah has been both a mentor and a friend, and her non-sociological interpretations are often revelations to me that push me to think of problems in a completely new way. Abigail, meanwhile, provided me with excellent feedback on both my Master's thesis and this dissertation, and was always willing to meet with me and discuss her questions and comments despite her busy schedule, for which I am very grateful. I particularly appreciate her reminders about the importance of social class and race when I got stuck viewing the world through a gender prism. I am also very grateful to Mary for her constant reminders that what sociologists think of as ideologies or "cultural conceptions" are ideas that originate with people,

exist as part of our perceptions and interactions, and are not monolithic social structures. I may not have managed to avoid the pitfalls of structure vs. agency in this dissertation, but Mary's comments will continue to resonate with me and influence my approach in the future.

I also want to acknowledge the many people in the Sociology Department at UCLA that made graduate school not just bearable, but a joy these past 7 years. I would like to thank Bill Roy for convincing me to come to UCLA when I visited for recruitment weekend. I would also like to thank Ruth Milkman for bringing me back to the study of gender; Zsuzsa Berend and Ana Maria Goldani for being teaching mentors and friends; Wendy Fujinami for guiding me through the occasional administrative nightmare that is UCLA, and all the sociology staff for being friendly and helpful when I come to them with often very silly questions.

Of course the best advisors anyone has for navigating life in graduate school are fellow graduate students. I am incredibly grateful to my fellow Emights, including Corey O'Malley, Isaac Speer, Rennie Lee, Molly Jacobs, and Faustina DuCross for providing me with feedback and thoughtful questions that pushed me to think about my work in new ways.

I also want to thank Anthony Alvarez, Nazgol Ghandnoosh, Sylvia Zamora, Rocio Rosales, Amada Armenta, Anthony Ocampo, and Wes Hiers for their intelligent insights, invigorating conversations, and helpful advice, and for making graduate school not just intellectually exhilarating, but lots of fun. I could always call on them to make me feel better when I was feeling down or needed a happy hour to get me out of my lonely home office. I will always be grateful for their friendships.

Of course, without the love and support of my family none of this would have been possible. Many, many thanks to my mother, Martha Sherman Gerstein, my sisters Marigold and Sarah and their significant others, Erik and Scott, and my mother-in-law Nicole Pineau for being

supportive of me even though I moved my husband and myself 3000 miles away for long seven years. Our repeated declaration that we would be back “in two more years,” as year after year passed tested their patience, but they have borne it with good grace, which I deeply appreciate. I also thank Marianna Gerstein for her avid interest in my work and willingness to edit on a tight deadline, and my sister Jayna for being such a wonderful sister and aunt. A very special thank you to my grandparents, Marilyn and Malcolm Gerstein, for the deep love and care they give to me and all their family, without which none of us would be here.

Extra special thanks go to my dad, Dean Gerstein, for inspiring me to follow in his footsteps into the family business, and for always challenging me to think harder and be better at what I do. I hope I can make him as proud of me as I am of him.

Finally, my greatest thanks go to my husband Bernie and daughter Ilona. As my first baby (this dissertation being the second) Ilona has brought light and joy and new challenges to my life in a way I never thought possible, while her “idiosyncratic” nursing style made me appreciate the trials and tribulations of my interviewees in ways I never would have otherwise. And Bernie has been my anchor, my savior, the love of my life. He has supported me emotionally, intellectually, and financially, and never let me forget how proud he was of me. Thank you so much, Bernie. I love you.

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INTRODUCTION

In 1910, Dr. Fritz Talbot established the country's first breast milk bank in Boston, MA. The Directory for Wet Nurses housed wet nurses and their infants, provided wet nurses for private clients, and sold "drawn" breast milk by the ounce. This bank was a hybrid of older models of breast milk provision, in which women nursed other women's infants for pay, and a newer model, in which women were paid for their expressed breast milk. This "seller" model of breast milk banking became the basis for breast milk banking across the country and marked the beginning of the commodification of banked breast milk. However, over the course of the 20th century, breast milk banks in America shifted from this seller-based system to a donor system in which women give their breast milk to banks without any expectation of remuneration, a process I call "giftification".

This dissertation examines the social processes of commodification and giftification, as well as the social contexts in which these processes are embedded. More specifically, I trace the history of breast milk banking in the U.S. over the course of the 20th century and describe the ways in which banked breast milk was initially commodified and eventually giftified. In the first era, from 1910 to 1947, breast milk was commodified (Golden, 1996, 2001). The second era, between 1948 and 1974, witnessed the gradual giftification of banked milk, as banks slowly moved from a seller model to a donor model. During the third era, between 1974 and the present, banks moved exclusively to a donor model, so that today, all banked breast milk is given by donors as a gift.

The commodification and eventual giftification of banked breast milk were neither straightforward nor complete, and in each era, breast milk banking incorporated aspects of both commodity and gift exchange. What I seek to explore in this dissertation is not whether banked breast milk was or is fully commodified or giftified; instead, I am interested in the processes of commodification and giftification, and the ways in which economic, cultural, and technological factors interact to create and alter models of breast milk banking. In addition, I examine how actors—donors, breast milk bank managers, and recipients—respond to and incorporate these factors into their decisions, as well as the ways in which donors and recipients of banked breast milk experience breast milk banking today. Why and how was breast milk commodified at the beginning of the 20th century? And how did it become giftified (but still commodified) by the beginning of the 21st century?

FORMS OF EXCHANGE: COMMODITIES AND GIFTS

There are two primary ways in which objects circulate in societies—as commodities and as gifts. Scholars since Marx (1906[1867]) have studied and debated the differences between these forms of exchange, and perspectives on commodities and gifts generally fall into two camps. The first perspective views these exchanges as distinct processes that proceed in linear ways, while the second perspective views them as “variable social processes” with unique pathways that often overlap.

Dichotomous Perspective

Scholars who hold the first view, which I call the “dichotomous perspective”, assume that there is a clear distinction between gifts and commodities, and they illuminate this distinction by

tracing the differences between the modes of exchange. In the dichotomous perspective, gift exchange creates ongoing personal relationships of reciprocity and is a hallmark of pre-capitalist societies (Marx, 1906; Mauss, 1990[1954]). Capitalist economies, on the other hand, are uniquely efficient at transforming objects, services, and even human bodies into commodities (Marx, 1867; Lukacs, 1923; Appadurai, 1986; Radin, 1996, 2005; Spillman, 1999; Sayer, 2003). Commodity exchange involves the impersonal exchange of objects for money without any expectation of obligation or future transaction (Mauss, 1990; Gregory, 1982; Titmuss, 1970). Gift exchange is a moral transaction that creates and reinforces positive relations and communal solidarity, while commodity exchange is “profit-oriented, self-centered, and calculated” (Appadurai, 1986:11; see also Marx, 1906; Simmel, 1900; Titmuss, 1970). Commodification “elevates exchange value over use value”, while “questions of what is good give way to the question of what can be sold at a profit” (Sayer, 2003:343). Commodification is therefore socially corrosive (Marx, 1906; Simmel, 1900).

From this perspective, gift exchange is the primary form of exchange in “moral economies”. Moral economies comprise “consistent traditional views of social norms and obligations” as well as ideas about “the proper economic functions of...parties within the community” (Thompson, 1971:79). Early scholars of moral economies tended to assume they were exclusively pre-capitalist, and that the rationales of capitalist exchange displaced the morally based norms of obligation and reciprocity that existed in the smaller and more tightly knit agricultural societies (e.g., Thompson, 1971; Scott, 1976). This “disembedding” of economic relations from culture presumably destroys the social contracts that previously bound individuals and communities together and establishes a new economic, rather than moral, logic of exchange (Polanyi, 1957).

This perspective suggests that human tissues will also be commodified in capitalist societies and that economic valuations will replace moral ones. For instance, in *The Gift Relationship* (1997[1970]) the classic study of the commodification of human blood in the United States and elsewhere, Richard Titmuss draws on this perspective to criticize the commercial blood market. Drawing a sharp distinction between gift exchange and commodity exchange, Titmuss argues that selling blood for money is not only a safety risk, but corrodes social relations and a sense of civic responsibility. He concludes that the commodification of human tissues in capitalist societies is not only inevitable, it is inevitably negative.

Diverse Perspective

The second viewpoint on commodity and gift exchange, what I call the “diverse perspective”, problematizes the strict dichotomy between commodity and gift by pointing out the similarities between gift and commodity exchange and the ways in which they might overlap. This perspective also points to the ways in which cultural factors and interpersonal relationships shape forms of exchange even in capitalist societies (e.g., Frow, 1997; Callon, 1998; Zelizer, 1985, 2005). For instance, Zelizer (1997) points out, in her analysis of the social meaning of money, that even this quintessential commodity is gifted as it circulates between individuals and within households along multiple pathways, depending on gender and social class. Working in a similar vein, more recent scholars of moral economies point out that “all economies are enmeshed in the political, social, and moral life of particular places” (Ramsay, 1996:9). They have examined the ways in which “economic activities of all kinds are influenced and structured by moral dispositions and norms” (Sayer, 2006:79). Commodification is therefore embedded in cultural practices and involves moral decisions, because economic valuations (the establishment

of use value and exchange value) are influenced by moral and ethical valuations, although these valuations are often in tension (Sayer, 2006:80). The diverse perspective challenges the assumption that commodification is inevitable, uniform, or uniformly negative and suggests that both gift and commodity exchange operate within capitalist societies.

Furthermore, the diverse perspective suggests that markets for human tissues are shaped not only by economic considerations, but also by cultural conceptions and moral norms that may alter or limit commercial exchange. Almeling (2011) describes how this can occur in her comparison of commercial markets for sperm and eggs. She finds that cultural ideas about gender determine not only the value of reproductive tissues, but also the rhetoric that organizations employ to motivate egg and sperm “donation”, and even donors’ own experiences of commodification. Despite the fact that both men and women are paid for their reproductive tissues, men experience and conceptualize sperm donation as a job, while women experience egg donation as a form of gifting. Gender ideologies in which women are presumed to be maternal and inherently altruistic and men are viewed as productive breadwinners motivate these differences (Almeling, 2011:56). These gender ideologies are also class-based, because nurturance and altruism are associated with middle-class values and behaviors (Hays, 1996; Almeling, 2011:56, 68). This suggests that gendered human tissues, particularly tissues symbolically connected to middle class motherhood, are less likely to be fully commodified.

A particularly vivid example of how ideology can influence the market is the moral panic that surrounded paid surrogacy in the U.K. in the 1980s, which culminated in the passage of the Surrogacy Bill which banned the practice (Morgan, 1985). I would argue that the pressure to do this was rooted in traditional ideas about the proper (non)economic role of women, as well as concerns that the commodification of reproduction would erase the distinction between men and

women. As Hays (1996) and others (e.g., Blum, 1999; Wolf, 2011) demonstrate, since the 18th century, cultural conceptions of motherhood include the expectation that mothers are inherently selfless and nurturing, as well as morally superior to men, who have to work in the impersonal, competitive world of the market. In addition, the relationship between a mother and child is “understood as more distant and more protected from market relationships than any other” (Hays, 1996:174). Gendered body tissues connected to reproduction are therefore subject to moral valuations that structure their modes of exchange. Cultural conceptions of gender, and in particular class-based conceptions of motherhood, limit commodification of human tissues and I argue, create markets that incorporate both gift and commodity exchange.

Walby and Mitchell have focused on the role of technology in shaping markets for human tissues and concluded that advances in technologies generally promote commodification, because donated tissues are fragmented and put to multiple uses, as well as traversing different institutions and regulatory regimes (Walby and Mitchell, 2006:22). Human tissues circulate along complex “commodity chains”—networks of labor and production processes in which each link involves processes of input acquisition, manufacturing, distribution, marketing, and consumption (Hopkins and Wallerstein, 1986:159). Different links in the chain may incorporate different and even apparently conflicting processes of production and exchange. So while donors are often excluded from selling their tissues, receiving institutions may sell donated tissues or transform them into cell lines or gene sequences that are patented, generating large profits for researchers and institutions (Walby and Mitchell, 2006:23). Tissues that are gifts at one point in the exchange process may therefore be commodified at another point in the process.

Technology is key to this process of commodification. Walby and Mitchell’s (2006:32) key contribution is their theory of “technicity”—the interaction between the tissues’ material

qualities and the technologies available to “procure, potentiate, store, and distribute them.” A tissue’s technicity “mediates the values and relations associated” with that tissue, and tissues that are easily “disentangled” from the human body, both physically and symbolically, are more likely to be commodified (Walby and Mitchell, 2006:182). Technicity therefore conditions both production and exchange, making it less likely that tissues will be commodified at the point of production, where it is harder to physically and symbolically disentangle the tissue from the body, and more likely that they will be commodified at the points of distribution and consumption, where they are more distant from the body.

These scholars point out the ways in which cultural conceptions and moral norms interact with technologies and other factors to structure markets for human tissues. Tissues that are both easily alienated from the human body, as well as subject to cultural meanings that are amenable to commercialization, will be more likely to be commodified along every point of the commodity chain. On the other hand, tissues that are more difficult to physically disentangle from the body and culturally constructed in opposition to the market, such as reproductive tissues, are more likely to circulate in a mixed economy of commodity and gift. This work suggests that class-based cultural conceptions of motherhood will interact with available technologies in different time periods to determine the extent to which breast milk is commodified or giftified, and that in time periods in which breast milk is more physically alienable, and cultural conceptions promote its symbolic disentanglement from the body, it will be more commodified.

WHY BREAST MILK?

Despite its long history, the breast milk market has been overlooked by social scientists. Historians, on the other hand, have examined breast milk banking. For instance, Wolf (2001)

described the Chicago Department of Public Health's establishment of a breast milk bank in the 1930s as part of its campaign against infant mortality, while Swanson (2009) examined the technologization of human milk in Boston in the 1920s and 1930s.

Historian Janet Golden (1996, 2001) has written the most thorough analyses of breast milk banking. She describes how breast milk banks evolved from exclusively wet nursing services, in the early 20th century, to become a therapeutic commodity purchased from poor women and controlled by doctors in the 1910s and 1920s. She attributes the commodification of breast milk to the development of organized, professional banks; the disembodiment, pooling, and pasteurization of the milk that theoretically purged it of its producers' characteristics; and the growing stigma surrounding wet nursing and the social status of milk sellers (Golden, 1996:81).

Beginning in the 1950s, however, breast milk's status changed as Boston's Directory for Wet Nurses and other banks shifted from poor and working class sellers to middle class donors. Golden (1996:84; 2001:204) argues that breast milk was no longer a commodity, but a sacralized gift. She attributes this shift to two factors. First, the post-war economic boom provided alternative forms of employment for working class mothers who might otherwise have sold their milk. Second, the rise of intensive motherhood among middle class mothers during the baby boom increased breastfeeding rates among these women, while lower-income women who previously breastfed turned to the bottle.

My dissertation expands on Golden's description of breast milk's transition from commodity to gift; I use the theoretical frameworks developed in the social science literature on body commodification and moral economies to reevaluate her description of the commodification of breast milk in the early 20th century, along with the shift from a seller to a donor model of breast milk banking by the end of the century. Unlike Golden, who asserts that

this shift meant that breast milk ceased being a commodity and became a gift (1996:84), I conclude that although breast milk has been giftified as of the present time, it has never ceased being a commodity. For, while at one end of the milk banking process, the milk is perceived as a gift and given away without expectation of remuneration, at the other end, it is still treated as a commodity and sold for money. Banked breast milk is neither strictly commodity nor gift, but is perceived differently at different points along the commodity chain.

In addition, my interviews with breast milk bank donors demonstrate that although middle-class donors willingly give away their milk as a gift, their motivations are often complex, and many are open to being paid for their milk. Interviews with the parents of recipients, meanwhile, demonstrate that although it is generally middle-class parents paying for the milk, they assign the milk a special meaning both as a gift and as a symbol of good parenting, and reject the idea of donor remuneration. The moral valuations of the milk come into conflict with the economic valuations (e.g., Sayer, 2000)—a tension that plays out in donors’ and parents’ experiences in the breast milk market.

In his introduction to *The Social Life of Things*, anthropologist Arjun Appadurai (1986:3) makes the case that “commodities, like persons, have social lives.” Commodities are not fixed; instead, they are objects that are subject to, and emblematic of, transformative social processes (Sharp, 2000:291). Similarly, commodification is not an end point: It is an ongoing process with variable pathways and deviations. In this dissertation, I trace the social life of banked breast milk. Specifically, I examine how and why breast milk became a commodity in the early 20th century, and why it also became a gift in the 1970s, as milk banks shifted from a seller- to a donor-based model of collection.

In the course of this investigation, I align myself with the scholars of the “diverse perspective” of commodification, arguing that breast milk banking combines aspects of gift and commodity exchange, both historically and today. Furthermore, I argue that cultural conceptions and moral norms that legitimate or deny legitimacy to certain forms of exchange can structure the breast milk market in different ways during different time periods. More specifically, I argue that class-based conceptions of gender and motherhood combine with technologies and other factors to create complex commodity chains that incorporate both commodity and gift exchange.

My research suggests that throughout its century-long history, breast milk banking has combined aspects of gift and commodity exchange, although the manner and extent to which these systems overlap has varied between time periods. Early milk banks combined commodity and gift exchange at the point of production, because payment to sellers was also a form of charity for destitute women. Today, breast milk is given and exchanged as both a gift and a commodity, but at different points along the commodity chain: It is a gift at the point of production, and a commodity at the point of distribution and consumption. Only in mid-century was breast milk commodified at each part of the chain, and then only briefly. In each era, women’s employment, conceptions of motherhood, medical practices and beliefs, and technologies interacted to structure the commodity chain and determine the extent to which banked breast milk was commodified or giftified.

The remainder of this chapter defines the terms I will use in this dissertation and summarizes the arguments that I explore in further detail in the chapters that follow. Specifically, I describe in detail the processes of commodification and giftification of breast milk throughout the 20th century. Next, I outline my research methodology, which includes analysis of historical and institutional records, and interviews with current milk bank donors, managers, and parents of

recipients. The final section gives a brief outline of each of the following chapters in this dissertation.

THE COMMODIFICATION OF BREAST MILK

One of the hallmarks of capitalism, according to Marx (1906), is the appearance of the commodity. A commodity has both a use-value—meaning, its utility corresponds with “the physical palpable existence of the commodity”, and an exchange value—an abstraction that expresses the amount of embodied labor time that went into creating the commodity (Marx, 1906). While the use value is rooted in an object’s material existence, the exchange value is “purely social”, and derives from the social relations of production, which become ultimately obscured.

Commodification is the process in which an object becomes a commodity. This process includes three parts. First, to become a commodity, an object must be “external to man, and consequently alienable”, meaning transferable from one person to another (Marx, 1906:59). Second, the object must appear to be equivalent to another, different object; in other words, the objects must have a comparable amount of embodied labor time. This equivalency makes qualitatively different objects appear quantitatively exchangeable. As Marx explains, an object never assumes the commodity form in isolation—it only has an exchange value when “placed in a value or exchange relation with another commodity of a different kind” (Marx, 1906)¹. Radin (1996; 2005:81) highlights the importance of this progression, pointing out that commodification is not only a status, but a social process in which agents come to perceive an object as

¹ Engels makes the action of exchange a key aspect in his parenthetical notation to the 4th German edition, noting: “[t]o become a commodity a product must be transferred to another, whom it will serve as a use value, by means of an exchange” (Marx, 1915[1886]).

transferable and exchangeable, and independent of the social processes that created it. The production of commodities is therefore both “a cultural and cognitive process” in which objects are marked as a “certain kind of thing” and assigned a specific meaning (Kopytoff, 1986:64). Third, the object must be exchanged for another object (Radin, 1996), and is exchanged only in relation to other commodities, without implying an obligation or relationship between the parties involved (Gregory, 1982). Commodification is therefore a process in which an object is alienable, perceived to be exchangeable, and then exchanged.

In the early 20th century, breast milk was commodified as it became alienable, perceived as exchangeable, and exchanged via breast milk banks (Golden, 1996; 2001). First, breast milk became “external” or alienable from women, meaning women could now transfer their milk to another person without nursing. Second, breast milk gained an exchange value, as lactating mothers, doctors, and the families of infant recipients collectively came to perceive the milk as distinct from its producer and therefore exchangeable. Third, breast milk was exchanged for money via breast milk banks, which paid women for their expressed milk, and then sold the milk in turn to the families of needy infants.

The commodification of breast milk was not inevitable, despite capitalist economies’ efficiency at turning goods into commodities. Several economic, cultural, and technological factors combined to commodify breast milk. First, breast milk became alienable as advances in technologies—specifically, improvements in breast pumps that made milk expression more efficient, and advances in refrigeration and ice distribution that allowed for preservation—made the disembodiment of breast milk possible.

Second, several economic and cultural factors contributed to breast milk’s perceived exchangeability. As Appadurai (1986:15) notes, in any social and historical context, there are

standards and criteria that define the exchangeability of things, which he calls their “commodity candidacy”. In the case of breast milk, the historical practice of wet nursing, in which women were paid to nurse other women’s children, set the stage for breast milk’s commodification, because it was in many ways an extension of this paid service, meaning the standards of exchange were already commercialized.

However, the link between wet nursing and milk selling is not entirely straightforward. Several factors intervened to make expressed milk exchangeable. The first factor was the conception of sacred motherhood—the dominant conception of motherhood in the 19th century that valorized maternal breastfeeding (Blum, 1999). Wet nursing was never as popular in America as it was in Europe because it violated the norms of sacred motherhood.

The second factor was the change in the wet nurse marketplace in the second half of the 19th century in response to industrialization and urbanization. Wet nurses were increasingly poor, unwed mothers, whose low social status further stigmatized the practice (Golden, 2001). On the other hand, selling milk which had already been disembodied from the morally suspect wet nurse resolved this issue, because it did not involve physical contact between wet nurse and infant and anonymized the milk.

Third was the emergence of “scientific” motherhood, which encouraged mothers to rely on physician advice on infant care and created a medical monopoly over infant feeding. Doctors, who strongly preferred breast milk over artificial alternatives and likewise held class-based cultural conceptions of gender and motherhood, took control of the wet nurse market at the end of the 19th century, which allowed them to collect and dispense the milk as “therapeutic merchandise”, similar to a medicine (Golden, 1996; 2001:179).

Fourth was the technology that made the alienability of breast milk possible. Breast milk, expressed into bottles, measured and processed, refrigerated for longer term storage, and fed to an infant through a rubber nipple, now physically resembled cow's milk, artificial infant formulas, and even medicines. Bottled breast milk was quantifiable and equivalent, and therefore exchangeable for money.

Both doctors and the families of recipients therefore came to view the disembodied milk as an anonymized product that could and should be collected and dispensed by physicians in the same way medicine was dispensed. Breast milk's technicity was favorable to commodification in this era, because it was easily disentangled, both physically and symbolically, from the producer. New technologies meant breast milk could be more efficiently expressed, stored, and distributed by doctors to potential users who preferred that the milk be anonymized and the qualities of its human producer erased (Walby and Mitchell, 2006). Class-based conceptions of motherhood, the low social class status of wet nurses, advances in technology, and medical practices and beliefs therefore contributed to breast milk's perceived exchangeability and placed breast milk firmly in the hands of physicians, who handled the milk as they would artificial formulas or medicine and dispensed it to families as a commodity.

Finally, new organizational forms made the exchange of breast milk possible. In 1910, both the Directory for Wet Nurses and the Boston Floating Hospital began collecting and distributing breast milk. At the Directory, wet nurses pumped breast milk into bottles, and then sold the milk to the families of recipients via medical middlemen, while the Boston Floating Hospital purchased from women who expressed their milk into bottles at home. These institutions made breast milk exchange orderly and efficient and created models of exchange that continue, with a few modifications, to this day.

The three processes that commodify objects—alienability, perceived exchangeability, and exchange—combined to commodify breast milk in Boston in 1910. Commodification was possible because of the milk’s technicity, the interaction between the technologies that allowed the milk to be physically disentangled from the human body, and the class-based cultural conceptions of gender that combined with medical practices and beliefs to promote the milk’s symbolic disentanglement from its producer.

FETISHIZATION AND DEFETISHIZATION OF BREAST MILK

Under capitalism, commodities are not simply exchanged with one another, as in a barter system; instead, their exchangeability is expressed in terms of money and price (Marx, 1867). The assignation of a price and exchange for money obscures the underlying social relations that created the commodity by making these relations and the labor that created the commodity appear quantifiable and equivalent, rather than qualitative and specific (Marx, 1906; Hudson and Hudson, 2003:416). As a result, the value of the commodity appears inherent to the object itself, rather than rooted in the social relations that created it. Marx (1906) called this process the fetishism of commodities. In commodity fetishism, relations that are really between people (e.g., the producer and the buyer) appear to be relations between people and objects (e.g., the producer and their product or the buyer and the product) or between objects (e.g., the product and money). The exchange value—usually the price—becomes the dominant value, separate from its utility and the use value the commodity had before it was exchanged (Marx, 1906).

Although breast milk was commodified during the second decade of the 20th century, the process of fetishization took longer. The social relations at the point of production between the wet nurse/seller and her infant and between the wet nurse/seller and the Directory staff were still

transparent, because the early Directory was in many ways a charity for wet nurses and their infants. The value of the milk did not appear to be entirely inherent in the milk itself: It was still rooted in the social relations between the people involved in the exchange and subject to moral, as well as economic, valuations. These social relations were an important and acknowledged part of the commodified exchange that contributed to the breast milk's use value.

By the time the San Francisco Milk Bank opened in 1948, however, interest in sellers (now called "donors") had waned. The records from the San Francisco Milk Bank barely mention the women selling them the milk, beyond noting the price paid per ounce. The bank created an "Alumni Association" for babies who had received the bank's milk, but no efforts were made at establishing ongoing contact with donors. The bottled breast milk dispensed by the San Francisco bank was a fully anonymized substance: the personal characteristics of the sellers, their needs and wants, were erased and no longer considered (Golden, 2001). Both the managers of the San Francisco bank and the families using the milk viewed the milk as a form of medicine, stripped of its human characteristics. By the late 1940s, banked breast milk was fully fetishized because the value seemed to be inherent to the milk itself, not rooted in the relationship between the lactating seller and her own infant or between the seller and the managers of the bank.

Today, the sacralization of breast milk shapes the market for breast milk and limits fetishization of the milk. Unlike the banked milk in mid-century, the underlying social relations at production and the type of labor that produces the milk are no longer obscured, but emphasized. Three aspects of breast milk banking today aid this partial defetishization. First is the fact that donors give the milk away as a gift. This gifting imprints the milk with a special meaning, because unlike commodities, gifts "invoke the person of the giver, even after it is given" (Mauss, 1990; Walby and Mitchell, 2006:14). The San Jose Mothers' Milk Bank

celebrates donors, thanking donors “that so willingly give of themselves” and publishing their names in newsletters. And although donors and recipients never meet, the parents of recipients have specific ideas about donors’ identities based on the cultural conception of intensive motherhood. They envision middle-class mothers like themselves, who share their values and are committed to providing the “best” for their infants.

The fact the parents of recipients view their purchase and use of the milk as a form of good parenting also partially defetishizes the milk. They expand the use value of milk by attaching this additional symbolic meaning (Kopytoff, 1986; Willis, 2000:70). These parents engage in “creative consumption”, doing “symbolic work” to appropriate objects for personal use and meaning making (Willis, 2000:74). Creative consumption can “burst the category of the passive receiver and *penetrate* possibilities for the defetishization of cultural commodities and the relocation of their social meaning” (Willis, 2000:79 [*italics Willis’*])). Parents of recipients experience the purchase and use of breast milk as an act of engagement in intensive parenthood, assigning symbolic meaning to the milk, the labor that produces it, and their purchase of it—meanings based on their experiences and identities as parents and their conceptions of good parenting. Parents’ use of the milk creates an expressive use value. Like other cultural commodities, breast milk delivers “appropriable expressive materials” that consumers can incorporate into their own cultural practices, expanding its use value at the expense of its exchange value (Willis, 2000:55).

So although banked breast milk is still sold as a commodity, the milk is less fetishized than it was in the 1950s, when it was fully anonymized and bank managers and recipients ignored the labor of love that created the milk. Today, breast milk is a cultural commodity whose exchange communicates a particular type of social relation and embedded labor—the selfless,

loving relationship between a parent and her child—rather than obscuring these relations. In this way it more closely resembles breast milk banking in the first era, subject to moral valuations that expand its use value.

THE GIFTIFICATION OF BREAST MILK

Giftification is the process by which something previously sold by the producer is now willingly given away by the producer with no expectation of payment. Giftification parallels commodification in that it is a description of a social process that involves the alienability, the creation of meaning (in the case of commodities, its perceived equivalency to other objects), and an act by agents. For an object to be “giftified”, it must first be external to the person, and therefore capable of transfer to another. Second, agents involved in the exchange must perceive the object as a gift, and therefore unequivalent to other objects and unexchangeable for money. Finally, they must give and receive the object without a reciprocal exchange of money or goods.

Beginning in the 1970s, milk banks in America began operating on a donor-based system in which women give their breast milk to the banks without remuneration. Banked breast milk was therefore giftified at this point in the commodity chain. The giftification of banked breast milk, its alienability, its perceived unexchangeability for money, and its gifting without expectation of remuneration were made possible by a confluence of factors. First, the technological advances in the early 1990s, in particular the development of efficient, portable breast pumps, made it easier than ever to pump breast milk. At the same time, employment opportunities for women continued to expand, and more mothers returned to the work force shortly after the birth of their infants. Women in professional and managerial positions who have autonomy and flexibility in their work schedules, and offices or other private space where they

can express milk, began pumping in the workplace using these efficient pumps. Thus, technology and conditions of employment for middle class women combined to increase the alienability of breast milk, the first step in the giftification process.

Second, the sacralization of breast milk changed the perception of its exchangeability. Sacralization is a process by which an object of utility becomes an object of sentiment (Zelizer, 1985). The economic value of an object or person is replaced with a moral value, and the legitimacy of market exchange therefore comes into question (Sayer, 2003; Spillman, 1999). For instance, Zelizer (1985) argues that during the 19th century, children—previously viewed as economic assets who provided cheap labor—became “economically useless” but “emotionally priceless”, and therefore theoretically were removed from the cash nexus and made sacred. Breast milk was similarly sacralized, becoming a symbol of good mothering. The sacralization of breast milk made its exchange for money at the point of production morally reprehensible, because it was no longer easy to symbolically disentangle the milk from its producer. This symbolic embedding in the mother–infant relationship promoted its giftification and the transition from a seller to a donor model of milk banking.

The cultural conception of intensive motherhood that arose in the mid-20th century—in which breastfeeding is a central component of mother’s devotion to her infant—contributed to this sacralization and giftification. Middle class white women, who were the first to adhere to this conception, used breastfeeding as a means of distinction that set them apart from their lower-income, racial and ethnic minority counterparts, who continued to use formula, in part because they were more likely to be employed outside the home (Blum, 1999). Intensive motherhood, a class-based conception of appropriate mothering, was therefore a central factor shaping the modern breast milk market, a conception that shapes egg donation today (Almeling, 2011).

Improvements in artificial formula technologies in this same period, and physicians' preference for this feeding method, led to a sharp decline in breastfeeding rates, making breast milk increasingly rare and precious, further aiding the sacralization of the milk by increasing its moral valuation among mothers engaged in this type of mothering.

By the early 1970s, however, physicians' infant feeding preferences changed again, as they came to view breast milk as a unique substance even the most advanced artificial formulas could not mimic. This "singularization" of breast milk, to use Kopytoff's (1986) term, further sacralized the milk, and further influenced the perception that women should not be paid for their breast milk. Meanwhile, breastfeeding and breast milk became entwined with shifts in the larger culture that made health a moral imperative (Lupton, 1995; Wolf, 2011). Breast milk came to represent not only the loving bond between a mother and her infant, but her single-minded commitment to providing the "best" for her child, increasing the moral value of the milk and making its sale morally questionable.

The San Jose Mothers' Milk Bank, which opened in 1974 and is now the model for milk banking in the United States, created a donor-based system in which donors give the bank their milk without expectation of payment, an organizational form that completed the giftification process. Expanding employment opportunities for women meant that the middle class donors who were pumping at work so they could engage in intensive motherhood while separated from their infants did not need to sell their milk as a form of employment; instead, they could afford to give it away. Intensive motherhood also motivated donation in a more direct manner, because donation is an extension of the selfless maternal giving inherent to this conception. Today, middle-class donors' high level of employment and relatively high incomes, combined with intensive motherhood, motivate their gift-giving and make it possible for the banks to rely on

unpaid donors rather than sellers. Meanwhile, advances in breast pump technologies make it easier than ever to physically disentangle the milk from the producer, increasing the supply of milk and further sustaining the donor model of milk banking.

This giftification process adds another wrinkle to Walby and Mitchell's (2006:182) argument about human tissues' technicity and the ways in which technicity mediates the values and relations associated with that tissue. Although tissues that are easily disentangled both physically and symbolically are more likely to be commodified, these two types of separation may work in opposing ways to decommodify a tissue. More specifically, although breast milk is more efficiently disembodied, it is now symbolically entrenched in the mothers' body and the social relationship that stimulates lactation, creating a market in which breast milk is giftified at the point of production.

THE MODERN BREAST MILK MARKET: GIFTIFIED AND COMMODIFIED

Although banked breast milk is giftified and sacralized today, it is still commodified. Although at one end of the milk banking process the milk is perceived as unexchangeable for money and given away without expectation of remuneration, at the other end, it is perceived as exchangeable for money and sold at a price. The easiest way to understand how these two competing processes can exist within the same organization is to imagine the breast milk banking process as links in a chain. Although Hopkins and Wallerstein (1986) examine these commodity chains in terms of the global transfer of goods, I use it in a more focused, microscopic manner to trace the production of banked breast milk. This close examination demonstrates that the milk is giftified and commodified at different points along the chain.

In the first part of the chain, where donors give their expressed milk to the bank, the milk is giftified. Donors who have pumped an excess supply of milk offer it to the bank for free because they perceive the milk as sacred and unexchangeable for money. In addition, most donors are middle class women who did not need to be compensated for milk, because it is not a form of employment for them. They are motivated to give by the sacralization of the milk and can afford to give it away for free. Milk bank managers, who also perceive the milk as unexchangeable for money at this point in the chain, then accept the donation with no offer of remuneration, reaffirming the milk's status as a sacred gift.

On the other end of the chain, however, both managers and recipients perceive the milk as exchangeable for money, and the bank charges recipients a fee for every ounce of the milk, so it remains a commodity. However, the giftification of the milk in the earlier link of the chain influences the commercial exchange: the sacredness of the milk, and the fact that it was given as a gift, influences the market price (Zelizer, 1985). Zelizer (1985) describes a similar process in her discussion of the establishment of children's insurance at the turn of the 20th century. In that case, the sacralization of children, or their sentimental value, created a market in which the price of a child's life (the insurance rate that would be paid out at a child's death) was very high. The moral value determined the price, which is a challenge to Marx's (1906) and Simmel's (1900) arguments that commodification and the assignation of price destroys the underlying social value of an object.

In the case of banked breast milk, the price is kept low to prevent the bank from making a profit from the milk. The high moral and sentimental value of breast milk keeps the price low, but it does not prevent its ongoing commodification. Instead of destroying the market for breast

milk, sacralization shapes that market, motivating donors to give their milk as a gift and creating a non-profit market (with one notable exception of a for-profit bank).

CONCLUSION

Today, banked breast milk is both a gift and a commodity. It is giftified at the point of production, but commodified at the point of consumption. However, the price of the commodity is determined by the giftification earlier in the commodity chain. This situation is not unique to breast milk banking today; as my dissertation demonstrates, banked breast milk has always incorporated aspects of both gift and commodity, although the extent of its commodification and giftification has varied over time.

As Almeling (2011), Walby and Mitchell (2006) and others (e.g., Healy, 2006 Sharp, 2000) point out, the commodification of bodies is a complex social process in which human tissues are subject to multiple meanings that help shape their modes of exchange. More specifically, cultural conceptions of gender and social class that create moral valuations of the milk interact with tissues' technicity to structure markets for reproductive materials. The ongoing commodification of breast milk, despite its giftification, is an example of this conflict and resolution and of the complex commodity chains that can result.

Although banked breast milk continues to be commodified, its sacred and giftified status shapes the breast milk market and keeps the price relatively low. Despite rapidly increasing demand for breast milk and lax regulation of milk banking, all but one breast milk bank in the U.S. continue to operate as non-profit organizations and only charge a processing fee for the milk. The moral and ethical valuations of the milk, rooted in mothering norms, are in tension with the economic valuations, making breast milk unexchangeable for money at the point of

production, and preventing the banks from seeking a profit when they do sell the milk to consumers.

Meanwhile, despite the fact that breast milk is commodified, it is no longer fully fetishized, in the Marxian sense of fetishism of commodities. The underlying social relations that created the milk—the presumably selfless, loving relationship between a mother and her infant—are no longer obscured. The assignment of a low price that prevents the banks from profiting reinforces the importance of the social relationship underlying the milk’s production. Meanwhile, parents of recipients use the milk for its expressive use value, rather than its exchange value, further defetishizing the milk. The value of the commodity is not inherent to the object itself, but visibly rooted in noneconomic norms and obligations that tie people together—in this case the moral imperatives of motherhood.

My research further demonstrates that donors’ experiences gifting and recipients’ experiences buying breast milk involve complex motivations and interpretations that blur the line between gift and commodity exchange, and social class mediates these interpretations. Although donors subscribe to and are engaged in intensive motherhood with their own infants, they are often motivated to donate their milk not by altruism, but by other benefits, including both material benefits like weight loss, and more abstract emotional benefits. Meanwhile, many middle class donors say they are interested in being paid for their milk, despite the fact that they chose to donate, even as middle class recipients resist the idea of paying donors because they associate gifting with middle-class mothering norms. The perceptions of individuals involved in these exchanges therefore often conflict with their actions. This disconnect between practice and perception is rooted in their awareness of the commodity chain itself and the multiple economic and moral valuations they assign to breast milk.

Milk bank donors, recipients, and managers interact within and actively perpetuate an economy in which normative assumptions about motherhood and social class create a complex commodity chain that incorporates both gift and commodity exchange. My analysis of the history and current practice of breast milk banking challenges the sharp distinction between commodity and gift in human tissue exchange and contributes to an understanding of the social processes that shape and alter modes of exchange over time. Changes that typically create commodities, such as widespread employment and new technologies, can have the reverse effect when combined with class-based conceptions of motherhood, transforming breast milk from a commodity to a gift at the point of production in the commodity chain.

Breast milk exchange, like other forms of exchange, is not fixed, but subject to and emblematic of transformative social processes (Sharp, 2000:291). In addition, breast milk exchange is embedded in power relations, reflecting class-based cultural expectations of mothers in each era. These discoveries create a richer picture of breast milk banking in the United States, and they add a unique perspective to the ongoing debate over body commodification and the influence of moral norms and obligations on exchange in capitalist economies. The story of breast milk banking in the United States is a 20th century story, intimately tied to economic, cultural, and technological changes that continue to shape and reshape American society.

METHODS

For this dissertation, I used a combination of qualitative research methods to examine why and how breast milk was commodified in the early 20th century and why it became giftified (but still commodified) by the beginning of the 21st century. These methods include content analysis of institutional records from breast milk banks operating in the early part of the century,

mid-century, and today; analysis of the personal papers of the founder of the first breast milk bank, Dr. Fritz Talbot; and analysis of articles about breast milk banking in medical journals and the popular media between 1910 and 1950. I also conducted ethnographic research and interviews with managers and staff at the San Jose Mothers' Milk Bank, as well as interviews with donors to the bank and the parents of recipients of the bank's milk. In this section, I begin by describing my analysis of institutional records from the Boston, San Francisco, and San Jose milk banks, along with my deployment of narratives and historical/comparative methods in Chapters 2 through 4. I then discuss my methodology for the interviews with donors and parents of recipients, which I analyze in Chapters 4, 5, and 6.

The Directory for Wet Nurses

The main source of information about the Directory for Wet Nurses—the bank representing the first era of milk banking in this dissertation—were the personal papers of Dr. Fritz Talbot, a pediatrician and founder of the Directory. I traveled to Boston, MA, where they are housed at the Countway Library of Medicine, to examine the papers in person. These papers include speeches about the bank, drafts of radio addresses, letters, and copies of articles Talbot wrote about the bank between 1911 and 1938. In addition to Talbot's personal papers, I read and analyzed the articles in medical journals and the popular media about breast milk banking in Boston and other cities between 1910 and 1948.

The San Francisco Mothers' Milk Bank

For the second era, I use San Francisco Mothers' Milk Bank as my case study. The San Francisco bank was established by the San Francisco Chapter of the American Association of

University Women (AAUW) and operated between 1948 and the end of 1977. I chose the San Francisco bank because it was one of the few banks to open and operate in mid-century. And although the bank's organization and procedures were based on standards developed at the Directory in Boston, the San Francisco organization called itself a "bank" and referred to its milk sellers as "donors", in contrast to the Directory.

The bank's institutional records were meticulously maintained and are currently housed at the California Historical Society in San Francisco, where they are available to the public. The Historical Society has three cartons of documents, including (1) administrative records such as correspondence, minutes, and reports of the Board of Directors; (2) financial records, including statements, treasurers' reports, invoices, and bills; (3) fundraising records, consisting of correspondence with foundations and individual donors, foundation proposals, and material relating to special events; and (4) program records, such as correspondence with donors and parents of recipient babies, physicians, and other milk banks. The records also contain bank nurses' statistical and narrative reports and information and statistics concerning donors and recipients. I visited the Historical Society on two occasions and read through all the records stored there, making photocopies of all records that appeared pertinent to my research. I then read through the records again, using the information within them to construct a narrative about the bank's operations. I also contacted the local AAUW chapter and met with its president to discuss the milk bank, although she had limited information about the bank's operations.

The San Jose Mothers' Milk Bank

For the third era, I used the San Jose Mothers' Milk Bank as my case study. The San Jose bank opened in 1974 and is currently the oldest operating milk bank in the country. Its founder

and first president was one of the founders of the Human Milk Bank Association of North America (HMBANA), the organization that sets the standards for milk banking in the United States. From the beginning, the San Jose bank used a donor model of banking, in contrast to the Directory and the San Francisco milk bank.

I used a combination of methods to examine this milk bank, including content analysis of institutional records, ethnographic research, and formal and informal interviews with bank managers and staff. At the current president's invitation, I sorted through and photocopied the bank's institutional records, which filled two cartons and one drawer of a filing cabinet. These records included minutes from board meetings; newsletters; annual reports; manuscripts on organizing a human milk bank as written by the bank's founder and first president, Maria Teresa Asquith; instructions and screening materials for donors; correspondence between Asquith and the Institute for Medical Research, which housed the bank for a period of time; and letters from parents of recipients. I also examined and photocopied documents from HMBANA, including newsletters, minutes from board meetings, and statistical reports from member banks (including San Jose) on distribution of donor milk to patients.

I also conducted ethnographic research at the bank, observing operations for a day and taking field notes. In addition, I conducted formal interviews with the bank's founder and first president, Maria Teresa Asquith, and its current president, Pauline Sakamoto, as well as informal interviews with various staff.

Narrative and Comparative/Historical Methods

In Chapters 2, 3, and 4, I construct narrative accounts of the histories of the Directory for Wet Nurses, the San Francisco Mothers' Milk Bank, and the San Jose Mothers' Milk Bank,

respectively. Narratives are sequential accounts that “organize material into chronological order to tell stories about what happened” (Stryker, 1996:305). Narrative accounts select and link together data in chronological order and through this method, describe not only what happened, but also why certain events happened (Stryker, 1996:305). Narratives are therefore explanations: They describe causal processes through time, taking into account historical contingency and sequence of events (Sewell, 1996:83).

These chapters use “strategic narratives” to develop an interrelationship between theory and history (Stryker, 1996:310). This process was both inductive and deductive, and it involved tacking back and forth between data and theory. More specifically, I conceptualize breast milk banking in each era in terms of four concepts and frameworks that helped me select, order, and interpret the available data: employment, conceptions of motherhood, medical practices and beliefs, and technology. These conceptions and frameworks were suggested by the historical literature on breast milk banking, particularly Golden’s (1996; 2001) work. However, the data itself informed my understanding of these concepts and shaped their definitions and use in each chapter.

The use of concepts to develop meaningful interpretations of historical patterns is a strategy Skocpol terms “interpretive historical sociology” (Skocpol, 1984:368). Using this strategy, I pay careful attention to the “culturally embedded intentions of individual or group actors” in each of the cases I study (Skocpol, 1984:368). I analyze the orientations and actions of bank managers, donors, and parents of recipients, as well as the economic and cultural contexts in which they operate (Skocpol, 1984:371).

Meanwhile, I use the comparative method to further understand how these concepts and frameworks influence breast milk banking within the particularities of each historical context

(Skocpol, 1984:370-71). Contrasting cases draws out the particular features of each time period, while highlighting the cultural embeddedness of breast milk banking in each era.

Comparing the same phenomenon in different time periods also allows me to construct a cultural biography of breast milk (Kopytoff, 1986). Cultural biographies look at the chain of events through which an object becomes culturally marked and unmarked as a particular type of thing, such as a commodity or gift (Kopytoff, 1986). Comparing case studies from each era allows me both to trace the social processes by which breast milk was classified and reclassified and to examine how change occurs over time.

Interviews with Donors and Parents of Recipients

In addition to collecting and analyzing institutional records, I interviewed donors and parents of recipients of the San Jose Mothers' Milk Bank. In the sections below I described my selection criteria, my recruitment methods, the socioeconomic characteristics of the interviewees, and the medical characteristics of the infant recipients whose parents I interviewed.

Selection Criteria. For the purposes of this study, I chose to interview donors and parents of recipients who lived in the state of California, specifically in greater Los Angeles (Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties), San Francisco–San Jose (Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Santa Cruz), and the Chico, California metropolitan areas. I chose the San Francisco–San Jose region because of its proximity to the milk bank there and the large number of both donors and recipients living in that area; I chose Chico because it has a large number of recipients on Medi-Cal (the California Medical Assistance Program). I chose the Los Angeles area because it is the largest metropolitan

area in California in terms of population, and also because of its proximity to my home base of UCLA.

Although the bank receives milk from donors living throughout the western United States, Hawaii, and Maryland, and sends milk to hospitals and private patients in these states, I chose to focus exclusively on donors and parents of recipients living in California for three reasons. First, although the bank serves a large area, the bank is located in the state of California, and the majority of both donors and recipients reside in the state. Second, restricting my samples to the state of California allowed me to examine two subsets of donors and recipients that are not available nationally: donors who receive Women, Infants, and Children (WIC) and recipients who use Medi-Cal, California’s state Medicaid program. I use participation in these programs as a proxy for social class, since both programs generally serve low-income residents (see Table 1).

Table 1. Characteristics of Donors and Recipients, San Jose Mothers' Milk Bank, 2011

	Total	% of Total
Donors	764	100%
CA Residents	556	72.77%
WIC	23	3.01%
Recipients		100%
CA Residents		78%
Pay with Medi-Cal		39%

Third, restricting my sample to California residents, and more specifically those living in the Los Angeles, San Francisco–San Jose, and Chico metropolitan areas, also provided me with

an opportunity to conduct the majority of interviews in person. In-person interviews are preferable for a variety of reasons: They are better suited to semi-structured interviews, they create a better sense of rapport between interviewer and respondent, and they allow the interviewer to observe and interpret body language and adjust the interview accordingly. In-person interviews tend to be longer and more informative, and they are therefore ideal for this type of qualitative data collection. In total, 26 of my interviews were in person, and 9 were by phone. Phone interviews were generally shorter and less detailed; however, they still provided useful data on the feelings and experiences of donors.

Recruitment. I recruited both donors and parents of recipients for interviews through the San Jose Mothers' Milk Bank. Milk donors sign a form giving the bank permission to use their information for research purposes, while recipients of donor milk are protected by the privacy rules in HIPAA (the Health Insurance Portability and Accountability Act of 1996), because the milk is prescribed by a physician as a medical treatment. I used the bank's established procedure of recruitment, sending informed consent forms and return envelopes to Pauline Sakamoto, president of the San Jose Mothers' Milk Bank. Her staff then sent the forms and envelopes with a letter from her to donors and parents of recipients.

Letters were sent in three waves, each several months apart. Since I had no access to the bank's records, bank employees chose potential respondents based on my geographic criteria, sending letters to the most recent donors and recipients first, and working back through the records. In the first wave, 30 letters were sent to donors who were not referred through WIC, and 30 were sent to donors who were referred through WIC who were also English speakers. In addition, of the letters that were sent to parents who purchased milk from the bank, 30 letters

were sent to non-Medi-Cal recipients, and 30 were sent to Medi-Cal recipients. In the next two waves, the bank re-mailed anyone who had not responded to previous mailings and added new potential respondents who met the above criteria.

Sample. I interviewed 19 donors to the milk bank—13 in person and 6 by phone. I also interviewed one or both parents of 18 infants who were prescribed donor milk for a total of 17 respondents. One respondent was both the parent of two infant recipients and a donor, and she is counted in both categories.

Table 2 shows the socioeconomic characteristics of the 19 donors I interviewed. Sixteen were middle to upper income, while three were low income and received WIC benefits. The San Jose milk bank does not systematically collect or provide data on the donors' income or education, so I used referral through WIC as a proxy for income in my recruitment scheme. Although I would have liked to include a larger number of low-income donors in order to better explore the influence of income on the decision to donate and feelings about donor remuneration, the limited number of WIC donors (4 percent of donors to the bank overall), and the fact that one-third of these donors were Spanish-speakers, made it difficult to recruit large numbers. Race/ethnicity and poverty do overlap to a large extent in urban areas in California, which may be why all three WIC donors were racial/ethnic minorities. Unfortunately, the San Jose milk bank also does not systematically collect or provide data on the race or ethnicity of their donors, so I am uncertain about the racial and ethnic representativeness of my sample. This is a limitation of my data, and further research needs to be done to explore the influence of social class and racial/ethnic background on breast milk donation.

Table 2. Socioeconomic characteristics of donors, and method of interview

	Middle and Upper Income	Lower Income	Total
Total	16	3	19
Average Age	33	25	
Marital Status			
Married	15	0	15
Long-term relationship	1	3	4
Single	0	0	0
Employment			
Full-time outside home	10	0	10
Part-time (at home)	4		4
Unemployed	2	3	5
Family Income			
\$150,000+	8	0	8
\$50-100,000	7	0	7
\$25-50,000	1	1	2
\$0-25,000	0	2	2
Social Welfare Benefits	1	3	4
Highest Level of Education			
High School	0	0	
Some college	2	1	3
College Degree	9	1	10
Some Grad or Graduate Degree	5	1	6
Race/Ethnicity			
White	12	0	12
Black	0	1	1
Latina	0	2	2
Asian	1	0	1
Mixed or Other	3	0	3
Interviewed in person	11	2	13
Interviewed by phone	5	1	6

Table 3 shows the socioeconomic characteristics of the households of the 18 infant recipients in my sample, divided by income. I used Medi-Cal benefits as a proxy for income and asked respondents about their annual household incomes during interviews. As Table 3 shows, the parents of six of the infant recipients were low income.

Table 3. Socioeconomic characteristics parents of recipients, and method of interview

	Middle to Upper Income	Lower Income	Total
Gender			
Female	6	6	12
Male	5	0	5
Marital Status			
Married	10	3	13
Long-term cohabiting relationship	1		1
Divorced or separated	0	2	2
Single	0	1	1
Sexuality			
Heterosexual	9	6	15
Homosexual	2	0	2
Employment			
Full-time	7	1	8
Part-time	1	0	1
Unemployed	3	5	8
Uses Social Welfare benefits (Medi-Cal)	4	6	10
Highest Level of Education			
High School	0	0	0
Some college	1	2	3
College Degree	3	3	6
Some grad or Graduate Degree	7	1	8
Race/Ethnicity			
White	7	5	12
Black	0	0	0
Hispanic/Latino	2		2
Mixed or Other	2	1	3
Nationality/Citizenship			16
US	9	6	
Other	2	0	
Interviewed in person	9	5	13

Interviewed by phone	2	1	4
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Table 4 shows the demographic and socioeconomic characteristics of the 17 parents of recipients interviewed, and the mode of each interview.

Table 4. Socioeconomic characteristics parents of recipients, and method of interview

	Middle to Upper Income	Lower Income	Total
Gender			
Female	6	6	12
Male	5	0	5
Marital Status			
Married	10	3	13
Long-term cohabiting relationship	1	0	1
Divorced or separated	0	2	2
Single	0	1	1
Sexuality			
Heterosexual	9	6	15
Homosexual	2	0	2
Employment			
Full-time	7	1	8
Part-time	1	0	1
Unemployed	3	5	8
Uses Social Welfare benefits (Medi-Cal)	4	6	10
Highest Level of Education			
High School	0	0	0
Some college	1	2	3
College Degree	3	3	6
Some grad or Graduate Degree	7	1	8
Race/Ethnicity			
White	7	5	12
Black	0	0	0
Hispanic/Latino	2		2
Mixed or Other	2	1	3
Nationality/Citizenship			
US	9	6	15
Other	2	0	2
Interviewed in person	9	5	13
Interviewed by phone	2	1	4

Table 5 shows the reasons infant recipients were prescribed donor milk. As I describe in Chapter 4, infants are prescribed milk for a variety of reasons. The majority of prescriptions, according to the San Jose milk bank, are for prematurity or illness, although my own analysis of data from 2000 to 2004 suggest that a significant portion of infants who receive donor milk from the bank—40 percent on average—are healthy infants whose mothers have insufficient milk or who lack access to maternal milk due to maternal death, disease, adoption, or surrogacy (see Table 7 in Chapter 4). Eight of the infants whose parents I interviewed for this study were healthy, while one suffered from a medical condition that is not normally medically indicated for donor milk, meaning 50 percent of the infants in my sample were not medically indicated for breast milk. Four infants were born prematurely, and five suffered from gastrointestinal conditions that may necessitate donor milk. Although I did not recruit or select parents of recipients based on reasons for prescription, my sample roughly matches the population of infants who receive donor milk from the San Jose Mothers’ Milk Bank.

Table 5. Reasons Infant Recipients were Prescribed Donor Milk

Reason Prescribed	Infants prescribed	Parents interviewed
Prematurity	4 (2 singletons, 1 set twins)	3
Gastrointestinal illness	1	1
Adoption (drug exposure, CMV, lactose intolerance)	1	2 (both parents)
Adoption (lactose intolerance)	2 (siblings)	2 (both parents)
Insufficient Maternal Milk Severe Lactose Intolerance	1	1

Insufficient Maternal Milk Sick Infant not Medically Indicated	1	1
Insufficient or unavailable maternal milk	8	7
Total	18	17

Although I attempted to collect a representative sample of both milk donors and parents of recipients of donor milk, my lack of access to the San Jose Mothers' Milk Bank's records—and the bank's own lack of analysis of their records—makes it difficult to be certain if these samples are truly representative of donors and parents of recipients. My determination to do as many interviews as possible in-person also limited my sample geographically, which may or may not influence the data I collected. In addition, my attempts to analyze the social class dimensions of both donation and use are limited by the small sample size and lack of response, particularly from WIC donors. However, as problematic as my sample is, the data provide insight into a social phenomenon that few have studied, while pointing to questions that should be explored in further research.

ORGANIZATION OF DISSERTATION

The remainder of this dissertation includes five substantive chapters and a concluding chapter. Chapter 2 discusses the breast milk banking in Boston, MA, between 1910 and 1948. Boston was the site of what became the first breast milk bank in the United States, the Directory for Wet Nurses. This chapter examines the creation of the seller model of milk banking and the commodification of banked breast milk. Chapter 3 examines the San Francisco Mothers' Milk

Bank, which operated between 1948 and 1977. I look at the gradual shift from a seller model to a donor model of milk banking, and the sacralization and giftification of the milk. Chapters 4, 5, and 6 examine milk banking at the San Jose Mothers' Milk Bank. Chapter 4 looks at the history of the bank and creation of the donor model of milk banking. Chapter 5 uses data from interviews with donors and parents of recipients to examine in detail the role intensive motherhood and medical practices and beliefs play in shaping supply and demand for banked breast milk. Chapter 6 uses the interview data to examine how donors and parents of recipients experience and understand the giftification and commodification of banked breast milk. Chapter 7 summarizes the arguments made throughout the dissertation, discusses the limitations of the research, and makes suggestions for further research on milk banking and the application of these findings to other forms of human tissue exchange.

AN INFANT'S NATURAL FOOD:**THE ORIGINS OF MILK BANKING IN BOSTON 1910-1939**

At the turn of the 20th Century, pediatricians in Boston, MA began searching for alternate sources of human milk for premature and sick infants. But securing, collecting, and preserving non-maternal human milk presented a difficult organizational problem. Over the next several decades, doctors experimented with four models of breast milk provision. The first was the ancient practice of wet nursing. In the late-19th Century physicians became involved in the commercial marketplace for wet nurses that developed in Boston, creating the first model of modern breast milk provision. The second model was hospital wet nursing, which institutionalized and medicalized wet nursing at the turn of the 20th Century. The third model was the Directory for Wet-Nurses, established in 1910. This model was similar to wet nursing, in which women nursed other women's children for pay. The fourth model, created by Dr. Francis P. Denny and used at Boston Floating Hospital and the Mothers' Milk Directory, became the standard for breast milk banks in the United States. This model was a more radical departure, separating breast milk from the body through hand expression or pumping so it could be sold to hospitals and families without any physical contact between nurse and infant.

This chapter examines the four models of breast milk provision that evolved over the course of the 19th and early 20th centuries. Examinations of each of these models include discussions of four factors that influenced these models' organizational forms and the trajectory of breast milk banking toward commodification of breast milk in this era. These factors are women's employment, mothering conceptions, medical practices and beliefs, and technology.

Women's employment in this chapter refers to changes in women's employment opportunities and participation in the paid labor force outside the home. Mothering conceptions refers to cultural conceptions about motherhood, in particular characteristics and behaviors that make someone a "good mother." Medical practices and beliefs refer to routine practices and commonly held beliefs about health and appropriate care among doctors. Finally, technology refers to machinery and equipment developed from scientific knowledge that increases efficiency and/or aids mass distribution and consumption of goods and services.

In this chapter, I discuss how these four factors contributed to breast milk's commodification in this era. As I described in Chapter 1, commodification is a social process that can be broken down into three parts: an object must be alienable, it must be perceived as exchangeable for money, and it must be exchanged. In this chapter, I argue that technologies made breast milk alienable in the first decade of the 20th Century, by making it easier to express, screen for safety, and preserve. These technologies made it physically easier to disembody the milk, contributing to its commodification. I also argue that the combination of the sacred and scientific conceptions of motherhood, which stigmatized wet nursing and encouraged mothers to submit to medical authority, combined with strong medical preferences for breast milk, contributed to breast milk's perceived exchangeability. In addition, I argue that physicians' interest in controlling the breast milk market, combined with limited employment opportunities for poor, unwed mothers, created the Directory for Wet Nurses and established the seller model of milk banking in this era.

In order to examine how this process of commodification occurred over time, I break down breast milk banking into four models, and my discussion of the models follows the

historical trajectory of exchange. I then examine the role each of the factors played in the creation of these models and in banked breast milk's commodification in this era.

MODEL 1: THE PRIVATE WET NURSE MARKET

Historically, the lack of mothers' milk was remedied by the practice of wet nursing, or the breastfeeding of another woman's infant for payment or as charity (Fildes, 1988:1). Wet nursing was widespread throughout the ancient world and pre-industrial Europe, called the "second oldest profession" because it was often the only alternative means of employment for poor women who might otherwise become prostitutes (Fildes, 1988:158). Wealthy and aristocratic families employed wet nurses in their homes or "farmed out" their infants to women in rural villages, where they often lived for years if they survived. Foundlings were similarly farmed out. By continually taking on charges, wet nurses were able to maintain employment for years at a time (Fildes, 1988).

Wet-nursing was never as common in American as in Europe, but was not unusual (Fildes, 1988; Golden, 1996). In colonial America and the pre-Civil War United States, the majority of children were breastfed by their mothers, but wet nursing was acceptable in light of maternal death or illness, and some wealthy urban families followed the European practice of sending their infants to rural wet nurses (Golden, 1996:22). Local newspapers regularly carried advertisements placed by wet nurses and potential employers. According to Schouler (1906:39), in 1776: "No advertiser figured more constantly in the local wants of the day than the wet nurses with a good breast of milk".

The terms of employment in early U.S. history varied by region: in the northern states, wet nurses were wage laborers, while Southern wet nurses were often enslaved black women

(Golden, 1996:25). In the North, wet nursing was a form of paid domestic labor, although the practical arrangements varied depending on the preferences of the employers. Married wet nurses took infants into their homes, while unmarried wet nurses were more likely to live in the homes of their employers (Golden, 1996:28). Public institutions that cared for orphans and foundlings also hired married, home-based wet nurses.

At the turn of the 20th Century, physicians, who were professionalizing and striving to demonstrate their expertise and authority over infant feeding, became increasingly frustrated with this method of breast milk provision. The traditional wet nurse market was haphazard and unreliable, and physicians began to look for solutions that would give them greater control over the wet nurse market.

MODEL 2: HOSPITAL WET NURSING

One solution to the unreliability of private wet nursing was institutionalization of wet nurses (Abt, 1917:418; Golden, 1996). Beginning in the mid-1800s, hospitals in Boston began employing resident wet nurses, who received room and board for themselves and their infants in return for nursing infants in hospitals and foundlings in asylums (Golden, 1996).

The Massachusetts Infant Asylum in Boston provides an example of this model. The Asylum employed resident wet nurses to provide milk to premature infants whose mother's milk had not come in, or sick infants whose mothers could not nurse or suffered from insufficient milk (Talbot, 1911a:304). Wet nurses were referred by charitable organizations such as the Society for Helping Destitute Mothers and from local lying-in hospitals. Wet nurses were usually hired two weeks after giving birth and did not immediately begin supplying milk, but were allowed to recover from their "confinement" before beginning their employment (Talbot, 1911a:304). Both

the wet nurses and their infants were examined for diseases and “physical defect” by hospital staff (Talbot, 1911a:304). During the probationary period, when the wet nurses were supposed to build their strength in order to increase their milk production, trained nurses taught the women to care for their own infants. Hospital wet nurses were expected to do “light” work, such as the dusting and their own washing, as well as care for their own infants (Talbot, 1911a:304). The wet nurses enjoyed a “liberal diet” and followed a regular daily routine that included regular meals and naps (Talbot, 1911a:304).

Hospital wet nursing provided a viable solution to the unreliability of the traditional wet nurse market, creating a pool of on-call wet nurses, and providing physicians with greater control over the wet nurses. However, most infant feeding still occurred at home, and the women most likely to give birth in hospitals in this era were poor. The demand for a reliable, acceptable wet nurses among middle and upper class parents who birthed and cared for their newborns at home remained unfulfilled.

MODEL 3: THE DIRECTORY FOR WET-NURSES

Although resident wet nurses in hospitals solved the problem of providing milk to sick infants on the hospital wards, doctors in Boston continued to have difficulties finding wet nurses to nurse infants at home. In 1900, doctors attempted to establish a wet nurse registry at the Boston Medical Library to provide wet nurses to private patients (Talbot, 1911b:1). According to Talbot (1913:760), the attempt was unsuccessful because no women registered, a problem he attributed to the fact that most women who would become wet nurses were destitute and could not wait for position. Instead they weaned their own infants, “put them out to board”, and found employment elsewhere (Talbot, 1913:760).

Talbot remained determined to find a better method of supplying wet nurses to needy infants, and in 1910, he created a new model of wet nurse provision. He opened the Directory for Wet-Nurses on February 1, 1910, under the supervision of the Massachusetts Babies' Hospital. A Board of Directors made up of local women was also "in charge" of the Directory, and met once a month for business and twice a month to discuss cases (Bedinger, 1915:253; Morse, 1918:218). The Board provided uniforms for the wet nurses and took "an active interest in the welfare of the girls" (Bedinger, 1915:253). However, Talbot was clearly the main supervisor of the Directory.

The Directory itself was both a place of employment, and a residence for wet nurses and their infants. The house was purchased and funded by a philanthropist (most likely Talbot himself) (Talbot, 1911b:2). The house had a parlor, kitchen, and bedrooms for five to eight wet nurses and their infants, and for the nurse-matron (the residence was expanded to house 14 wet nurses in 1915) (Bedinger, 1915:253; Talbot, 1911:2). The wet nurses were fed "good and wholesome" meals sent from the Massachusetts Babies Hospital (Talbot, 1911b:2).

The Directory found resident wet nurses temporary employment with families, who accepted the wet nurse and her infant into their home for the duration of their employment. Once a wet nurse was no longer needed, she could return to the Directory and live there until she had another placement. This created more stability for the wet nurse and her infant, and made it easier for Talbot and other Directory employees to monitor the wet nurses. Compared to the ad hoc wet nursing arrangements of the past, this was a much more rationalized system that provided greater employment stability for the wet nurse, even as it increased medical control over the service.

From the beginning, the Directory also sold small amounts of expressed breast milk to physicians who needed only a few ounces of milk for "therapeutic effect" (Talbot, 1911b:7). By

1913, the Directory had expanded this aspect of its services, selling “drawn” (hand expressed) breast milk at 25 cents an ounce (Talbot, 1913:762). In that year about 60 quarts of milk were sold to families in deliveries of a few ounces to “tide over a critical period”, for instance, for a premature infant whose mother’s milk “does not come in for three or four days” (Talbot papers, Folder in Box 2, 1916). This suggests that early on, Talbot viewed milk selling as incidental to the Directory’s main business of supplying wet nurses.

And although the Directory’s first goal was providing families with wet nurses, Talbot himself saw the Directory’s mission as two-fold. In a speech about the Directory, Talbot gave two reasons for establishing the Directory for Wet-Nurses: “1) To supply people with Wet-Nurses, and 2) To give destitute girls with babies an opportunity to earn an honest living” (“Read at Havenhill, Mass., Fall 1912,” Talbot papers, Box 2). The Directory’s beneficiaries were not only premature or sick infants whose needed life-saving breast milk on short notice, but the women who provided that milk. The Directory therefore served a double function: it provided a reliable, physician-approved source of wet nurses and, and served as a charity for destitute mothers. The Directory would continue to operate on this model until 1925.

MODEL 4: A SCHEME ORIGINAL TO DOCTOR DENNY

At the same time Talbot was searching for wet nurses on Boston streetcars, another Boston physician began exploring the therapeutic properties of expressed human milk. Dr. Francis P. Denny, a physician at the Massachusetts Infant Asylum who eventually coordinated the milk collection efforts at the Boston Floating Hospital, began his experiments in 1906, when he gave human milk to children suffering from gastro-intestinal illnesses (Denny, 1908:625-626). Denny (1908) was interested in both the immunological and the curative properties of

human milk. In an article published in *JAMA* in 1909, he wrote that human milk could be used “just as we use antitoxins or bacterial vaccines” to increase infant’s resistance to infections (Denny, 1909:161). Denny also experimented with treating infants with pneumonia and sepsis with human milk, and gave human milk to several two-year old children suffering from gastrointestinal illness (Denny, 1908; 1909:162).

After achieving some success with infants and toddlers under his care, Denny coordinated with doctors at the Boston City Hospital to collect and administer human milk to seven adult patients suffering from typhoid in the fall of 1907. Under Denny’s supervision, a trained nurse (Mrs. A.M. Henderson) visited nursing mothers living in tenement houses to find healthy nursing mothers with a “superabundance” of milk. Unlike wet nurses, who were usually unwed mothers, the mothers who provided milk for Denny were married women. Once the nurse located a potential milk seller, Denny examined the mothers and their infants, and when he deemed both healthy, the mothers expressed their milk into sterile bottles, which was kept on ice (Denny, 1908:626).

During this experiment, Denny created a new model of supplying breast milk to needy infants. Unlike the Directory, which employed unwed mothers, this model relied on married women who provided milk from home. The conception of scientific motherhood also supported this model of breast milk provision, since it was run by physicians, although Denny was less concerned about reforming milk sellers than Talbot. Medical theories of bacteriology and disease, as well as growing medical interest in the properties of human milk and its potential as a medicine, also influenced Denny’s work and the creation of this model. Meanwhile, technological advances, including widespread availability of ice, new bottles, improvements in

transportation, and the development of newer, more efficient breast pumps, made this model possible.

The Boston Floating Hospital

After experimenting with this model of breast milk provision at the Boston City Hospital, Denny began working at the Boston Floating Hospital as a visiting staff member. A group of doctors and philanthropists established the Boston Floating Hospital in 1894. Initially open only during the summer, when many infants died from diarrheal illnesses collectively termed “summer sickness”, the Hospital was actually a boat towed around Boston Harbor, serving “indigent mothers” and their sick infants who needed a respite from the summer heat. Eventually, a variety of medical and educational activities took place on the boat, and the Hospital became a site for research on the properties and administration of both human and cow’s milk (*Pediatrics*, 1957).

In the summer of 1910, the Boston Floating Hospital adopted Denny’s procedure for obtaining human milk outlined above, even hiring the same nurse, Mrs. Henderson, that Denny used at the Boston City Hospital (Talbot, 1911a:305). The Floating Hospital was therefore the first site of what became the modern method of breast milk provision: obtaining expressed milk from lactating mothers, bottling and preserving the milk, and distributing it to needy infants and their families.

“Supplementing The Family Income”: The Mothers Milk Directory, Inc.

Although the very name of the Directory for Wet-Nurses indicates that its focus was on providing wet nurses, the Directory experimented with Denny's model from the beginning. As I discussed above Directory for Wet-Nurses sold small amounts of expressed breast milk from the beginning. But by 1918 the Directory was regularly providing "drawn" breast milk expressed by the wet nurses. In that year, clients were paying \$30 per week for drawn milk if the wet nurse remained at the Directory and provided milk exclusively for one baby, in comparison to \$15 for a wet nurse residing in their home (Morse, 1918). The Directory also sold drawn milk pooled together from several wet nurses for 25 cents an ounce to hospitals (Morse, 1918). Milk selling was now more profitable to wet nurses than nursing.

Despite the increase in sales of bottled breast milk, the Directory struggled financially and was occasionally in danger of failing (Morse, 1918:218). Although the Directory "was not expected to make money", it had to collect enough in fees to operate (Talbot, 1911b:3; 1913:760). The overhead costs of maintaining a residence for the wet nurses and their babies was high, however, and Talbot never collected enough donations to cover all the costs (Talbot , 1928a:1).

In 1922, according to Helene Walker, Secretary of the Board of Directors for the Directory, a group of doctors asked the Directory to sell milk at a lower price (Walker, 1928:23). In response the Directory decided to switch to Denny's model of milk collection and distribution. In 1925 the residence of the Directory for Wet-Nurses closed, and the re-named Mothers Milk Directory, Inc. opened in a new location in a doctor's office building (Walker, 1928:23). The Mothers Milk Directory adopted Denny's model, dispensing with unmarried, resident wet nurses altogether, and transitioning to collecting milk from married sellers in their homes. The model that worked so well at the Boston Floating Hospital in 1910 worked even better 15 years later,

due to changes in women's employment, mothering conceptions, medical beliefs and practices, and technology.

In the following sections, I discuss the role these factors played in the development of each of the models of breast milk provision discussed above, and how this contributed to breast milk's commodification in this era.

EMPLOYMENT

The last half of the 19th Century and the beginning of the 20th Century witnessed widespread changes in the U.S. labor market that created new opportunities for women's employment and had a profound effect on the market for wet nurses, and eventually for breast milk. During the 19th Century the conditions of wet nurses' employment changed, as the commercialization, urbanization, and the development of new welfare institutions created a new marketplace for wet nursing (Golden, 1996:65). The market for domestic services was increasingly rationalized and segmented, and wet nursing followed this trend (Golden, 1996:65). However, wet nursing also declined during this era as alternatives to breast milk began to appear on the market, and the pool of married, at-home wet nurses began to dry up.

The characteristics of wet nurses changed as the market changed: the vast majority were now poor and unmarried, and many found employment through shelters for unwed mothers and charity hospitals (Golden, 1996:64). Although women's employment expanded during this era, these women had few opportunities due to the stigma associated with birth out of wedlock. Wet nursing provided them with housing and a small income, and a chance support their infants. The wet nurse market therefore became a niche market for women who were otherwise unemployable.

The emergence of hospital wet nursing had little effect on the socioeconomic characteristics of wet nurses. Hospital wet nurses were similar to their counterparts working in the private market, usually “poor, young, institutionalized, foreign-born single mothers” in need of a place to live who were excluded from other forms of paid labor by stigma and lack of childcare (Golden, 1996:102). The main differences were in the conditions of employment, and although the institutionalization of wet nursing solidified physician control over wet nurses, it also held potential benefits for the wet nurses. Talbot (1913:760) noted that “[o]ne of the serious problems of these hospitals is to look after the destitute mothers and babies in such a manner that they will not be dependent on charity after ceasing to be obstetrical cases...there are very few occupations open to a mother with a newborn baby, wet nursing is preeminently fitted to these cases.” Hospital wet nursing was therefore a potential path to economic independence for women who had few other options, and one that allowed them to keep their own infants with them, improving those children’s likelihood of survival (Bedinger, 1915:252).

The Directory for Wet Nurses provided another set of conditions, although it combined elements of private, in-home wet nursing and hospital wet nursing. The socioeconomic characteristics of the women, however, remained the same (Bedinger, 1915:252). According to Talbot (1913:760) the wet nurses at the Directory saw their employment there as good opportunity for “honest work,” one that allowed them to earn money while remaining mothers to their own children.

As discussed above, the Directory employed women as both wet nurses and milk sellers until 1925, when it transitioned from selling milk expressed by mothers housed at the Directory to collecting milk from sellers at home. The change in models also led to a change in the socioeconomic circumstances of the women selling their milk. At-home sellers were usually

married and were supplementing the family income, and were therefore of a somewhat higher socioeconomic status (Golden, 1996; 2001). And although Talbot explained the move from unwed wet nurses to married milk sellers as a decision based on financial concerns, there may have been additional pressures on the Directory (Walker, 1928:23). Most importantly, the pool of potential wet nurses was probably decreasing, due to the decline in unwed motherhood, the changing focus of homes for unwed mothers, and the expansion of adoption market (Cocca, 2006:36; Nelson, 2003:117).

Between 1900 and 1930, the percentage of unwed mothers declined from 4.6 to 3.8%, due at least in part to the “diffusion of contraceptive information” (Cocca, 2006:36). But although the 1920s witnessed a sexual revolution, out-of-wedlock births were still stigmatized. Young women caught in this situation still turned to homes for unwed mothers, homes that often supplied wet nurses to hospitals and the Directory.

But the homes themselves were changing. Before the 1920s, residents of these homes were actively encouraged to keep their infants, and trained in infant care and home economics to prepare them for motherhood. During the 1920s, however, social workers and directors of the homes began urging the mothers to give up their children for adoption, and began educating the women for pink collar jobs rather than domestic service (Cocca, 2006:36-37). The new form of education in homes for unwed mothers reflected the new employment opportunities for women, which were expanding beyond domestic service and factory work. A young woman who had given her child up for adoption and received training might be able to find a job in a department store or as a switchboard operator (Cocca, 2006:37). These changes probably led to a significant decrease in the number of unwed mothers looking for employment as wet nurses, and made the Denny model a more viable solution to the problem of providing breast milk.

Married women, however, were still mostly excluded from the labor force. So instead of homes for unwed mothers, the Directory began to rely on maternity hospitals and community health centers to refer potential sellers. An increasing number of women from all social classes were giving birth in hospitals in this era, expanding the potential pool of married and working-class milk sellers (Wertz and Wertz, 1989:135). Mothers on hospital wards were given cards to sign and return to the ward superintendent or mail to the Directory if they were interested in selling their milk (Walker, 1928:23).

The switch from wet nurses to milk sellers allowed the Directory to collect and distribute a much larger volume of milk, and employ many more women. The Directory for Wet-Nurses never housed more than eight lactating women, while the Mothers Milk Directory drew from a list of 40 women (Talbot, 1928c:611). Sellers received 7 cents an ounce, for a minimum of 15 ounces a day, making an average of \$28 a month (Walker, 1928). Talbot noted that: “this supplement to the family budget has made it possible for [sellers] to improve their homes and furnishes extra necessities or comforts for the family. In some cases it has been placed in the savings bank for the rainy day or the future education of the baby” (Talbot, 1928b:3). Milk selling provided the Directory with a larger, more stable supply of breast milk, and provided sellers who had few opportunities for employment with a chance to make a small income.

The transition from unwed wet nurses to married milk sellers marked a major change in the socioeconomic status and the conditions of employment for milk sellers. It also further commodified the milk, because the exchange was less a form of charity than a straightforward economic transaction. The milk was also more anonymized and fetishized as the number of sellers increased and the personal relationships the bank staff maintained with its resident wet

nurses disappeared. Changes in employment opportunities for unwed mothers, and the resulting shift towards married sellers, therefore further commodified breast milk in this era.

CONCEPTIONS OF MOTHERHOOD

At the beginning of the 19th Century, wet nursing came into direct conflict with the dominant gender ideologies of the day, the “cult of true womanhood” and sacred motherhood. The ideologies were closely connected to the economic changes of the 19th Century and the emergence of the middle class family. The “cult of true womanhood” placed women firmly within the domestic sphere, where they were expected to provide “moral and emotional sustenance” for their families and focus their efforts on rearing smaller numbers of children (Hays, 1996:30). Sacred motherhood, an extension of this ideology, considered women to be endowed by God to bear and raise children. Infant care and childcare was the exclusive domain of biological mothers, who provided their children with instinctual, unconditional love, nurturance, and moral guidance (Aries, 1962; Blum, 1999; Chodorow, 1978; and Hays, 1996:23; Zelizer, 1985). Importantly, these ideologies prioritized the values and lifestyles of white, native-born, middle class women (Hays, 1996).

Although the moral characters of wet nurses was always a source of concern, maternalist advocates of sacred motherhood particularly condemned wet nursing and encouraged mothers to breastfeed their children as a moral imperative (Blum, 1999). The sacralization of motherhood also endowed women’s breasts with a sacred character as the source of life (Apple 1987:5 Blum, 1999:21, De Beauvoir, 1952:491, 496). During the second half of the 19th Century breastfeeding was championed as a symbol of American democratic ideals, and associated with both the health and the wealth of the emerging middle class during the transition to industrial capitalism (Blum,

1999:21). Women who chose not to breastfeed were therefore criticized as immoral. Wet nurses' status as poor and unmarried women also violated the moral underpinnings of sacred motherhood, and as a result, wet nursing was increasingly stigmatized, even as it became more regulated and commercialized (Blum, 1999:22; Golden, 1996:7). Wet nursing therefore decreased at the end of the 19th Century, although it remained a niche market that provided employment for otherwise un-employable women and breast milk for infants without any safe alternative.

The introduction of hospital wet nursing at the turn of 20th Century may have eased some parents' ideological concerns about wet nurses' morality. Physicians, who shared their clients' gender ideologies, were expected to ensure both the physical and moral fitness of the wet nurses they hired on the part of their patients (Golden, 1996). Meanwhile, the emerging conception of "scientific motherhood", which gave physicians authority over infant feeding decisions, also supported this model of breast milk provision. Scientific motherhood is mothering guided by physicians and expert advice, emphasizing the importance of physician oversight of childrearing and infant feeding (Apple, 1987:108). Unlike sacred motherhood, in this conception women are not naturally or innately ready to be mothers (Apple, 1987:101). Instead mothers need to be taught how to mother, and they are expected to rely heavily on the expertise of pediatricians and other experts, and to use the newest, most "advanced" methods of childrearing. Scientific motherhood supported the development of new models of breast milk provision because it encouraged parents to take physician's advice at a time when doctors still strongly preferred breast milk to artificial formulas.

Notably, although scientific mothering became the dominant form of mothering among middle class mothers in the 1920s, evidence from the Directory for Wet Nurses suggests that the

conception was applied to lower class women at least a decade earlier. As I discussed above, the Directory was more than an employer: it was a social welfare agency concerned with both the economic and moral welfare of its employees. In addition to being formally associated with the Massachusetts Babies Hospital, the Directory was firmly embedded in the social welfare organizations in Boston that served poor women and their infants. Maternity, or “lying-in” hospitals, provided the majority of the Directory wet nurses. At the time most wealthy and middle-class women were still birthing at home, so maternity hospitals served lower-class and “destitute” women, destitute being synonymous with impoverished and unmarried or abandoned by their husbands (Wolf, 2001). The Directory also recruited women through social agencies such as the Society for Helping Destitute Mothers and the Infants and Children’s Aid Society (Bedinger, 1915:252). According to Bedinger (1915:253), 85 percent of the wet nurses were unmarried women, and most were first-time mothers, ranging in age from 18 to 30 (Bedinger, 1915:253).

The wet nurses were carefully supervised, and staff nurses assessed both their physical condition and their “moral character” (Talbot, 1911b:4). Notably, wet nurses were required to take their own babies with them to the home where they were employed. Talbot listed several reasons for this: 1) the sick infant usually could not drain the wet nurse’s breasts, which would lead to decreased milk production; 2) the wet nurses would not have to spend their wages on board for their babies; and 3) “it is hoped that if the mothers and babies are kept together long enough, the former will become so attached to them that they will always care for them” (Talbot, 1911b:5). Talbot’s strategy reflected both the recent historical circumstances of wet nursing, in which wet nurses were often forced to abandon their own infants and almost certain death (Golden, 1996:97), and the emergence of scientific motherhood (Meckel, 1990:122; Hays, 1996).

The assumption that women needed to be trained in motherhood, and appropriate attachment formed through expert-guided care, rather than being an innate gender trait, is a hallmark of scientific motherhood.

Talbot's articles and monographs demonstrated his attempts at training the women employed at the Directory in appropriate mothering. For instance, he reported that most wet nurses did become "fond" of their babies, and argued that mothers should not be separated from their own infants: "If the mother is separated from the baby before the maternal instinct is developed she is apt to desert it at the earliest opportunity" (Talbot, 1913:761). Talbot hoped to teach his wet nurses "the love and responsibility of motherhood" (Massachusetts Babies Hospital Annual Report, 1913:13). This endeavor was apparently successful, at least in some cases. For instance, in a speech about the Directory, Talbot described another wet nurse who initially wanted to give her son away, but after wet nursing for a family where she witnessed the other mother's love for her baby, changed her attitude and came to love and feel responsible for her own child ("Read at Havenhill, Mass., Fall 1912," Talbot papers, Box 2). Apparently the middle class mother employing the wet nurse was innately loving and caring, but the lower class wet nurse had to learn this trait through example.

The Directory also provided social welfare services to wet nurses, linking it to larger cultural and political trends of this era. In addition to Talbot and the nurses, the Directory employed its own social worker, who became the wet nurses' "friend, confidante, and advisor" (Talbot, 1913:761). The social worker also tried to get settlements from the fathers of the wet nurses' babies, and attempted to find employment for the wet nurses after they left the Directory that would allow them to keep their babies with them. After their first employment in a families' home, the wet nurses either returned for another placement or "for advice for her future" from

the social worker (Talbot, 1913:761). After the wet nurses left the Directory, the social worker continued to keep in “close touch” with the women, and attempted to help them “in every way possible” (Talbot, 1913:761-762).

The strong focus on the welfare of the Directory’s wet nurses in Talbot’s writing also links it other social reform movements of the Progressive Era. Talbot made this link explicit in his 1913 article “The Wet nurse Problem”, where he noted that the difficulties of finding and securing a reliable wet nurse were connected to other social problems, including “the social question” (Talbot, 1913:760). The social question was a term coined by Francis Greenwood Peabody, a theologian at Harvard University who founded the academic discipline of social ethics. Writing in 1900, Peabody (1900:2) argued that despite the “extraordinary achievements of modern civilization,” America at the turn of the century faced “a burdening sense of social mal-adjustment” that created “the social question.” Peabody and other social reformers felt a “vast and rising tide of discontent” with class inequalities and the oppressiveness of urban poverty (Peabody, 1900:5-6). Although on its surface the social question addressed economic inequality, Peabody also considered it a fundamentally ethical question (Peabody, 1900:10-11). For Peabody and like-minded reformers in the Social Gospel movement, the social question directed them to pursue social justice and reform.

The Directory for Wet-Nurses reflected both the emerging conception of scientific motherhood and the ideals of the Progressive era, “a period characterized by the widely shared faith that sciences, efficiency, and cooperation could solve society’s problems” (Brosco, 1999:478). It also operated during a period when the fight against infant mortality shifted its focus from “milk reform” to “maternal reform”, and mothers were increasingly subject to medical oversight (Meckel, 1993). Talbot applied his concern about mothering and his

Progressive Era faith both to the problem of bringing human milk to premature and sick infants, and the problem of providing a livelihood and education for poor, unmarried women.

The transition from unwed, destitute wet nurses to married milk sellers in the mid-1920s did diminish the influence of scientific motherhood. Acceptable sellers to the Mothers' Milk Directory, Inc. had to be "healthy, intelligent, and cooperative, with a knowledge of cleanliness or a willingness to learn" (MacPherson and Talbot, 1939:462). Sellers had to be nursing their own baby and have an excess supply of milk, because the Directory was still concerned that milk sellers might deny their own infants adequate nutrition, leading to their own infant's death (Walker, 1928:23). The Directory also refused to accept sellers whose own infants had died because they were not expected to follow the rules of hygiene—and the rigorous demands of scientific motherhood—as well as a nursing mother (MacPherson and Talbot, 1939:462-463).²

Potential sellers also underwent a medical examination and testing before being accepted, and once accepted, they and their infants were surveilled by Directory nurses at home. The nurses inspected sellers' homes for cleanliness and sanitation, and instructed sellers on diet and personal hygiene (MacPherson and Talbot, 1939:463). In addition to collecting the milk and checking on the health of the milk seller and her infant, the nurse also answered any questions the mother might have and tried to help with health problems among other members of the family (Talbot, 1928b:1). Talbot noted that these visits allowed the nurse to "do much educational work, both in the field of public health and of social service", demonstrating the

² On the other hand, the Division of Baby Welfare of the New York City Department of Health actively recruited women who had lost their infants to stillbirth to work as wet nurses (see Chapin, 1923). The wet nurse bureau in Detroit similarly recruited mothers who had lost their infants, either in stillbirth or post-partum (*Journal of the American Medical Association*, Discussion, 1917:426).

ongoing influence of the conception of scientific motherhood on the Directory's practices (MacPherson and Talbot, 1939:461).

According to Talbot, home visits allowed the Directory to serve not only sick babies but also the families of milk sellers, and that this work was "instrumental in increasing their happiness and well-being" (MacPherson and Talbot, 1939). Although he claimed that this was not the original intention of the Directory when it was first established, but "developed into one of the important branches of the work" that supplemented public health nursing (MacPherson and Talbot, 1939:461). However, it seems to be a fairly straightforward continuation of the educational and social welfare work the Directory for Wet-Nurses did with its resident wet nurses. Scientific motherhood's requirement that women must learn to mother under the expert guidance of a physician continued to influence the practices and procedures of the Mother's Milk Directory.

This milk seller of milk collection and distribution was also more easily reconciled with scientific motherhood's requirement that mothers stay at home (Apple, 1995:178). Dr. Raymond Hoobler, who established the Detroit Bureau of Wet Nurses in 1914, noted that milk selling "in no way interferes with [the seller's] duties of housewife and mother, and exposes her in no way to the public view," (Hoobler, 1927:1787). Unlike wet nurses, who worked outside the home, milk sellers could more closely adhere to the gender norms of the early 20th Century, making this form of human milk collection and distribution more acceptable to potential clients.

The conceptions of sacred and scientific motherhood therefore contributed both to the establishment of the breast milk banking, and breast milk's commodification. Sacred motherhood's stigmatization of wet nursing made disembodiment of breast milk preferable, while scientific motherhood promoted physician control over the milk, creating a structure in

which medical middle men distributed the increasingly anonymized product to parents in need. Although the dominant conceptions of motherhood shifted over time, both advanced breast milk's commodification in this era.

MEDICAL PRACTICES AND BELIEFS

During the late 19th Century, physicians and public health advocates became increasingly alarmed by a sharp decline in maternal breastfeeding in the United States (Wolf, 2001). In the 17th Century, most American mothers breastfed through their babies' second summer, and as late as the 18th Century, women were encouraged to nurse for at least one year (Apple, 1987; Wolf, 2001:9). But by the 1890's many mothers were weaning their infants by the end of the third month, and may have begun supplementing breastfeeding with cow's milk or other foods even before then (Wolf, 2001:9).

Concerns about maternal breastfeeding were triggered by persistent, and occasionally rising rates of infant mortality, particularly among the urban middle and upper classes (Brosco, 1999; Wagstaff, 1986:626; Wolf, 2001). Studies of infant feeding practices in this period explicitly linked the use of cow's milk and artificial infant formulas to infant mortality. For instance, a study of infant mortality in Boston published in 1913 showed that bottle-fed infants were six times as likely as breastfed babies to die of diarrheal illnesses (Davis, 1913). In addition to the growing awareness of the link between cow's milk and infant mortality, many physicians also felt strongly that breast milk was an infants' "natural food" and that breastfeeding was the healthiest choice for infants (e.g., Hoobler, 1927:1789). Physicians began to extol the benefits of breastfeeding and encourage mothers to nurse their children for at least one year (Wolf, 2001:4).

Physicians and public health officials' advocacy of breastfeeding occurred in tandem with the medicalization of infant feeding. This medicalization was a coordinated effort on the part of pediatricians, who sought to define and legitimize their specialty within the medical community and the general public (Apple, 1987; Meckel, 199:47-48). Capitalizing on (and perhaps adding to) increasing concerns about infant mortality, pediatricians focused on infant feeding as an appropriate arena to apply their specific scientific expertise (Apple, 1987).

As a method of infant feeding, wet nursing also came under physician's purview (Fildes, 1988:194; Golden, 1996:6). As noted above, wet nursing had historically been private arrangement made between the wet nurse and family, but by the turn of the 20th Century, doctors had become the middlemen. For instance, in the first decade of the 20th Century, many doctors in Boston secured wet nurses for patients in hospitals and at home on an ad hoc basis (Talbot, 1913:760). Talbot (1913:760) reported that out of 80 physicians he surveyed, 72 used wet nurses in their practices, most employing an average of six a year. But doctors found these arrangements inefficient and unreliable (Talbot, 1913:760). Although most physicians in this period believed that another woman's breast milk was the next best thing to mother's milk, wet nurses were difficult to locate, and once found, were often "hard to manage" (Chapin, 1923:201). Talbot himself had "traveled many miles" and "wasted" a great deal of time hunting for wet nurses during his early career (Talbot, 1913:760). In 1908 Talbot spent three days riding street cars in Boston looking for a wet nurse for a sick infant (Talbot, 1928:610). Hoobler (1917:421) argued that doctors' dependence on wet nurses had "greatly retarded the more general use of mothers' milk", because it was expensive, inefficient, and disruptive to employers' households. Doctors in Boston and elsewhere were therefore motivated to seek alternative solutions to the private wet nurse market.

The first solution was the institutionalization of wet nursing in hospitals, and physician's increasing authority over pregnancy and birth aided this endeavor. Increasing medicalization and institutionalization of pregnancy and birth, particularly among poor and lower-class women, meant more births were taking place in hospitals and more infants were under direct physician care during their first feedings. Although some physicians and chemists were experimenting with creating artificial infant formulas in this era, the majority of physicians strongly encouraged breastfeeding and felt that breast milk was the best food for infants (Apple, 1987). Medical experiments using breast milk to treat sick infants and adults also bolstered physician support for breast milk (e.g. Denny, 1906). Meanwhile, the development of blood testing at the end of the 19th Century made it easier for physicians to screen wet nurses for disease. Medical practices and beliefs therefore encouraged wet nursing's movement out of the private market and into the hospital.

However, hospital wet nursing was only a partial solution, since few middle and upper class women gave birth in hospitals. Patients who gave birth and cared for their children at home still needed reliable private wet nurses, and these parents continued to be wary of bringing morally suspect unwed mothers into their homes. Physicians also struggled with the moral implications of wet nursing. In addition to their concerns about the negative affects on wet nurses own children, physicians shared parents' concerns about the morals and manageability of wet nurses (Golden, 1996:97-98). The development of the Directory model, with its strict supervision of wet nurses provided a viable solution to physicians' conflicting views of breast milk and wet nurses (Talbot, 1913:760). The Directory for Wet Nurses' attempted to address this conflict by placing wet nursing firmly under physician control.

The emergence of the fourth model of breast milk provision, which exclusively provided bottled breast milk, ultimately resolved this conflict, because the disembodiment of the milk gave doctors even more control over the milk. Although artificial infant formulas were improving during the 1920s, the majority of physicians still believed breastfeeding healthier for infants and were alarmed by declining breastfeeding rates, particularly among the middle- and upper-classes (e.g. Chapin, 1923). Yet the obstacles to widespread use of wet nurses remained 15 years after Talbot opened the Directory. By “removing the milk and furnishing it apart from the mother”, the Mothers’ Milk Directory, Inc. was able to “manage the human breast”, and the therapeutic commodity within it (Chapin, 1923:201).

The rapid increase in supply and demand for the Directory’s milk attests to this ongoing doctor’s preference for breast milk (Talbot, 1928a: 3). In 1927, the Directory collected 174,466 ounces from sellers, 194% more than 1926, and more than many milk banks operating today collect in one year (Walker, 1928). Close to 59% of the milk was sold to charitable institutions, and 40% was sold to “private cases”, presumably families (Talbot, 1928a:8). The “leading” hospitals in Boston had a standing order for milk, and the Directory supplied six hospitals and twenty-five private homes a month on average (Walker, 1928:24). The Directory also shipped milk all over New England, where it was given to premature babies, postoperative infants, and babies with infections, an indication that Denny’s experiments on the immunological and bacteriological uses of breast milk influenced medical practice in the region (Talbot, 1928:9).

Another indication of the medical’s professions’ ongoing preference for human milk is the number of milk bank directories and bureaus operating across the country during the 1920s, many of which were modeled on the Boston Directory. Dr. Henry Chapin, who ran the New York Mothers’ Milk Bureau, believed that every town with a maternity ward or community

health center should open similar bureau, and by 1929 there were organizations collecting and distributing breast milk in at least 20 cities in the Northeast, Midwest, and Western United States (Chapin, 1923:202; Tobey, 1932:110).

Medical practices and beliefs during this era created ongoing demand for breast milk, and motivated physicians to create new models of breast milk provision that gave them greater control over infant feeding. These new models also promoted breast milk's commodification as the milk became increasingly disembodied and viewed as a medical therapy.

TECHNOLOGY

While changed in women's employment, the conceptions of sacred and scientific motherhood, and medical practices and beliefs all contributed to the perception that breast milk was exchangeable for money, the development of new technologies were necessary to make the milk alienable from the human body in the first place. Although women have always been able to express breast milk by hand, several technologies developed in the second half of the 19th Century made the expression, storage, and provision of bottled breast milk much more efficient.

First, was the development of the breast pump, which was patented in the U.S. in 1854. These early breast pumps were manual, and Talbot (1911a:305) judged pumping a "tedious" process, but some wet nurses were able to "draw" more than a quart of breast milk a day using the pumps. The Directory for Wet-Nurses eventually discarded these manual pumps in favor of hand-expression, but the Mothers Milk Directory reintroduced their use (Talbot, 1928a:4). Initially sellers used hand pumps, but by 1939 the milks sellers were using "water breast pumps," small breast pumps that operated using water suction (Colby, 1928:123; MacPherson and Talbot, 1939:464). The pumps included a nipple shield shaped like a horn that the mother placed over

her breast, which connected to a “vacuum bottle through a rubber cork. From the other side of the bottle a glass tube emerged from the rubber cork and connected to a rubber tube that [was] in turn connected to a faucet” (Colby, 1928:123). Users turned the water on slowly, gradually increasing the pressure, the used their fingers to control the vacuum created by the flow of water (American Academy of Pediatrics, 1943:115). Managers at Mothers’ Milk Directory found that mothers preferred water breast pumps over hand expression for their efficiency (MacPherson and Talbot, 1939:465).

Second was the development of commercial ice production and delivery during the 1870s. The creation of ice manufacturing plants, and transportation of ice to cities, meant that drawn breast milk could be preserved in an ice-chest and then distributed to hospitals and patients at home. Advances in refrigeration technology in the 1920s eventually made it easier to collect milk from sellers in their homes. By 1927, the year GE released its popular “Monitor Top” refrigerator, the majority of urban households had electricity, allowing families who could afford it to replace their less efficient iceboxes with iceless refrigerators (Freidberg, 2009:39). In 1930, the year Frigidaire began synthesizing Freon, sales of refrigerators overtook icebox sales (Freidberg, 2009:44). The development and expansion of in-home refrigeration meant sellers could preserve their own milk, and allowed the Directory to rely on the at-home model. The Directory required that sellers keep their milk refrigerated during both summer and winter, and if the family did not have an electric or gas refrigerator they were required to buy ice for their icebox regularly (MacPherson and Talbot, 1939:463).

Third were improvements in nursing bottles, and in particular the creation of the India rubber nipple, that made it easier to bottle feed infants. Although these new technologies

increased the popularity of artificial formulas, they also made it easier to feed infants expressed breast milk (Meckel, 1990:49-50).

Fourth was the automobile. In the early days drawn breast milk was probably carried from the Directory for Wet Nurses by hired cab, but by the time the Mothers' Milk Directory opened, cars had become affordable and their use more widespread. Two nurses drove to the sellers homes each morning in one of two Chevrolet Coupes bought for that purpose, bringing a fresh set of sterilized bottles, and collecting the milk drawn or pumped the day before and placing it in an ice chest in the back of the car (Walker, 1928:24). Milk sellers were given a number on a ring that that placed over the bottle neck for identification (Talbot, 1928a:5; MacPherson and Talbot, 1939:465). The nurses made two collections a day, one in the morning and one in the afternoon (Walker, 1928:24). These four technological developments made it increasingly efficient to extract, store, and dispense breast milk, disembodying the milk and placing it squarely under the control of the dispensing physicians. Breast milk's technicity in this era—the increasing ease in which milk could be physically separated from a woman—therefore contributed to its commodification.

The commodification of breast milk not only relied on new technologies it also inspired innovations in preservation. Once the Boston Floating Hospital and the Directory for Wet-Nurses began collecting breast milk and selling it separately from the wet nursing service, the issue of how to preserve surplus milk for use at a later date became an organizational problem Talbot and others were eager to solve. In a discussion about human milk collection and wet nurse management at a meeting of the AMA's Section on Diseases in Children in 1917, Talbot discussed the freezing of milk at Dr. Schlossman's clinic in Dusseldorf (see Hoobler, 1917:425).

He reported that that Schlossman froze excess milk and kept it on hand for emergencies, and said Schlossman assured him that the milk was fine for use when thawed (Hoobler, 1917:425).

Rather than wait for others to solve the problem of milk preservation, the Floating Hospital and the Directory began their own experiments. Dr. Lawrence Smith of the Floating Hospital recruited two MIT students to create a machine to powder human milk (see Swanson, 2009:21). Writing for the journal *Public Health Nursing* in 1935, Hazel Keene, the assistant to the general director of the Directory, documented that in 1920 the Directory approached the Floating Hospital and Dr. Emerson about investigating methods for preserving the surplus supply of human milk (Keene, 1935:85). The Directory collected, pooled, and pasteurized excess milk, and used the Floating Hospital's equipment and a room in their On-Shore Department to conduct the research under Emerson's supervision. In 1928 the Directory tried the "roller process" of drying milk, in which milk flowed onto the surface of a cast-iron drum heated with steam, where it dried and was subsequently scraped off using a knife (Keene, 1935:85). Apparently disappointed with this experiment, Emerson approached the Borden Company Research Laboratories for advice (Keene, 1935:85). At Borden's request, the Directory began to send surplus milk to the lab in Syracuse, where the company tried a spray process for drying the milk.

In 1932, Borden sent Dr. Helge Schibstead to Boston to set up the spray machinery in the Directory's own lab so the experiments could be conducted with fresh milk (Keene, 1935:85). In this process, the milk "was forced through a needle valve in the form of a fine spray into a heated chamber with a blower for the carrying over of the dried powder into a second chamber where it was collected" (Keene, 1935:85). This technique appeared to be successful (Keene reports that 712 ounces were dried that way). However, Schibstead also demonstrated a new freezing process developed by Washington Platt of the Borden Research Laboratory for the Directory researchers.

According to Keene (1935:85), this method was superior to the drying process, as it was “more rapid, the apparatus much cheaper, requiring small space to operate and was easily sterilized.”

The freezing process the Directory adopted involved freezing milk in round, shallow depressions in aluminum trays using dry ice. This created milk “wafers” that were easily removed from the trays, stored in sterile containers, set on dry ice, and stored in the holding room of the Hood Ice Cream Company (Keene, 1935:86). Studies on the nutritional make-up of the frozen milk and “feeding case studies” with infants were conducted at the Boston Lying-in and the Children’s Hospitals. This quick freezing process not only allowed the Directory to preserve excess milk for long periods of time with little degradation to the quality of the milk, it also allowed them to ship milk from Boston to “considerable distances” (Keene, 1935:87).

The development of new technologies in the late 19th and early 20th Century therefore made breast milk more alienable and allowed for the development of the fourth model of breast milk provision, in which bottled breast milk was exchanged for money. The establishment of this model then further contributed to the technologization of breast milk, as ongoing demand made long-term preservation essential (Swanson, 2009). Technologies therefore promoted breast milk’s commodification in this era, making it easier to disembody, store, process, a dispense breast milk for money.

CONCLUSION

The changes in the wet nurse marketplace in Boston from private wet nursing to hospital wet nursing to the Directory for Wet Nurses to the Mothers’ Milk Directory demonstrate that wet nursing faced significant challenges in the early part of the 20th Century, and that certain women’s limited employment opportunities, the conceptions of sacred and scientific

motherhood, increasing medicalization of infant feeding, and the development of new breast pumps and commercial ice production, were all influential in creating a new model of breast milk provision. Although declining breastfeeding rates and medical ideologies that strongly favored breast milk over artificial formulas created greater demand for human milk, wet nurses' questionable social status conflicted with the dominant mothering ideology of the time.

Medicalization and institutionalization of wet nurses helped alleviate these concerns. This period also witnessed the emergence of new technologies that disembodied and preserved human milk, granting doctors greater control over the milk and creating a therapeutic commodity.

Notably, some of these same factors led to the closing of the Directory in 1962. According to Dr. Clement Smith of the Boston Lying-In Hospital, who ran the Directory in its later years, it closed “not because human milk had been demonstrated to be inherently any less valuable” but because advances in nutritional and technological knowledge and the use of antibiotics meant other ways of feeding babies had become “inherently better” (Smith, 1964:873). As early as 1933, some doctors began to question the need for mother's milk directory in the face of “increasing knowledge of the modification of [cow's] milk”, according to nurse Mary Herwick, writing in the *American Journal of Nursing* about the Kansas City, MO mother's milk station (Herwick, 1933:454). In Smith's (164:873) opinion, there was a greater need for services to help women initiate breastfeeding than for a milk directory to provide milk to others. The shift in medical practices and beliefs, combined with advances in technologies, made the Directory's services seem obsolete, and many banks closed during mid-Century. However, these same changes planted the seeds for what would become yet another system of breast milk provision: the donor model. I discuss these changes in Chapters 3 and 4.

**FROM ANONYMOUS SELLERS TO MOTHERS OF MISSIONARY ZEAL: THE SAN
FRANCISCO MOTHERS' MILK BANK**

1948 - 1977

In 1948, the San Francisco chapter of the American Association of University Women (AAUW) opened the Mothers' Milk Bank of San Francisco, the first milk bank in that region of the state, and eventually one of only two milk banks operating in the U.S. This bank was modeled on the Boston Mothers' Milk Directory, and shared many of its organizational features and procedures. In addition, the AAUW's involvement in milk banking was firmly rooted in the Progressive Era social reform movements that motivated Talbot. But the San Francisco bank also differed from the Boston Directory and its early mimickers in important ways. First, unlike the Boston Directory and other banks established in 1910s and '20s, which were established by male physicians, the San Francisco milk bank was founded and operated by a group of philanthropic women. The San Francisco milk bank was therefore a maternalist, rather than paternalist, endeavor. The Mothers' Milk Bank of San Francisco also differed in its mission, focusing almost entirely on providing human milk to sick and premature infants, with no parallel charitable service offered to the women supplying the milk. And while this bank did pay its "donors", the payment was never considered a form of income, and became increasingly symbolic in the face of inflation and the transition to middle class donors.

This chapter describes the history of the Mothers' Milk Bank of San Francisco over four periods. First, I describe attempts at breast milk banking in the city in the early part of the 20th Century. Second, I examine the history of the San Francisco chapter of the American Association

of University Women (AAUW), which established the San Francisco Mothers' Milk Bank, and organization's involvement in infant health and welfare. Third, I describe the origins and early history of the Mothers' Milk Bank and the ongoing commodification and fetishization of banked breast milk. Finally, I describe the bank's transition to middle class milk donors and the gradual giftification of banked breast milk as the bank's payment to sellers became increasingly symbolic. In each period, I highlight the ways in which women's employment, conceptions of motherhood, medical practices and beliefs, and technology contributed to the bank's organizational form and policies and practices.

EARLY MILK BANKING IN SAN FRANCISCO

What came to be known as milk "banking" in San Francisco began as early as 1914, when doctors at the University of California hospital established a wet nurse directory, apparently modeled in Talbot's directory in Boston (Lucas, 1914:173). The San Francisco Directory provided wet nurses for hospitalized infants and to families living in private homes, with the strict stipulation that the wet nurses keep their own infants with them. Similar to Boston, the San Francisco Directory relied on poor, unwed mothers who wanted to keep their infants. The terms of employment benefited the wet nurses as well: they could keep more of their earnings if they did not have to pay for room and board for their own infants (Lucas, 1914:473). Notably, one of the justifications for this arrangement was creating a sense of attachment between the wet nurses and their often-illegitimate children, again demonstrating the early influence of scientific motherhood and its initial application to lower class women (Lucas, 1914:473; Hays, 1996).

The Directory also provided “drawn” breast milk for an initial registration fee of \$10 and an additional fee of 10 cents per ounce. The milk came from the wet nurses and from “mothers in various sections of the city from whom we collect a daily supply” (Lucas, 1914:473). In form and function, the San Francisco bank was therefore very similar to the Boston Directory for Wet-Nurses: it provided both breast milk for needy infants, and legitimate employment for destitute mothers that provided them with an opportunity to mother appropriately. Meanwhile, doctor’s preferences for breast milk motivated them to establish the Directory.³ However, the San Francisco Directory apparently did not survive for long, and by the 1940s the city had no equivalent institution distributing human milk.

THE AAUW AND INFANT HEALTH

Although the San Francisco bank was established almost 40 years after the Directory for Wet Nurses, the origins of the AAUW’s Mother’s Milk Bank of San Francisco were rooted in the same concerns about infant mortality and Progressive Era activism that motivated Dr. Fritz Talbot. The San Francisco chapter of the AAUW was originally founded in 1886 as the Pacific Organization of Collegiate Alumnae, and is the second oldest chapter of the AAUW in the U.S. At the turn of the 20th Century increases in middle-class women's education levels contributed to increasing numbers of women entering the professions, and to the creation of women's clubs that increased these women's involvement in community, social reform, and politics (Kessler-Harris, 2003:114). The AAUW is an example of the small but growing percentage of women pursuing higher education and careers in the professions at the turn of the 20th Century.

³ Lucas’ (1914) article on the San Francisco wet nurse directory does not specify how milk was “drawn” from the wet nurses’ breast, therefore it is uncertain whether the directory used breast pumps, and what role, if any, technology played in this example.

The Certified Milk Fund Committee

In 1909, Annabel “Elise” Graupner, director of the San Francisco AAUW branch, and Dr. Adelaide Brown, a member and a doctor actively involved with infant health in the city, established the Certified Milk Fund Committee. According to the milk bank’s “Origin & History” booklet (1976), Elise Graupner was “disturbed” because her own baby received “certified” milk, but her maid’s child, who was boarded with Associated Charities, did not, and decided to take action (Weber, 1973a:6). The Committee’s purpose was to conduct education campaigns on “proper feeding and supervision” of infants to reduce infant mortality, and to provide certified cow’s milk and “individual care and oversight” of infants that had come “under its notice” (American Association of Collegiate Alumni, 1917:397; Weber, 1973a:13). The milk itself was certified following strict standards of hygiene developed and overseen by physicians (Golden, 1996:133). The Committee worked with San Francisco Associated Charities, a “public relief” organization in the city (now the United Way), to provide physician-certified milk to foster children under the charity’s supervision, paying the 8 cents difference in price between regular milk and certified milk (Weber, 1973a). The Committee also created infant care pamphlets for the Public Health Department to mail to new mothers paid for the San Francisco Board of Health’s Public Health Nursing Service, and even funded a film on infant hygiene and child psychology called “Motherhood” that premiered on March 10, 1917 (Weber, 1973a:8).

The Committee’s efforts reflected the convergence of the sacred and scientific conceptions of motherhood. Graupner was a maternalist reformer who was motivated by her own experiences as a mother to extend her mothering role toward the less fortunate (Gordon, 2004:90). Maternalism was firmly entrenched in the ideals of sacred motherhood, and “exalted

women's capacity to mother and applied to society as a whole the values they attached to that role: care, nurturance, and morality (Koven and Michel, 1993:104). However, the Committee's work also reflected the emergence of the conception of scientific motherhood, which focused on educating mothers on scientific methods, and its early application to lower class mothers and their infants.

The Committee was also strongly influenced by the medical practices and beliefs of the era. The medicalization of infant feeding put doctors at the center of public health campaigns for infant health and welfare. Meanwhile, advances in the medical theories of disease and bacteriology motivated campaigns for clean milk (Meckel, 1990:70). Dr. Adelaide Brown and other physicians took an active interest in providing clean cow's milk to urban infants, and were often at the center of these campaigns (Meckel, 1990). By the 1890s, "Medical Milk Commissions", voluntary organizations made up of physicians, were springing up in urban centers throughout the country to certify milk (Meckel, 1990). Technological advances also made these campaigns possible. The development of pasteurization at the end of the 19th Century meant milk could be effectively sterilized (Meckel, 1990:81).

Changes in women's employment opportunities, conceptions of motherhood, medical practices and beliefs, and advances in technology all were all influential in the establishment of the San Francisco chapter of the AAUW and the Certified Milk Fund Committee. The very existence of the AAUW is an example of women's expanding opportunities in higher education and the professions at the turn of the 20th Century. Meanwhile, the chapter's decision to establish the Certified Milk Fund Committee was motivated by a maternalism rooted in the conceptions of sacred and scientific motherhood, the increasing medicalization of infant feeding in this era, and technological advances that made milk certification possible.

FROM COWS' MILK TO MOTHERS' MILK

By the mid-1940s the AAUW was still an influential player in infant health and welfare campaigns in San Francisco, but its power was waning, for several reasons. In 1918 the Certified Milk Fund Committee had changed its name to the Baby Hygiene Committee, and opened the Well Baby Center at the Visitacion Valley Recreation Center in conjunction with the Board of Health (Weber, 1973a:9). The center provided a range of services, from vaccinations to dentistry to infant and childcare education, and even classes for expectant fathers, and eventually provided birth control information (Weber, 1973a:10). The Center was so popular it spawned imitators throughout the city.

But by the early 1940s, the Well Baby Center faced a severe physician shortage due to the war, and increasing competition from the Public Health Department and private physicians' well-baby clinics. In 1942, the Community Chest discontinued its financial support, further straining the Center's services (Weber, 1973a:11). Facing financial difficulties and worried that the center's services were becoming redundant, the members of the Baby Hygiene Committee decided to consider new programs to assist infant health in the city.

Then in early 1944, according to an article about the bank in the AAUW newsletter (Fell, 1949:22), and Dr. Hulda Thelander's (1958:1) speech at the milk bank's tenth birthday party, a pediatrician working at the Well Baby Center examined a healthy baby breastfed by his mother and noted that the mother had more than enough milk to feed her infant. The same day, the physician delivered a premature infant "whose life hung in the balance" (Fell, 1949:22), and called Elise Graupner to "deplore the fact that there was no breast milk available" for the baby, and ask if she would contact the mother he had seen earlier and ask her to donate some of her

excess milk (Thelander, 1958:1; Fell, 1949:22). Graupner put the mother in touch with the doctor, and “a new life was saved” (Fell, 1949:22). This event inspired a new phase in the AAUW chapter’s efforts to improve infant health and welfare.

Excess Milk for Babies in Critical Need

According to Fell (1949:22), after this experience securing donor milk, Graupner felt that a mothers’ milk bank was “the next logical step” in the Baby Hygiene Committee’s quest to improve child health. The Committee had already “frequently...been the channel through which mothers’ breast milk” was secured for premature or sick infants (Baby Hygiene Committee, 1946a:5). Mothers registered at the Well Baby Center had provided excess milk for “babies in critical need of it” (Baby Hygiene Committee Relative to Inception of Milk Bank 1946b:1). At their January 22, 1944 meeting the Baby Hygiene Committee voted to establish some sort of organized service to provide human milk, and created an exploratory sub-committee headed by Clothilde Dulfer to investigate the different possibilities.

At first the Committee was uncertain whether to establish a bank, which required “a very special laboratory and technicians for actually storing breast milk,” or a registry of nursing mothers who would be on call to provide milk (Baby Hygiene Committee, 1946:1). The exploratory sub-committee headed by a was instructed to explore both possibilities. The sub-committee began its investigations in the spring of 1944, surveying 18 milk banks and registries in the US and Canada, holding conferences with state and local Health Departments, and consulting the County Medical Society (Baby Hygiene Committee 1946a; 1946b:2). Dulfer also sent letters to existing milk banks, including the Mother’s Milk Bank in Boston, to ask for information about how the banks were run (Dulfer, 1947a).

The sub-committee created a medical advisory board, made up entirely of women physicians, to help the sub-committee's investigations, and in November, 1944, the sub-committee sent questionnaires to 135 San Francisco physicians to see if they would support the establishment of a breast milk bank in the city (Baby Hygiene Committee, 1946:3; Thelander, 1958:1; Weber, 1973a:13). The response was "enthusiastic": of the 45 responses, only five were "negative" or "lukewarm," while "all the key men [i.e. prominent physicians in San Francisco] were enthusiastic" (Baby Hygiene Committee 1946:4; Weber, 1973a:12). That apparently decided the issue: the Committee closed the Well Baby Center in April, 1945 and began looking for funding and site for a mothers' milk bank, the Committee's "next all-out effort in the interest of Infant Hygiene" (Baby Hygiene Committee, 1946:5).

The AAUW incorporated in 1946, and after some debate the milk bank incorporated separately, but was operated by members of the AAUW. The bank was incorporated in 1948 with the following stated purposes:

- “ 1. To collect surplus milk from healthy nursing mothers, pasteurize and distribute it on doctors' orders to sick and premature infants;
2. to supply milk for research; and
3. to serve as a demonstration center for medical and lay groups.”⁴ (Weber, 1973a:13)

In general, according to Elise Graupner, the bank was an "effort to serve members of the medical profession in their special feeding problems with premature or sick infants" (Graupner 1952:1).⁵

⁴ The bank also acted as a demonstration center for nursing students, doctors, and lay groups (e.g. White, 1957:2; Johnson, 1963:3). The teaching program began in 1949, instructing 70 nurses in the first year. The demand for the teaching program followed the demand for donor milk, falling sharply between 1951 and 1955, and then rising again in 1956 (President's Report for Year Ending March 31, 1957, p. 2). However, the bank received both instructors and students, as well as visitors from throughout the country and around the world, on a regular basis (e.g. White, 1955:3).

Notably missing from these goals is any mention of social services for the women selling their milk to the bank. This is in marked contrast to the Directory for Wet Nurses, where the second stated goal was “to give destitute girls with babies, an opportunity to earn an honest living” (Talbot, 1912). The absence of these services indicate that by the time the San Francisco bank opened, banked breast milk was not only commodified, but fully fetishized, the social relations at the point of production, and between the bank and its sellers obscured. I discuss this fetishization in the sections below.

In the following sections, I investigate how women’s employment, conceptions of motherhood, medical practices and beliefs, and technologies contributed to the operation of the San Francisco Mothers’ Milk Bank, and the ongoing commodification of breast milk in this era. First, I argue that expanding employment opportunities for working class women, and the economic boom that allowed middle class women to stay home caring for children, created a relatively heterogeneous pool of milk donors who did not need the charitable services poorer milk sellers did in the previous era. Second, I argue that the rise of intensive motherhood, which put the child, rather than the mother, at the center of focus, further contributed to this shift in attention away from donors and towards infant recipients. For these reasons, the San Francisco

⁵ Although the Baby Hygiene Committee’s main focus was now the milk bank, it also continued its educational activities and breastfeeding advocacy, sending members to study rooming-in procedures at hospitals in other parts of the country, hosting film screenings and panel discussions on the topic, and publishing and distributing a bibliography on parent-child relationships, with “particular emphasis on natural child-birth, breast-feeding, and rooming-in” (Weber, 1973a:14). The Committee also hosted meetings on “various phases” of parent-child relationships in cooperation with the Department of Health, the Parent Teacher Association, Children’s Hospital, and other local charitable organizations (Weber, 1973a:14). The Committee emphasized the importance of breastfeeding “both for its superior nutrition and for fostering mother-child relations” (Weber, 1973a:15).

bank did not provide social welfare services, and paid very little attention to the donors, further anonymizing the milk.

Third, I discuss the shift of medical authorities' preferences towards artificial formulas. Although medical practices and beliefs at this time were far from monolithic, and the bank was able to rely on a shrinking but dedicated pool of doctors to prescribe milk, most doctors in this era did prefer formula feeding. This was due in part to the fact that formulas did improve substantially in this era, becoming safer and easier to use. As a result, breast milk became less unique, losing its singular status as the "best" infant food, and increasingly came to resemble other commodities.

Women's Employment

Although the Mothers' Milk Bank of San Francisco did not collect (or didn't preserve) data on donor's social class status, an analysis of the records suggests that the donors in San Francisco were more somewhat more heterogeneous than those in Boston in the earlier era. There is some evidence that many of the donors during the 1940s and '50s were working class or poor women. For instance, the Annual Nurse's Statistical Report for 1959 notes that there "have been many more [donor] referrals from doctors, nurses, and *welfare workers* in this than in any previous year" [*italics mine*] (Schneider, 1960:1). The application rolls also indicate the potential donors heard about the milk bank at Well Baby Clinics and from the Visiting Nurse's Association, both of which generally served lower-income mothers.

However, this recruitment strategy probably led to a more diverse pool of potential donors than the Boston Directory, even though both organizations recruited from hospitals. By the time the San Francisco milk bank opened, birthing practices in American were heavily

medicalized and institutionalized, and by 1950, 88% of births took place in the hospital (Devitt, 1977:47). Maternity wards therefore served a more diverse clientele, and the pool of potential donors now included women from all socioeconomic backgrounds. In addition, the bank recruited from hospitals both in the city and the newly developed suburbs, which mostly housed middle class families (White, 1955:2).

The bank also followed the American Academy of Pediatrics' standards for milk donors, which were based in large part on standards Dr. Fritz Talbot and Cornelia Macpherson published in 1939 (American Academy of Pediatrics, 1943; MacPherson and Talbot, 1939). These standards recommended that donors be paid, and more specifically "receive compensation sufficient to insure good standards of living and relief from financial worry" (American Academy of Pediatrics, 1943:113). Interestingly, despite the fact that women were paid for their milk, both the AAP standards and the San Francisco bank referred to sellers as "donors", a designation that implies charitable giving⁶. Golden (1996:203) and Swanson (2011) theorize that the emergence of blood donation as a patriotic duty during World War II challenged the practice of paying for breast milk, and contributed to this change in terminology. Yet all but one of the banks operating in this era continued to pay women for their milk.⁷

The San Francisco Mothers' Milk Bank paid donors 10 cents an ounce from its opening until 1974, when the bank began paying donors 15 cents an ounce (Fell, 1949:22; Nelson, 1974). In 1948, 10 cents had the buying power of 88 cents, so a woman who gave 100 ounces (one dollars worth) would earn the equivalent of about \$88. In 1958, 100 ounces would have earned the equivalent of \$73. By 1968 this had decreased to about \$61. By the time the bank closed at

⁶ MacPherson and Talbot's 1939 article does not refer to milk sellers as donors, but simply as "mothers."

⁷ Although most banks operating in this era followed the same procedure for recompensing donors, one (Evanston Hospital in Evanston, IL), did not pay donors (Kimball, 1964).

the end of 1977, 100 ounces (\$15 dollars worth) would have earned the equivalent of about \$54. Thus, despite the small increase in payment in 1974, the value of the payment steadily declined during the years the bank operated, which may in turn have led to a decline in financial motivations for donation. And although donors who gave large quantities of milk may have made a significant contribution to the household income, the directors of the San Francisco bank never viewed their milk donors as wage earners, unlike the milk sellers in Boston a generation earlier. In her 1951 President's Report, Elise Graupner (1951:5) called the payment "a small compensation for time and trouble involved in washing up and observing all the hygienic rules when expressing her milk."⁸

The relative social class diversity of donors, and the shift from milk "sellers" to compensated "donors" indicates that by the late 1940s, selling breast milk was no longer a form of employment for lower-income women. This may be because married women's labor force participation began to expand in this era as education increased and marriage bars disappeared (Eisenmann, 2006:27). Working class married women who previously earned a living selling their milk were now able to find alternative means of employment in "pink-collar" professions, while middle class women may have been attracted by the opportunity to temporarily earn a small supplement to the family income. Golden (1996) found a similar shift in Boston in this era, where the Mothers' Milk Directory began relying on college graduates donating milk to defray costs while their husband's completed graduate school. Milk selling never became a "profession", as Hoobler predicted in 1927.

⁸ For instance, one donor gave the bank 7,184 ounces of milk between July of 1948 and September of 1949, earning \$718.40 over the course of one year, the equivalent of about \$6,400 in 2009 currency, a substantial sum (Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 26, Donors 1949).

Conceptions of Motherhood

Unlike the Boston Directory for Wet Nurses, which was created in part to assist destitute mothers, and its successor, the Mothers' Milk Directory, which continued to provide education and social welfare assistance to sellers, the San Francisco Mothers' Milk Bank did not attempt to create close ties to its donors, or provide similar types of assistance. The bank did screen potential donors, and both the bank's own nurses and the Visiting Nurses Association made initial visits to potential donor's homes (Graupner, 1951:7). The nurses reported the "desirability of the home and the probability of the young mother to meet the needs of a milk donor", drew blood for serological testing, and gave donors detailed instructions on expressing and preserving milk (Graupner, 1952:7).⁹ Nurses also made "irregular calls" if a donor requested an appointment.¹⁰ But the directors and board members of the San Francisco bank did not consider "increasing [donors'] happiness and well-being" an "important branch" of the bank's work, as Dr. Talbot did in Boston (MacPherson and Talbot, 1939:461).

The bank did send form letters mailed to donors in the 1950s, which noted that the donor's role was "an important one in aiding the health premature and sick babies," and suggested that [t]his should be a source of great satisfaction to you" (Graupner, 1950). Unlike the Boston Directory, whose charitable services extended both to sick babies "and the families from whom the milk was obtained" (MacPherson and Talbot, 1939:461), the San Francisco's milk sellers were the ones providing the charitable service, even though they were being compensated.

⁹ In 6 cases notations say that a potential donor is "Undesirable" with no further explanation (see Donors 1958, in Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 26, and Applications, 1956, 1957, 1958, 1959, in Box 1, Folder 25, California Historical Society, San Francisco, CA). An applicant from 1973 was "not recommended because of slovenly home" according to the remarks on the application rolls.

¹⁰ "Requirements of Milk Donors." Undated. In Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 27, California Historical Society (San Francisco, CA).

“One of Our Babies”: The Alumni Association

The San Francisco Mothers’ Milk Bank also differed from its Boston counterpart in its outreach to the families of infant recipients. In a speech at the bank’s 15th anniversary party, Mrs. Willard Johnson (1963:1), the current president of the bank, noted that: “every baby who becomes a recipient of mother’s milk is ‘special’ to us – one of our ‘babies.’”¹¹ The bank formalized this special relationship by creating an Alumni Association in January 1953 to follow the progress of the infants who received the bank’s milk (Weber, 1973a:2). The Alumni Association’s purpose was four-fold:

“1 – to be kept apprised of the physical and mental development of these infants as they grow into childhood;

2 – to indicate to parents our continued interest;

3 – to keep contact in case a research study should be instituted;

4 – to keep the parents aware of the Milk Bank and its service.”¹²

In 1953, the bank began sending letters to recipient’s families, inviting them to join the Alumni Association, and created a procedure for enrollment of new members. When recipients went “off the service,” the bank sent a letter to the parents noting the amount of milk received, and “expressing good wishes for [the] future health of the child,” and informing them about the Alumni Association. Four months later, the bank sent an invitation for membership, along with a request for a progress report and a picture of the recipient. If the parents responded, the bank sent

¹¹ The 10th and 15th anniversary parties were held at the Sarah Dix Hamlin School (a distinguished girls school in SF) because the Principal, Louise Colvert, was a sponsor of the bank (Johnson, 1963:1).

¹² Draft of speech given at Tenth Anniversary Party, October 11, 1958, Sarah Dix Hamlin School. In Mothers’ Milk Bank, Inc. Records, 1945-1979, Box 2, Folder 47, California Historical Society (San Francisco, CA).

a “diploma”: a pink piece of paper with the child’s names, date of birth, and “having received mothers’ milk at the request of” the doctor’s name, “is enrolled as a member of the MOTHERS’ MILK BANK ALUMNI ASSOCIATION. Mothers’ milk was given as an aid toward healthy childhood”.¹³

The bank kept a picture album of Alumni Association members, which they displayed at anniversary parties.¹⁴ Alumni Association members and their parents were invited to the anniversary parties as special guests: thirty children attended the tenth anniversary party, and 17 attended the 15th anniversary party (Saper and Leonards, 1963:1).¹⁵ The 17 recipients who attended the 15th anniversary party ranged in age from 2 to 14 ½ , and “were a vivid testimonial to the help received when they needed it as infants” (Saper and Leonards, 1963:2). By 1972, the Alumni Association had 306 members (Box 1, Folder 14, Annual Meeting, January 25, 1972, p.1).

The Alumni Association highlights the milk bank’s focus on the infant recipients, and its lack of interest in its donors. There was no equivalent effort to keep in touch with milk donors or inform them about the milk bank’s work. There is little to no discussion of the donors in the President’s reports or in speeches at the bank’s anniversary parties. In many of these speeches the amount of milk collected in a given year is mentioned, but nothing is said about the women who donated it, emphasizing the disembodied and anonymous quality of banked breast milk. Golden (1996:200) theorizes that the disembodiment and commodification of breast milk created this disinterest, because the physical separation of the milk from the lactating woman’s body, and

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

the pooling and pasteurization of the milk, meant milk bank directors, doctors and recipients no longer had to worry about the characteristics of the individual donors.

This disinterest also reflects emergence of intensive motherhood during the 1950s. Intensive motherhood is “child-centered, expert-guided, emotionally-absorbing, labor-intensive, and financially expensive” (Hays 1996:8, 49). In this conception, mothers are expected to use experts’ advice and interpretations of children’s behavior to guide their care, similar to scientific motherhood, but are assumed to have a natural aptitude for nurturing, similar to sacred motherhood (Hays, 1996:45-46). And unlike scientific motherhood, where the focus is the mother, this conception is “child-centered”, and focused on the child and its needs.

The strong focus on the child’s needs in the conception of intensive motherhood, combined with the disembodiment of the donor milk in this model of breast milk provision, meant donor’s own experiences and needs were easily overlooked (Blum, 1999). The San Francisco bank’s almost exclusive interest in recipients reflects the centrality of the child in the conception of intensive motherhood.

Medical Practices and Beliefs

By the time the San Francisco Mothers’ Milk Bank opened in 1948, infant feeding in American was heavily medicalized (Apple, 1987), and the organizational structure of the bank reflected this medical dominance. The bank followed the standards of operation for milk “bureaus” laid out by the Committee on Mothers’ Milk of the American Academy of Pediatrics in 1943 (White, 1953:1). These standards stipulated that milk bureau have a medical advisory committee made up of pediatricians; should comply with local health department regulations;

and should employ both professional and non-professional staff (American Academy of Pediatrics, 1943:112-113).

The bank required that donors get permission from their doctors before they were approved for milk donation, and sent forms to potential donor's physicians stating "[Donor name] who is under my care, may deposit milk in the Mothers' Milk bank until I notify you that I do not believe it advisable for her to continue to do so."¹⁶ The remarks on the application rolls for the bank indicate that doctors did occasionally discourage potential donors from giving milk, and in a few cases ordered donors to stop donating milk.¹⁷ The bank also required a doctor's prescription to dispense milk, which meant doctors were critical to demand. The bank actively sought to add doctors to their roster of prescribers (see, Billwiller, 1957:3). Nurse's reports often emphasized the addition of new prescribing doctors, and the bank occasionally surveyed local doctors for input on their services, suggesting that the bank worked hard to cultivate medical approval and supporters (e.g. Box 2, Folder 35, Annual Nurse's Report, 1959).

When the time of the San Francisco Mothers' Milk Bank opened, medical practices and beliefs about infant feeding had changed considerably from earlier views that breast milk was the "best food for infants." Breastfeeding rates had fallen precipitously during the first half of the 20th Century, spurred in part by pediatrician's growing acceptance of infant formulas (Apple, 1987). When the milk bank opened in 1948, medical opinion was far from settled on the superiority of breast milk, even for premature and sick infants (see Powers, 1948; for an alternate view, see Hess, 1953). Many doctors, particularly younger physicians, now viewed artificial formulas as nutritionally equivalent to breast milk. The fact that formulas were inherently easier

¹⁶ "FORM #2, July 7, 1950" Undated. In Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 27, California Historical Society (San Francisco, CA).

¹⁷ Applications, in Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 25, California Historical Society (San Francisco, CA).

to measure and control probably contributed to doctors' preference for bottle-feeding (Apple, 1987).

Despite changing views on infant feeding in the 1930s and '40s, there was still support for breast milk banking in the medical community. In 1943, the American Academy of Pediatrics released its own standards for "Mothers' Milk Bureaus", based largely on MacPherson and Talbot's standards from 1939. This amounted to an official endorsement of breast milk banking. And in 1948 there was still enough support for breastfeeding in the medical community in San Francisco that the majority of physicians surveyed by the bank's medical advisory board were "enthusiastic" about the establishment of a breast milk bank in the city (Thelander, 1958:1; Weber, 1973a:13). Although this enthusiasm eventually waned, and demand dropped precipitously in the mid 1960s, the bank was able to rely on a handful of physicians who continued to prescribe donor breast milk to patients.

Physician's beliefs about which infants should receive banked breast milk had changed since the early 20th Century, however. Lack of maternal milk was no longer a sufficient reason for an infant to receive donor milk. The San Francisco Mothers' Milk Bank specifically dispensed milk to premature and sick infants. Bank records indicate that prematurity was the most often stated reason for infants to receive milk throughout the bank's existence. Low birth weight and lack of weight gain on formula were also common reasons for infants to receive donor milk from the beginning (Scroggs, 1949:1). In addition, many of the recipients were multiple births, whose mothers presumably did not produce enough milk for multiple infants (or were not expected to by their physicians), and who were more likely to be born prematurely and have low birth weight.

The bank's organizational practices and procedures were heavily influenced by medical practices and beliefs. The standards the bank used were approved by the American Academy of Pediatrics, and a medical oversight committee oversaw the bank's work. And although many doctors now preferred artificial formulas for healthy babies, a small but persistent group of doctors in San Francisco still preferred breast milk for premature infants. This preference allowed the San Francisco milk bank to survive in an era when most banks, including the Boston Directory and the Los Angeles milk bank, closed their doors.

Technology

Several technological advances of the 1940s and 1950s made it easier for the San Francisco Mothers' Milk Bank to operate. Specifically, the invention of the modern electrical pump, the proliferation of automobiles, and improvements in infant incubators all increased both the supply of and demand for banked breast milk.

Although nothing in the bank's records indicates how many donors used breast pumps to express milk, the bank provided instructions for both hand expression and pumping, indicating that donors did both.¹⁸ At the time, few women owned their own breast pumps: instead, pumps were usually rented out by hospitals. In 1942 a Swedish engineer named Einar Egnell invented the first "modern" electric breast pump. Egnell's pump perfected Abt's pump invented 20 years earlier, and developed a method of phasic cycles of negative pressure intended to stimulate pressure within the breast to activate milk flow (Riordan, 2005:330). In 1956, Egnell published his research on techniques for extracting breast milk, and his Egnell SMB breast pump, produced by Ameda, became widely used in hospitals in the U.S. and around the world. This improvement

¹⁸ "Instructions for Expressing Milk," Undated. In Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 27, California Historical Society (San Francisco, CA).

in breast pump technology made pumping more efficient and increased the supply of excess breast milk among potential donors.

Meanwhile, the increasing prevalence of automobiles made it easier for the bank to collect that excess milk. Shortly after it opened, the bank established a Motor Corps, made up of bank volunteers, which collected milk from donors two or three times a week.¹⁹ The bank also established a Motor Corps in the East Bay, established by Helen Fell in the early 1950s, and started a motor corps in Marin County in 1959 (Schneider, 1960:1). The San Francisco and Oakland Red Cross' also picked up milk, at least temporarily (Graupner, 1951:2), and a company that blended and delivered artificial formulas, Wenner Baby Formula's Inc., also picked up and delivered milk (Changing Times, Nov 1950:18; Graupner, 1951:6).

The existence of Wenner Baby Formulas is an indication of the state of artificial infant formulas in the late 1940s and 1950s, the bank. During this era, infant formulas were still complicated. Many hospitals had their own formula laboratories to mix different formulas for different infants, an activity that was "labor intensive and presented formidable problems in quality control" (Fomon, 2001:413S). Many hospitals therefore used commercial formula services like the Wenner's.

Although formula use had increased significantly as infant formulas improved and became safer to use, the formula industry apparently did not view breast milk banks as competition, perhaps because the milk bank operated on such a small scale, and perhaps because formula wasn't not a yet a completely viable alternative to breast milk. The bank had a special relationship with the Borden Dairy Company, a producer of infant formulas, apparently mimicking the relationship that company had with the Los Angeles milk bank. A letter from

¹⁹ Ibid.

Clothilde Dulfer to G.S. Perham, the chairman of Borden's Dairy Delivery dated July, 1947, indicates that the chairman had expressed a "deep interest" in the bank, had visited the future site of the bank at Children's Hospital, and had made recommendations for the arrangement of equipment in the laboratory (Dulfer 1947b). In 1953, the Borden Company built and delivered a large deep-freezer to the bank. The President's report from the 1954 annual meeting notes that the Borden Company "has been generous and helpful to us always, and this big box is another example of their kindness to the Mothers' Milk Bank" (Miller, 1954:2).

This close and friendly relationship with a producer of infant formulas stands in marked contrast to the milk banks operating today, who have little or no relationship with infant formula companies. In the 1950s, however, artificial formulas were still primitive enough that their producers could comfortably coexist with the San Francisco Mothers' Milk Bank. By the 1960s, formulas became more efficient to use, and the companies began to develop and market formulas specifically for premature and low birth weight infants, putting them into direct competition with the milk banks. This contributed to the decline in demand for breast milk in the 1960s, and contributed to the milk's ongoing commodification, as breast milk became just one among several products available to feed infants.

Women's employment, conceptions of motherhood, medical practices and beliefs, and technologies were therefore crucial factors in the ongoing commodification of breast milk in this era. The shift from poor and working class to middle class donors during this era, due to expanding employment opportunities and the economic boom, meant the bank did not need to provide social welfare services to its donors. Meanwhile, the rise child-centered intensive motherhood contributed to the bank's focus on infant recipients, at the expense of donors. These two factors anonymized the milk and made it easier to perceive it as exchangeable for money.

At the same time, the shift in medical authorities' preferences towards artificial formulas, and improvements in those formulas made breast milk less unique. Breast milk was no longer singular, but rather one among several viable options for infant feeding (Kopytoff, 1986). The handful of local physicians who did continue to prescribe breast milk allowed the bank to survive, but this equivalency with other forms of infant food sustained the impression that the milk was exchangeable for money, and that "donors" should be paid.

In addition to being more commodified than in the first era, the milk was therefore more fetishized, as well. The social relations of production were more obscured, because the milk was more anonymized. Meanwhile, the value of the milk was perceived by everyone involved as inherent to the milk itself, and not rooted in the relations that produced it. The milk was more also quantifiable and equivalent as formulas improved and more effectively competed with breast milk, becoming the preferred method of infant feeding among both physicians and mothers. Banked breast milk became fully fetishized as its exchange value came to dominate its use value.

GRADUAL GIFTIFICATION

When the Baby Hygiene Committee opened the San Francisco Mothers' Milk Bank in 1948, they looked to the Boston Mothers' Milk Directory for guidance, incorporating practices and procedures that turned breast milk into a therapeutic commodity (Golden, 1996). Although the women selling their milk were now referred to as donors, they were still paid by the ounce. One major difference was in the cost to consumers: until 1972, the San Francisco bank provided the breast milk for free thanks to a grant from the James Irvine Foundation. After the loss of the grant, the bank remained a non-profit and charged only the cost of processing the milk, and

dispensed milk free of charge depending on need and circumstances (Weber,1972b:3). The cost of processing the milk in 1972 was 70 cents an ounce. In 1977, the milk bank increased the cost of milk to 75 cents an ounce, due to the 700% increase in the cost of product liability insurance (Box 1, Folder 6, Board of Director's Meeting Minutes, March 15, 1977). This rapidly rising cost may be the reason why the bank closed down at the end of 1977.

But although the San Francisco bank paid "donors" throughout its 30-year history, and even raised the rate per ounce from 10 cents to 15 cents in 1974, the real monetary value of the payment steadily declined. As noted above, in 1948 a woman who sold 100 ounces of breast milk (one dollar's worth) to the San Francisco bank would earn the equivalent of about \$88 in 2010 dollars. By the time the bank closed in 1978, 100 ounces (\$15 dollars worth) would have earned the equivalent of about \$54, enough for perhaps one trip to the grocery store or a special gift for a child. Meanwhile, the San Jose Mothers' Milk Bank, which opened in 1974, never paid donors.

Thus, over the course of 30 years, banked breast milk shifted from being strictly a commodity, purchased from sellers and sold in the medical market, to a gift at the point of production. This shift from an "object of utility" to an "object of sentiment" (Zelizer, 1985) is connected to changes in women's employment opportunities, new mothering ideologies, changes in medical practices and beliefs, and advances in technology that began in the 1960s.

Employment

Although the San Francisco Mothers' Milk Bank probably always attracted a more diverse set of donors in terms of social class, over time there was a marked shift towards middle-class donors. In 1963, the bank began recruiting donors at La Leche League classes, In 1971, the

bank began recruiting donors from childbirth classes, and by November, 1972, between one-third and one-half of current donors were recruited in childbirth classes (Box 1, Folder 6, Board of Director's Meeting Minutes, May 18, 1971, p. 2; Box 1, Folder 6, Board of Director's Meeting Minutes, November 21, 1972, p.1). Both the La Leche League and the natural childbirth movement primarily attracted middle-class mothers (see Blum, 1996; Smith, 2009:9). In addition, beginning in the late 1960s, several donors joined the bank's board, meaning they were AAUW members themselves, and therefore college-educated (Box 1, Folder 6, Board of Directors Meeting Minutes, February 16, 1971). All of these changes indicate that by the early 1970s many, if not most, donors were middle-class women.

Other banks followed this trend towards middle class donors. For instance, the Boston Directory began purchasing milk from middle-class women in its final years (*Boston Daily Globe*, 1961:3; Golden, 1996:204), while donors to the Evanston Hospital milk bank in Illinois (which opened in 1953 and did not pay women for their milk) were mostly "private patients" at the hospital, implying they were also primarily middle-class (Kimball et al., 1955:265). This points to the shifting demographics of milk bank donors across the country during this era.²⁰

This trend towards middle-class donors correlates with increasing labor force participation among women and rising prosperity. After WWII women's employment opportunities increased, both among lower-income women who might otherwise sell milk and among middle class women entering elite professional occupations. Between 1950 and 1970 the

²⁰ The San Francisco milk bank accepted donors of all races and ethnicities, although it did not normally collect this data. The bank did collect racial and ethnic information once, in 1951-1952, when it supplied Gerber Baby Foods Laboratory with human milk for research. For this study the bank collected the "national" background of the donors (Graupner, 1951:2-3; 1952). All but one of the donors in this study were white, and all of Northern and Western European ethnic descent, with the exception of one Japanese donor. In addition, an examination of the last names of applicants and donors suggests that most were probably Caucasian, along with a handful of Asian and Latina women.

percentage of women working in the labor force rose from 33.9% to 43.3% (Bianchi and Spain, 1986:141). Expanding labor force opportunities meant women who previously sold their milk to supplement the family income could now find longer-term, higher paid forms of employment. Meanwhile, rising prosperity allowed some middle class women to withdraw from the labor force altogether, meaning they were able to stay home and devote time and energy to breastfeeding their children. Lower-income women's increasing attachment to the labor force, and some middle-class women's withdrawal from paid work, therefore contributed to the shift towards middle class donors. And unlike lower-income sellers, middle class donors did not have to rely on the payment to supplement the family income. Notably, the bank's records indicate that beginning in the late 1960s, some donors returned payments as charitable donations to the bank (Fell, 1970:1). Returning the payment to the bank, one donor wrote: "I enclose your check to be returned to the fund. I never expected to be compensated – it was my pleasure" (Abeel, 1970). In another case, a donor considered the milk a charitable donation that she should receive a tax deduction for, despite being paid 10 cents per ounce (Fell, 1967). These examples indicate that for middle class donors, donating milk was an altruistic service, not a means of earning money.

Intensive Motherhood

As noted above, the bank also began recruiting donors from La Leche League Meetings in 1963 (Adamich, 1963:2; Weber, 1972a:1). The connection to the La Leche League points not only to the social class status of donors in this era, but the ideological motivations for breast milk donation. As Blum (1999) noted, the La Leche League was created by a group of white, middle-class mothers in 1956 in response to the medicalization of birth and infant feeding. The League

encourages breastfeeding as the “natural” method of infant feeding, and is immersed in the ideology of “intensive, exclusive” motherhood, an ideology that favors and reinforces white, middle-class women’s choices and experiences (Blum, 1999).

Although the bank experienced a sharp decline in both donations and demand for donor milk in the 1960s, the late 1960s and early ‘70s witnessed a boom in donors. In 1965, the bank had only 25 donors; between 1970 and 1971, the bank had approximately 220 donors (Holt, 1972: 2). The minutes for the Annual Meeting for 1971 (Holt, 1972:.2), noted that “even with the decline in the birthrate, over one-fifth of our donors have given in the last two years.”

The Board members hypothesized that this was due increased breastfeeding rates, and there is data to support this assumption (Holt, 1972:2). Although breastfeeding rates had consistently fallen since the beginning of the 20th C., and National Survey of Family Growth from 1973 indicated that only 25% of American mothers breastfed, other data from that era noted a resurgence in breastfeeding in the early 1970s (Hirschman and Butler, 1981:40). Martinez and Nalezienski (1979) reported a doubling of breastfeeding initiation in hospitals between 1971 and 1978, while Hendershot (1980) found that the proportion of breastfed infants increased from 25 percent to 35 percent between 1973 and 1975. The jump in donations in San Francisco beginning in 1969, previous to the national increase in breastfeeding rates, may reflect its status as a center for countercultural, feminist, and environmental activism in the late 1960s, all of which advocated for breastfeeding.

Importantly, breastfeeding in this era became a central component of intensive motherhood (Blum, 1999; Hays, 1996). Middle class women, the first to abandon breastfeeding earlier in the century as they embraced the doctor-directed, regimented feedings dictated by scientific motherhood, now embraced breastfeeding again as a means of distinguishing

themselves as superior mothers (Blum, 1999). Breastfeeding's rarity in this era added to its symbolic value.

Records from the San Francisco bank indicate that the donors from the late 1960s and early 1970s donated their milk out of a sense of altruism. As noted above, in this same era donors began returning payments as charitable donations to the bank (Fell, 1970:1; Nelson, 1974). While it is possible that payments were returned in earlier years without being noted, the fact that they don't appear until later in the bank's history seems to indicate a change in donor motivations and perceptions about the payment. The director of the bank at the time, Pia Lazzareschi, called the donors "mothers of missionary zeal" (Readle, 1971).

The conception of intensive motherhood, in which mothers are expected love their children selflessly and give them everything they can, not only encouraged women to breastfeed, but to give their milk away if they had a excess supply. The milk bank's 1967 "News-letter" thanked: "Our wonderful nursing mothers, who *unselfishly* provide us with their surplus breast milk. Without them, we would close our doors" (italics mine) (Mothers' Milk Bank, Inc., 1967). Another newsletter from 1971 aptly summed up intensive motherhood's role in donation: "Love is Helping Newborns Live" (Scott, 1971:2).

Notably, this coincides with the era when donors were recruited to the corporation board, which gave "renewed vitality" to the milk bank (Lazzareschi, 1971). Several donors were active on the board during this period, suggesting that the donors had higher visibility in the bank's work (see Fell, 1970:4).

The new focus on donors, and their inclusion in the administration of the bank, points to both the shifting demographics of donors, and the changing social value of breast milk. As breast milk became increasingly rare and precious due to declining breastfeeding rates, and as

breastfeeding became a central tenet of the ideology of intensive motherhood, it became sacralized. And as breastfeeding and breast milk became a form of motherly love, milk donors' status rose as well.

Medical Practices and Beliefs

As noted above, during the years that the San Francisco Mothers' Milk Bank operated, medical opinion on infant feeding shifted in favor of artificial formulas. By the 1960s, the majority of pediatricians believed the formula and breast milk were nutritionally equivalent, leading to a decrease in both supply of and demand for banked breast milk. The 1960's witnessed a sharp decline in donors, from a high of 125 in 1959 to a low of only 25 in 1965. The bank also experienced a large drop in demand. In 1959, 121 doctors prescribed milk for 161 infants; in 1967, only 19 doctors prescribed milk to 25 infants. The bank's board members were perplexed by this decline, but in her study of the milk bank's first 25 years, Weber (1973a:17) suggested that it reflected "a change in the thinking of neonatologists regarding nutrition and its effects on the health of the newborn" (Weber, 1973a:17).

The drop in both demand and supply in this era prompted the bank to send a letter to all its Medical Advisory Staff and medical sponsors in February, 1968, asking their opinion on the value of the bank's work. This coincided with the 20th anniversary of the bank, and followed seven years of decreasing demand. The recorded responses were mixed at best.²¹ Several doctors wrote that the milk bank was no longer "indispensable" due to the improvements in infant formulas: one doctor argued that the "superiority of breast milk has not clearly been established," and another wrote that there was "less and less of a need for the Milk Bank." The acting director

²¹ "Collected Responses." In Mothers' Milk Bank, Inc. Records, 1945-1979, Box 2, Folder 50, California Historical Society (San Francisco, CA).

of public health for the state of California assured the bank managers that “the feeding and nutrition of infants would not suffer” if the bank closed.²²

Other doctors, however, encouraged the bank to continue its work. The Director of the Bureau of Maternal and Child Health wrote that “there still exists the need” for the bank, after conducting a telephone survey of 4 hospitals and two private physicians.²³ Another doctor wrote that he strongly believed “that breast milk is vitally important and for some infants, is the only source of nourishment.” A minority of physicians still preferred breast milk, and created enough demand to keep the San Francisco bank open for business. Meanwhile, an influential neonatologist named Dr. Philip Sunshine at Stanford University Hospital recognized breast milk’s benefits for infants suffering from gastrointestinal disorders and began to order milk from the bank (Sunshine et al., 1980:179; Weber, 1972b:2). Sunshine would go on to become co-medical director of the San Jose Mothers’ Milk Bank in 1980.

Interestingly, 1968 proved to be a turning point for both supply and demand. That year the bank delivered milk to 40 recipients, and in 1969 delivered to 72 infants, in spite of a drop in milk donations in the fall of that year that meant the bank had to turn away new recipients.²⁴ In 1970, the bank delivered milk to 129 recipients (Schwellinger, 1971:1), and the early 1970s saw a huge increase in demand, despite rapidly falling birthrates²⁵.

The reason for the sudden upturn in demand in 1969 is difficult to identify. As the letters from doctors to the bank demonstrate, the medical community was divided over the superiority

²² Ibid.

²³ Ibid.

²⁴ See correspondence from Fall 1969 in Mothers’ Milk Bank, Inc. Records, 1945-1979 Box 1, Folders 10 and 11. California Historical Society (San Francisco, CA).

²⁵ The 1974 Nurse’s Annual Report notes that 1973’s birthrate was the lowest in the state since 1937, but appeared to increase in 1974 as the baby boomers began to have children (Johnson, 1975:1).

of breast milk, and medical practices at the time generally discouraged breastfeeding. It wasn't until 1978 that the American Academy of Pediatrics' Committee on Nutrition affirmed its support for breastfeeding.

One possible explanation for the sudden rise in demand is that physicians were not immune to the social and cultural transformations of the late 1960s and early 1970s, and the associated trend towards "natural" childbirth and breastfeeding. Blum (1999:45) argues out that doctors were "prodded into change" by these transformations, although she identifies the shift as occurring later in the decade. The rise in demand may also be attributed to the parents of needy infants, who pressured doctors to prescribe human milk.

Another possible explanation is the rise of modern neonatology in the 1960s, a subspecialty of pediatrics focused on premature and ill newborns (Jorgenson, 2010). Premature infants are often unable to nurse, and their mother's bodies may not be prepared to produce milk immediately after birth. In addition, premature infants' guts are underdeveloped, making digestion of artificial formulas difficult. For these reasons, prematurity was the leading reason for milk prescription throughout the bank's history.

Although there was (and still is) considerable debate about the benefits of breast milk for premature infants and the risks of artificial formulas, the bank's records provide evidence that the increase in premature survival and new theories about the diseases associated with prematurity contributed to the increase in demand in the late 1960s. For instance, Presbyterian Hospital, which housed the bank from 1960 until 1973, established a Premature Center in 1964, and worked with the bank to supply breast milk to infants there (Saper and Leonards, 1963). And although premature infants were always the majority of recipients, in the early 1970s the remarks in the prescription logs began to include additional notes, such as "RDS premie" [premature

infant suffering from respiratory distress syndrome], and necrotizing enterocolitis.²⁶ These remarks point to advances in premature diagnosis and treatment that led to an increase in demand for banked breast milk.

These records demonstrate that in San Francisco, at least, increasing numbers of doctors viewed breast milk as superior to formula when it came to feeding premature and sick infants, increasing demand in the late 1960s. The fact that the milk was primarily going to premature infants, the most vulnerable of newborns, helped sacralized the milk. In President's reports and newsletters, the bank's directors constantly emphasized that the milk was going to premature and sick infants, highlighting the powerful symbolism of prematurity. Increasing support for banked breast milk among neonatologists in the late 1960s and '70s further sacralized the milk by giving it a stamp of medical approval.

Technology

Two technological advances in the 1960s aided the sacralization of breast milk, and its transition from commodity to gift. These are advances in artificial infant formulas, and advances improvements in technologies for premature infants that led to an increase in preterm survival.

Infant Formulas

The drop in demand for banked breast milk in the 1960s coincides with advances in infant formulas that made them easier to use. In 1963, the Mead Johnson Company created the Bene-flex feeding system, providing ready-made formulas in bulk. The same year, Ross, the maker of Similac, introduced the first pre-bottled, pre-sterilized formula system for hospitals,

²⁶ Lists of infants receiving milk 1948 to 1977. In Mothers' Milk Bank, Inc. Records, 1945-1979, Box 1, Folder 28, California Historical Society (San Francisco, CA).

which began including samples to mothers when they were discharged post-partum. Gerber and other formula companies quickly followed suit, creating sterile ready-made formulas in disposable bottles.

The ease and efficiency of ready-made formulas led to a rapid increase in the use of formulas both in hospitals in among the general public (Fomon, 2001:413S). At the same time, formula makers began to diversify their products. In 1962 Ross began to market a special version of Similac for infants with special medical conditions, and in 1966 released a soy-based formula for lactose intolerant infants.

Improvements in efficiency and ease of use, and the diversification of formula products, contributed to the decline in breastfeeding rates during the mid-20th Century. Nutritional improvements in formulas also contributed to the decrease in demand for banked breast milk among physicians. Yet by making breast milk more rare, these advances made it more precious, elevating the milk's symbolic value and contributing to its sacralization.

The NICU and Technologies for Prematurity

While infant formulas were improving, and therefore improving the health and life chances of most children, advances in another realm of infant care were simultaneously creating a new source of demand for breast milk. The first NICU was established at Yale Hospital in 1965, while improvements in incubators and oxygen measurements, and the development of surfactant to treat respiratory distress syndrome, led to improved survival rates for preterm and low birth weight infants (Jorgenson, 2010:10).

Parallel improvements in artificial infant formulas and in technologies for premature infants combined to further sacralize breast milk in the late 1960s. Although improvements in

infant formulas actually decreased demand for banked milk and led to lower breastfeeding rates, it paradoxically increased the symbolic value of the milk by making it more rare and precious. Meanwhile, technologies that improved premature survival created a new source of demand for banked breast milk. The powerful symbolism of these premature recipients in turn enhanced the sacred qualities attributed to donor breast milk.

CONCLUSION

The era in which the Mothers' Milk Bank of San Francisco witnessed both the further commodification and fetishization of banked breast milk, and the gradual giftification of the milk. When the bank first opened, and until the mid-1960s, banked breast milk was strongly commodified and fetishized, as evidenced by the lack of interest in bank donors. The San Francisco Mothers' Milk Bank continued to pay "donors" but did not provide charitable and social welfare services to them as the Directory did, perhaps because donors were married and their social class status more heterogeneous. This meant the milk was more anonymized than in the earlier era. Meanwhile, advances in artificial infant formulas, and physicians' growing preference for these formulas, made breast milk less singular and special: it became one among many products for infant feeding. These factors further fetishized the milk.

However, by the mid-1960s, changes were underway that would challenge the seller model of breast milk banking and its commodification at the point of production. The bank increasingly relied on middle class donors as employment opportunities for working class mothers expanded. Scientific motherhood, which combined with medical practices and beliefs both to suppress breastfeeding rates and encourage the ongoing sale of breast milk as a commodity, gradually gave way to intensive motherhood. This new conception, first embraced

by middle class mothers, put breastfeeding at the center of its dictates for good mothering. This conception, and breast milk's relative rarity in the face of medical preferences for the new, safer artificial formulas, combined to sacralize breast milk, setting the stage for breast milk's giftification. The transition to middle class donors, who did not need the income from milk selling also created conditions necessary to create and sustain a donor model of banking. I discuss the establishment of the donor model and how these factors contributed to its creation in Chapter 4.

GIVING OF THEMSELVES: THE SAN JOSE MOTHERS' MILK BANK**1974 - PRESENT**

The San Jose Mothers' Milk Bank (also known as the Mothers' Milk Bank at Santa Clara Valley Medical Center) opened in 1974, and is currently the oldest and largest milk bank in the United States. In 2010, the bank collected and distributed over 420,000 ounces of donor milk to hospitals and outpatients in states across the Western United States and Maryland. It is also the only non-profit milk bank in the state of California, and a charter member of the Human Milk Bank Association of North America (HMBANA), a coalition of non-profit banks that sets standards for milk banking in the U.S.

Thanks to its size, history, and the vocal advocacy of its directors, the San Jose milk bank has become a model for milk banks across the United States, and is therefore an ideal case study for breast milk banking practices today. This chapter examines the organizational form of the San Jose Mothers' Milk Bank, a non-profit donor model in which breast milk is giftified at the point of production. However, the bank still sells the milk as a commodity, contributing to its ongoing commodification. As we saw in earlier historical periods, this mixed economy of gift and commodity is made possible by the confluence of four factors: women's employment, conceptions of motherhood, medical practices and beliefs, and new technologies.

This chapter traces the history of San Jose Mothers' Milk Bank, and describes how each of the four factors listed above created and ultimately sustained this giftified, yet commodified model of breast milk banking.

ESTABLISHING A DONOR MILK BANK

Almost two decades before the San Jose Mothers' Milk Bank opened, there were efforts to collect donor breast milk in San Jose. The President's Report from the San Francisco Mothers' Milk Bank from January 28, 1958 (Fell, 1958:2) reports that board members met with a group of AAUW members in San Jose who were interested in establishing a milk bank auxiliary and motor corps to transport milk from donors to San Francisco. However, the report noted that there were significant transportation problems, and the plan apparently never came to fruition, since there is no further mention in the records, and the donor rolls do not list anyone from San Jose. The Board Minutes from June 19, 1973 do mention that the bank received many calls from potential donors in Santa Clara County after a televised appeal for donors (Weber, 1973b:2).

Then in 1974, Maria Teresa (Terry) Asquith, the founder and first Executive Director of the San Jose Mothers' Milk Bank, was working as a transplant technician in the tissue bank at the Institute for Medical Research at Santa Clara Valley Medical Center. One day, a call came in from a pediatrician desperate for donor breast milk for an infant in Los Gatos, CA suffering from malabsorption syndrome²⁷. Asquith began coordinating the collection of milk from local donors, and this infant became the first client of what would become the San Jose Mother's Milk Bank.

Using seed money from the March of Dimes, Asquith and Cynthia Cummings, M.D., set up the "mothers milk unit" as part of the Northern California Transplant Bank in October 1974 (Asquith, 1974). According to Asquith, the unit was located within the transplant bank because breast milk is an unstructured tissue.^{28,29} In 1980, when the Northern California Transplant Bank relocated and the mothers' milk unit joined the Institute for Medical Research, it was renamed

²⁷ Malabsorption is the inadequate absorption of nutrients from the intestines.

²⁸ There is ongoing debate about the definition of human milk, and its status as a tissue, but today human milk is considered a tissue by the state of California.

²⁹ Author interview with Marie Teresa Asquith, December 15, 2010, San Jose, CA.

the Mothers' Milk Bank. To avoid confusion, I will refer to the organization as a "bank" for the remainder of this chapter.

Similar to the San Francisco milk bank, the San Jose bank was established as a non-profit.³⁰ Recipients were charged a per-ounce "processing fee" of 35-cent-per-ounce when the bank opened in 1974, the same price as the San Francisco Mothers' Milk Bank (Asquith, 1974)³¹. The fee was intended to cover the cost of operating the milk bank, and would ideally provide funding for future needs (Asquith, 1982:).³² But unlike the San Francisco bank, the San Jose bank never offered monetary compensation to donors. According to Asquith, if a potential donor asked about payment, they were "never considered as a donor."³³³⁴ According to her manuscript on organizing a milk bank, the bank did not pay donors because payment "lends itself to possible adulteration of donated milk." Instead, donors were "compensated in praise and other actions, such as involvement with other donors" (Asquith, 1982). Although she did not make the

³⁰ Ibid.

³¹ The bank did apparently provide milk for free in some circumstances: the first official report, from December 1974, notes that some milk was provided free of charge to a sextuplet.

³² According to the Board meeting minutes from September 26, 1995, it is "not legal" to charge more than the cost of the processing fee for a transplantable tissue. And California Health and Safety Code Section 1647 states:

The procurement, processing, distribution, or use of human milk for the purpose of human consumption shall be construed to be, and is declared to be for all purposes, the rendition of a service by each and every nonprofit organization and its employees participating therein, and shall not be construed to be, and is declared not to be, a sale of the human milk for any purpose or purposes.

However, there is one for-profit milk bank, Prolacta Biosciences, operating in the state. This statute apparently only applies to non-profit milk banks, and does not outlaw for-profit breast milk banking.

³³ Uncompensated milk donation became the standard practice among milk banks in this era, although a survey of milk banks both nationally and internationally that Asquith undertook in 1982 indicated that 2 of the 27 milk banks operating in the U.S. at that time continued to pay "donors" (Milk Banking International News, 1(4), October 1982).

³⁴ Author interview with Marie Teresa Asquith, December 15, 2010, San Jose, CA.

connection explicit, Asquith likely agreed with Titmuss' (1970) belief that donor systems were safer than commodified systems of human tissue exchange.

But although Asquith described the decision not to compensate donors in terms of health and safety, my research suggests that larger forces were at work. In particular, my research suggests that the class-based cultural conception of intensive motherhood influences Asquith's decision, and continues to sustain the donor model of breast milk banking and the giftification of the milk at the point of production. In addition, trends in women's employment, medical practices and beliefs, and advances in technology helped create this model and contributes to its ongoing feasibility.

In the sections below, I split the history of the San Jose Mothers' Milk Bank into two periods: 1974 to 1995, and 1995 to the present. In the late 1980s breast milk banks across the country confronted fears that HIV/AIDS could be transmitted via donor breast milk, and many banks shut down. The San Jose bank was one of the few to survive, but both supply and demand fell to their lowest levels in the history of the bank in the early 1990s. After that period both supply and demand fluctuated, but by 1997 the bank saw an enormous resurgence in donations and requests for donor milk. The four factors that helped create the donor model helped the bank recover from the HIV/AIDS crisis, and sustain that model today.

1974-1995: AT-HOME DONORS, ALTRUISM, AND THE AIDS CRISIS

Although the San Jose bank has continued to use a donor model of banking throughout its history, the bank has changed over time. And although employment, intensive motherhood, medical practices and beliefs, and technologies contributed to both the establishment and

ongoing sustainability of the donor model of breast milk banking, changes at the bank reflect these larger changes. This next section examines the role these factors played in the San Jose banks' operations and survival over the first 20 years of its existence.

At-Home Mothers and Donor Involvement

One reason the San Jose bank was able to get off the ground and continue to rely on breast milk donations was the extent of donor involvement with the bank. During the first 15 years of its existence, the San Jose bank relied heavily on donor involvement to sustain the bank. This was partially by design. Asquith viewed the milk bank's purpose as threefold: to distribute breast milk to needy infants, to conduct research, and *to benefit donors*.³⁵ In the 1970s and '80s the bank had an "open-door policy" for local donors, who often brought their milk to the bank themselves, along with their children, and then stayed to socialize with staff and other donors.³⁶ Asquith's 1982 manuscript on organizing a milk bank recommended having a "light, cheerful" waiting area with seating, "a screened in area for privacy", and a playpen. The minutes for an Auxiliary meeting from 1988 notes that "we need a way to restrain babies and toddlers from roaming all over the trailer," indicating that many donors brought their children to the bank (Schwartz, 1988). The communal feeling was apparently strong enough that out of town donors complained that they felt "excluded" (Schwartz, 1988). The current director of the bank became a donor in 1985 and became actively involved because of this "open door" policy.

Local donors' volunteerism eventually led to a more formal relationship. On May 1, 1980, a group of milk donors and volunteers created the Volunteer Auxiliary of the Mothers Milk Bank to raise funds for the bank (Asquith, 1980:2). Most Auxiliary members were past or

³⁵ Author interview with Marie Teresa Asquith, December 15, 2010, San Jose, CA.

³⁶ Ibid.

current milk donors who paid a small annual fee for membership. Throughout the 1980s, the Auxiliary was actively involved in the bank's operations. The Auxiliary's main purpose was fundraising for the bank, but it also organized volunteers and provided general assistance to Asquith and the bank staff. For instance, Auxiliary members made calls to donors to thank them for donations, created and mailed newsletters to donors, and conducted public relations campaigns on the bank's behalf. The Auxiliary also solicited opinions from other donors in order to improve donor relations (Schwartz, 1988). Beginning in 1985, the Auxiliary held annual "stroller-thons" to raise money for the bank, a fundraising activity that continued even after the Auxiliary was discontinued.

The San Jose bank's close relationship with donors in the 1970s and '80s stands in marked contrast to both the Boston and San Francisco banks. The Boston Directory did have a close relationship with its "mothers", but it was maternalistic relationship in which altruism ran from the bank to the sellers. San Francisco, meanwhile, had a distant relationship with donors, at least until the late 1960s, when some donors joined the bank's board.

Although the San Jose bank's close relationship with donors is largely attributable to Asquith's own vision for the bank, she was able to take advantage of the fact that milk donors during this period were primarily unemployed. According to Asquith, in the 1970s and '80s, most donors were stay-at-home mothers, which meant they had the time to visit the milk bank and drop off milk, volunteer, and socialize.³⁷ Despite a significant increase in the number of married women³⁸ with infants working in the paid labor force by 1975 (from 10% in 1960 to 30.8%), the majority of mothers still stayed home after the birth of an infant (Hoffman, 1998;

³⁷ Author interview with Marie Teresa Asquith, December 15, 2010, San Jose, CA.

³⁸ The rate of labor force participation for unmarried mothers is slightly higher in some years, but only varies by a few tenths of a percentage. The majority of donors to the San Jose Mothers' Milk Bank are married.

Sweet, 1972:4). The San Jose bank was therefore able to rely on middle class, stay-at-home mothers who were breastfeeding their children and had an excess supply of milk³⁹. The fact that most donors were at-home mothers made their active involvement possible, and helped sustain bank operations during a period when it often operated in the red and faced considerable skepticism, even from members of its own medical board.

Giving of the Self: Intensive Motherhood and the Donor Model

Intensive motherhood was also an important factor underlying the donor model and motivating donation. Asquith's expectations of donors highlight the importance of this conception. According to her, prospective donors should not only be healthy and lactating, but also "intelligent, and willing to dedicate a specific time of her day to the well-being of others" (Asquith, 1981a.). The requirement that donors not just be healthy but "intelligent" and willing to dedicate time to the well-being of others points to a particular conception of who donors should be, one that relates to the class-based conception of intensive motherhood, in which middle class mothers are selfless and altruistic. Asquith requirement that donors be "willing to dedicate a specific time of her day to the well-being of others" also points to Asquith's expectation that donors are pumping their milk primarily or in part in order to donate, rather than donating an incidental excess. This expectation probably relates to the fact that donors of this period were at-home mothers who were not pumping because they were separated from their

³⁹ For instance, the current Executive Director, Pauline Sakamoto, began donating and volunteering at the bank in the early 1980s while nursing her daughter and discovering she had enough milk to feed several infants. Sakamoto had left her job as a public health nurse when she moved to San Jose and had her daughter, and began walking to the bank to deliver her milk. Her active involvement eventually led to a career in milk banking (Author interview with Pauline Sakamoto, October 15, 2011, San Jose, CA).

infants for long periods of time. But it also reinforces the perception that milk donors are altruistic and willing to work selflessly for the well-being of other people's children.

Notably, the symbol of the milk bank that appeared on stationary and newsletters throughout the 1980s and early 1990s, was an illustration of Mary nursing Jesus. This symbol connected the bank's work to the conceptions of both sacred and intensive motherhood, and the assumption that mothering is innate, selfless, and based on unconditional love (Hays, 1996; Blum, 1999).

The Auxiliary's letters to donors indicate that members shared Asquith's conceptions. Notes to donors thanked them "for *giving of yourself* by donating milk to help those in need," (italics mine). Newsletters also noted the "dedication of the donors that so willingly give of themselves", and thanked donors for the "selfless contributions", Asquith, 1983; Mothers' Milk Bank Auxiliary, 1991:1). The "giving of yourself" language suggests that both Asquith and the Auxiliary members considered breast milk donation a form of embodied sacrifice and altruism, ideals central to intensive motherhood.

Another thank you note anticipated that donors would be "excited about helping other infants to receive the most precious gift of all –LIFE!", language that symbolically linked breast milk donation to birth.⁴⁰ Breast milk donation, in these letters and newsletters, was an extension of good mothering, another form of altruism associated with intensive motherhood.

The institutional documents described above demonstrate that intensive motherhood, and the association between mothering and altruism, was a central component of breast milk's giftification at the San Jose Mothers' Milk Bank from the beginning. Although Asquith emphasized health risks as a motivation for the donor model, this evidence points to underlying

⁴⁰ Letter to Donors from the Mothers' Milk Bank Auxiliary, 1990. Institutional Records, Mothers' Milk Bank of California (San Jose, CA).

conceptions of donors as an equally, if not more important component in this decision. Donors, unlike sellers who might dilute their milk, are intelligent and altruistic. Giving their milk was “giving of themselves,” and therefore intimately tied to their identities as good mothers. Intensive motherhood was key to the creation and the continuation of the giftified donor model in San Jose.

Cautious Acceptance: Medical Practices and Beliefs

At the time the San Jose Mothers’ Milk Bank opened in 1974, the U.S. was experiencing a cultural shift in infant feeding that emanated not just from mothers, but from the medical community, as well. This shift made the establishment of the San Jose bank possible. However, medical authorities’ acceptance and use of donor milk has never been universal, and fears of transmission of HIV/AIDS through breast milk seriously threatened the San Jose bank in the late 1980s. This section describes medical authorities’ fitful acceptance of donor milk and the ways in which it propelled and then depressed demand for donor milk in the first 15 years of the banks’ operation.

During the 1970s, a neonatologist at Stanford University Medical Center, Dr. Philip Sunshine, began using donor breast milk to treat infants suffering from protracted diarrhea (Sunshine et al., 1980:179). Like many physicians of the time, Sunshine was skeptical about using donor milk. He only agreed to use it “in desperation” at the urging of the parents of one of his infant patients when the baby did not respond to various formula mixtures (Sunshine et al., 1980:179). He “solicited” milk from a donor in the area, which was frozen but not sterilized, and was surprised to find the infant not only tolerated the milk, but began to demonstrate “rapid clinical improvement” (Sunshine et al., 1980:179). Sunshine was subsequently convinced of the

benefits of human milk for infant suffering from gastrointestinal disorders, and he ordered milk from the San Francisco Mothers' Milk Bank or paid them to process milk collected at Stanford University Hospital (Schwellinger, 1971:1; Weber, 1972b:2). Sunshine went on to become a co-medical director of the San Jose Mothers' Milk Bank in 1980.

Although Sunshine became an influential neonatologist and vocal supporter of donor milk, and there was an increase in demand for donor milk in the San Francisco area in the late 1960s, there was still little consensus on the benefits of breastfeeding or breast milk among physicians in 1970s (Wright and Schanler, 2001). At the time the San Jose Mothers Milk Bank was established, breast milk “was a joke”, according to Asquith.⁴¹ The doctors on the Board of Directors thought the bank would never survive because there was “no concrete evidence” of the superiority of breast milk; the evidence was “too anecdotal.”⁴² Although donor milk had been prescribed for premature infants for decades, by 1974 there was very little research on premature feeding methods, and none that examined donor milk.

Despite the doubts of the board, demand for milk held steady or increased (see Table 6 at end of chapter). This is probably due to the growing preference for breastfeeding among physicians in this era. Schanler and Wright (2001) argue the natural childbirth movement and pressures from pregnant patients contributed to this change in physicians' attitudes. The “new” birthing practices advocated by the movement, including psychological control over pain and early contact between infant and mother, increased the likelihood of successful breastfeeding initiation. This “bottom-up” pressure on medical practices increased physicians' acceptance of and interest in breastfeeding and breast milk during the 1970s, as evidence by the rapid increase

⁴¹ Author interview with Marie Teresa Asquith, December 15, 2010, San Jose, CA.

⁴² Ibid.

in articles on these topics in the core clinical journals between 1970 and 1979 (Schanler and Wright, 2001:423S).

In addition, there was increasing interest in using donor human milk to feed premature infants, despite the lack of evidence. In 1975 the Office for Maternal and Child Health, Bureau of Community Health Services, the Health Service Administration, and the Department of Health, Education and Welfare held a meeting on the topic that brought together physicians and public health officials, and participants concluded that it was safe to feed pasteurized donor milk to premature infants, although there were reservations about raw donor milk (*Pediatrics*, 1976). Increases in premature infant survival in this period, and the growing consensus that breast milk was the ideal food for these infants, propelled demand for donor milk.

By the early 1980s the San Jose Mothers' Milk Bank enjoyed growing acceptance in the medical community, and "was showing incredible growth".⁴³ In 1978, the American Academy of Pediatrics released a policy statement declaring breastfeeding superior to formula, and in 1980, the AAP endorsed human milk banking, further increasing demand for banked milk (American Academy of Pediatrics Committee on Nutrition, 1978; 1980). More hospitals began to order milk for "shelf" storage, rather than on an as-needed basis (Asquith, 1980b:2). In 1975, the first full year of operation, the bank distributed 15,976 ounces of milk; in 1984 it distributed 47,158 ounces, and increase of nearly 300%. This increase indicates that there was growing acceptance of donor breast milk among medical authorities at the time, and increasing demand sustained the donor model of breast milk banking.

1985-1995: Fears of HIV/AIDS in Donor Milk

⁴³ Ibid.

In 1985, Zeigler et al. published a paper in the British journal *Lancet* linking HIV transmission to breastfeeding. Several more reports followed documenting HIV transmission from mother to child via breast milk (e.g., Thiry, 1985; Weinbreck et al., 1988; Colebunders, 1988; Van de Perre, et al., 1992). These and other reports led to widespread fears about HIV transmission via breast milk, and donor milk came under particular suspicion.

Fears about HIV in donor breast milk significantly affected breast milk banking in the U.S. after Zeigler et al.'s (1985) article was published, and many milk banks closed their doors during this era due to the drop in demand. The San Jose milk bank was also affected: after regularly distributing between 41,000 and 53,000 ounces of donor milk from 1980 to 1985⁴⁴, the San Jose bank witnessed a drop in both supply and demand in 1986, which the bank attributed to fears about HIV transmission via breast milk (Asquith, 1986). Although the bank collected and distributed approximately 7,000 more ounces the following year, from 1988 to 1990 the bank experienced another decline in both supply and demand. This instability contributed to the bank's financial problems during this era. The financial situation was critical enough that year that the bank had to lay off its technician and temporarily stop accepting milk, since it already had 25,000 ounces on hand (Csaba-Gallant, 1990:1; Sakamoto, 1990a).

According to Asquith, the San Jose bank became concerned about HIV in early 1980s when David A. Stevens, M.D., a member of the bank's board of directors, temporarily closed down the bank due to concerns about transmission of HIV/AIDS through breast milk, even though no research had been done on the phenomenon, and there was no public concern over it at that time (Zeigler et al., 1985). When the bank reopened one week later, it began pasteurizing all

⁴⁴ Demand for milk from San Jose was apparently unaffected by the publication of an article in the *New England Journal of Medicine* in 1983 that criticized the use of donor milk in the NICU, although other milk banks did see a drop in demand (Asquith, 1983; Gross, 1983).

breast milk (although Asquith's 1982 manuscript suggests that the bank continued to distribute raw individual and pooled milk by request) (Asquith, 1982).⁴⁵

The bank also worked hard to assuage physicians' and patients' fears about HIV transmission via donor milk. A letter from Asquith accompanying the annual report from 1990 read: "While the issue of HIV in human milk continues to plague banks, we in San Jose continue to distribute banked milk, on a lesser scale than previously, and as a result of work done in conjunction with the CDC... we have been able to demonstrate to recipient hospitals that banked human milk is safe." In addition, the bank tried to find funds for research on breast milk's benefits for infants infected with HIV/AIDS (Csaba-Gallant, 1990:2; Sakamoto, 1990b).

Eventually fears about HIV transmission via donor milk subsided as the banks affiliated with the Human Milk Bank of North American (HMBANA) instituted routine HIV screening for donors in 1990, and no cases of infection among donor milk recipients ever emerged. In 1992, the World Health Organization recommended that "in all populations, irrespective of HIV infection rates, breast-feeding should continue to be protected, promoted, and supported", and that donor milk be pasteurized and donors tested for HIV (World Health Organization, 1992).

Medical practices and beliefs were therefore critical to the sustainability of the donor model from 1974 to 1985 because it helped propel demand for donor milk. However, emerging concerns among medical authorities also almost destroyed the breast milk bank industry in the U.S. The San Jose Mothers' Milk Bank and the handful of banks that did survive the HIV/AIDS crisis only did so because they continued to enjoy support from physicians and medical authorities in their regions, and because HMBANA banks like San Jose implemented screening

⁴⁵ Author interview with Marie Teresa Asquith, December 15, 2010, San Jose, CA.

and safety procedures that eventually assuaged concerns among medical and public health authorities.

Technology

Between 1975 and 1990, the San Jose Mothers' Milk Bank relied on technologies developed in earlier decades and employed by the San Francisco Mothers' Milk Bank. For instance, donors still expressed their milk into glass bottles. The San Jose bank also tested the milk for bacterial counts, pasteurized the milk, and froze the milk using techniques developed at earlier banks. The San Jose bank also collected milk using volunteer drivers, a practice the San Francisco bank used that saved money but limited donation to mothers living within the San Jose region.

One difference from earlier banks was donors' use, or rather non-use, of breast pumps. In the late 1950s the Egnell SMB electric breast pump became widely available at hospitals, and donors could potentially rent these pumps to use at home. However, these were cumbersome and expensive, so most women in the 1970s used the small, manual "bicycle horn pump", originally invented in the 1830s (Woodward and Draper, 2001:391). After discovering high bacterial counts in milk from donors using these manual pumps, however, the bank required that donors express by hand, limiting the amount of excess milk donors could express (Asquith, 1982).

Other technologies supported the giftified model, however. Improvements in artificial infant formulas, and advances in technologies for premature infants combined to sacralize breast milk in the late 1960s, as breastfeeding rates declined and breast milk became increasingly rare and precious. Improvements in infant formulas that decreased demand for banked milk and led to lower breastfeeding rates paradoxically increased the symbolic value of the milk. By the 1970s

this rarity, combined with breastfeeding's emerging centrality to intensive motherhood, promoted breastfeeding among middle class women. This meant the San Jose bank could rely on middle-class milk donors, rather than working-class sellers.

In addition, the establishment of Neonatal Intensive Care Units (NICU), and the development of new technologies that improved premature survival created a new source of demand for banked breast milk (Jorgensen, 2010). Premature infants, whose gastrointestinal systems are underdeveloped, are often unable to digest artificial formulas, and always made up a significant portion of breast milk bank's clients. Higher survival rates for preemies created more potential clients. Meanwhile, the diminutiveness and vulnerability of premature recipients (or "wee ones" as Asquith called them in various newsletters) became a powerful symbol of the bank's work that helped the bank recruit donors and raise funds.

To summarize, San Jose Mothers' Milk Bank was able to rely on a donor model of milk banking that combined both gift and commodity exchange from the beginning. The giftification of banked breast milk at the point of production was made possible by a changes employment, conceptions of motherhood, medical practices and beliefs, and technologies that began in early 1960s, culminating in breast milk's sacralization by the time the San Jose bank opened its doors in 1974. This sacralization made it impossible for Asquith to consider paying women for their milk, and motivated middle class donors not only to donate, but to help run the milk bank during the first 20 years of its existence. The fact that donors were at-home mothers meant they had time both to express milk by hand and volunteer at the bank. Meanwhile, demand for banked milk slowly grew as medical practices and beliefs shifted in favor of breastfeeding and breast milk, and as premature survival improved, increasing the number of potential clients for the bank.

The HIV/AIDS crisis almost destroyed milk banking in the United States in the late 1980s and early 1990s, but the San Jose bank survived because it was able to organize with other banks, reassure medical authorities, and take advantage of technologies developed to prevent disease transmission. The donor model of breast milk banking survived with San Jose and the other banks associated with HMBANA. By the time San Jose emerged from this crisis, however, changes in employment, medical practices and beliefs, and technologies were underway that not only sustained the giftified (yet commodified) model, but also increased both supply and demand to levels far surpassing anything the bank had experienced before. I discuss these changes below.

1995 TO PRESENT: SUSTAINING THE GIFTIFIED MODEL

Since 1995, the San Jose Mothers' Milk Bank has seen explosive growth in both supply of and demand for banked breast milk (see Table 6). In 1995, the bank collected 31,426 ounces from 121 donors, and distributed 30,521 ounces to patients. In 2000, the bank collected 101,216 ounces from 181 donors, over three times as much milk from only 60 more donors, and distributed 91,646 ounces to 14 hospitals and 65 private patients. In 2010, the bank collected 435,833 ounces from 644 donors, and distributed 420,046 ounces to 50 hospitals and 161 private patients.

This explosive growth in both supply and demand is the result of transformations in women's employment, breastfeeding's increasing importance in the conception of intensive motherhood, growing medical acceptance of banked breast milk, and advances in various technologies. In the sections below I discuss how these changes contributed to the increase in supply and demand, and the ongoing sustainability of the donor model of breast milk banking.

From At-Home to Employed Mothers

Beginning in the early 1990s, donors' active involvement in the San Jose bank's operations began to wane. Part of this was due to changes in bank operations that effectively ended the Auxiliary. In 1992, the San Jose Mothers' Milk Bank separated from the Institute for Medical Research and became an independent non-profit organization (Asquith, 1991). The bank's Auxiliary amended its articles of incorporation and took over the milk bank, its board of directors becoming the first board of directors of the bank, and the Auxiliary disappeared. The Board minutes from September 26, 1995 notes that donor involvement in the bank's work had decreased significantly, although many local donors did continue to bring their milk into the clinic during this time.

Another likely explanation for the decrease in donor involvement is increasing employment rates among donors. Between 1975 and 1997 the percentage of married mothers with infants who were working in the paid labor force increased from 30.8% to 59.2% (<http://www.bls.gov/opub/ted/2009/jan/wk1/art04.htm>). Although there was a slight decline in the late 1990s, the numbers stabilized over the next decade, and 2010, the rate was 56.5% (Cohany and Sok, 1997; <http://www.bls.gov/news.release/famee.nr0.htm>). The same board minutes from September 26, 1995, that reported the decline in donor involvement also reported that 90% of the bank's donors at that time were working mothers, echoing the larger shift in mothers' employment trends.

Despite the decline in donor involvement, however, milk donations increased rapidly, more than doubling between 1995 and 1998 and more than doubling again between 1998 and 2001 (see Table 6). Notably, the percentage of donors who were employed in 1995 was much larger than the percentage of working mothers in the general population, suggesting that

mothers' employment was now a factor in this increase in donor milk. Because employed mothers are separated from their infants, they must pump to provide breast milk during the hours they are separated, and to keep up their milk supply. Some women in this situation become "super-producers," pumping enormous amounts of milk, and creating an excess supply that is available for donation. In addition, middle class mothers often work in professions that afford them relative flexibility during the work day, and for employers who are accommodating to their needs. Whereas the bank was able to rely on middle class at-home mothers for the first 20 years, today the donor model's sustainability is in large part attributable to the high rates of employment among middle class mothers with infants.

My interviews with donors also demonstrate how donor's employment status contributes to the supply of breast milk. Ten of the 19 donors I interviewed were employed full-time, and four were employed part-time, usually working from home. Full-time employed donors were probably underrepresented in my sample because they are busier and have less time to commit to an interview. However, my interviews with employed donors do indicate that employment plays an important role in their decision to pump milk, and augments to their ability to donate by contributing to their excess supply of breast milk.

Each of the 10 donors who were employed full-time began pumping milk at least in part because of their employment status⁴⁶. Mothers who know they will be returning to full-time employment outside the home often began pumping soon after giving birth to build milk production and stockpile for when they return to work. Once these donors returned to work, they pumped multiple times a day to keep up their supply and relieve engorgement. In each of these

⁴⁶ In some cases, donors initially began pumping because they had trouble nursing their children, either because the child was born prematurely or had trouble latching. However, these mothers had also planned to pump their milk after returning to work

cases donors quickly discovered that they produced much more milk than their own child would ever be able to drink before the milk's recommended expiration date, usually six months after freezing.

These donors' employment status therefore directly contributed to their excess supply of milk. As Melinda, a two-time donor who worked full-time told me:

“I think I've been better able to donate because I work and because I pump all the way down once or twice during the day, whereas at home I'm always thinking oh make sure I still have some, you never know when the baby wants to nurse. The fact that I was always in an office saying okay once or twice I pump out[completely] made it more conducive to [donate].”

In the quote above, Melinda made explicit the role employment played in her ability to donate milk: because she was separated from her children throughout the day, she was not only pumping, she was pumping “all the way down”, created an excess supply of milk.

These employed donors also worked in professional occupations where they enjoyed some degree of autonomy, and for employers who were willing to accommodate their requests for a private place to pump milk. For instance, Melinda worked at two different companies during the time she was pumping. At each company, the Human Resources Department set aside a private space for her pump milk, since she did not have an enclosed office. Other donors employed full-time enjoyed similar circumstances: they either had an office or had access to a relatively private space where they could pump several times a day. In addition, each donor had flexibility in her work schedule that allowed her to take time to pump and clean equipment several times a day.

Increases in women's employment between 1970 and the present have been critical to the San Jose bank's long-term success. But the role employment has played in sustaining the donor model has changed over time. In the first 20 years of the bank's existence, the bank relied on middle-class mothers' ability to withdraw from the labor force as a source of donation, but by the 1990s, it was mother's increasing labor force attachment that propelled an explosive growth in milk supply. However, employed mothers would not be motivated to pump their milk at work if breastfeeding was not a central component of the conception of intensive motherhood, a confluence of factors that I discuss below.

Conceptions of Motherhood

Although the vast majority of donors to the San Jose bank were employed by the mid 1990s, these donors were no less committed to the conception of intensive motherhood than the at-home mothers of the 1970s and '80s. As Hays (1996) noted, mothers' employment did nothing to disrupt the child-centered imperatives of intensive motherhood; instead, working mothers are expected to become "supermoms", effortlessly juggling careers while meeting the emotionally and physically absorbing demands of motherhood. Mothers who are separated from their infants during the day resolve their inability to nurse by pumping their breast milk at work, maintaining their dedication to intensive mothering. This in turn creates an excess supply of milk available for donation.⁴⁷ I discuss the role of intensive motherhood in donor and parents' of recipients motivations in Chapter 5 and 6, In this section, I examine the role this conception and

⁴⁷ I explore the role of intensive motherhood in donors' decision to breastfeed, pump breast milk, and donate their excess milk in Chapter 5.

breast milk's sacralization plays in the bank's recruitment activities, operating procedures, and organization.

The bank continues to emphasize qualities associated cultural conception of intensive motherhood to recruit and motivate donors, particularly the expectation that mothers are altruistic, and inherently giving. For instance, in a 1994 newsletter the President of the bank's Board of Directors (Mothers' Milk Bank, 1994) wrote that she became a donor because breastfeeding her newborn son endowed her with "a *special gift* which qualified me as donor" (italics mine). The bank's newsletters also highlight the idea that donating breast milk is a form of embodied giving, similar to birth and breastfeeding, with repeated references to donors who "give of themselves" by donating milk (e.g. Mothers' Milk Bank, 1998). The bank's motto, printed on newsletters in the 1990s was "Loving hands helping little feet to a better life", emphasizing that donors were motivated by maternal nurturance (Mothers' Milk Bank Auxiliary, 1991:1). During the 1990s, the bank's newsletters also began to list the names of new donors and their own infants under the heading "Without these donors, the Mothers' Milk Bank would not be able to operate", suggesting that donors' infants are also donors, "sharing" the milk that is intended exclusively for them, and allowing their mothers to share their "precious resource" with other women's children (e.g. Mothers' Milk Bank, 1998; see also Blum, 1999).

The bank's recent development of outreach programs for bereaved donors further highlights the role of intensive motherhood in the bank's activities, and the ways in which the bank and donors themselves perceive breast milk donation as symbolic extension of mothering. The bank has a small (between 4 and 6%) number of bereaved mothers donating milk to the

bank.⁴⁸ These donors have lost their own infants, either through stillbirth, shortly after birth, or during the first year post-partum. Unlike donors with living children, who must donate a minimum of 100 ounces, the San Jose bank will accept any amount of milk from bereaved donors, because the bank views bereaved donation as a way of helping donors cope with their loss. The bank's visiting nurse reported that the loss of a newborn may make a donor feel like her body has failed, and donating milk can serve as evidence that her body *is* capable of mothering, through lactation.⁴⁹ The act of breast milk donation allows bereaved donors to continue to participate in intensive motherhood even after they've lost their child, by feeding and symbolically mothering other women's children, something the bank works to acknowledge.

Breast milk's sacralization, rooted in intensive motherhood also continues to shape bank procedures and sustain the donor model. Before donating, donors must sign a consent form that states in the first paragraph:

"1. I have voluntarily chosen to donate my breast milk to the Mothers' Milk Bank. I understand that I will not be paid for the milk I donate. I am also aware that my milk will not be sold, but a processing fee will be charged to the recipient of the milk."

The bank also reaffirms its commitment to neither pay donors nor profit from their donation in its newsletters. A letter from the Executive Director bank newsletter from 2003 notes that there was "increased interest in the for profit business world to 'manufacture' human milk. We will continue to support our non profit status" (Mothers' Milk Bank, 2003:1). Both the claim that the bank does not sell the breast milk in its consent forms, and the use of the term "manufacture" in its newsletters highlights bank managers' belief that selling breast milk is anathema to the

⁴⁸ Author interviews with Jessica Welborn and Pauline Sakamoto, October 15, 2010, San Jose, CA.

⁴⁹ Author interview [informal], with Leslie Keenan, R.N., December, 16, 2010, San Jose, CA.

generosity and symbolic mothering of breast milk donation. Although the milk is commodified at the distribution end of the commodity chain, the fact that the milk is gifted and is sacralized shapes its price and makes it a non-profit commodity.

The examples above illustrate the ways in which intensive motherhood continues to giftify breast milk, by motivating mothers to donate their milk, by shaping donor recruitment strategies, and by sustaining the bank's commitment to the donor model. The conception of intensive motherhood also motivates demand. Although the San Jose milk bank prioritizes premature and sick infants (details below), the bank does supply donor breast milk to healthy infants as long as they have a prescription. The fact that there is demand for breast milk for healthy infants, and that the bank is willing to provide it when supply is available, suggests that intensive motherhood's exhortation that parents "optimize every dimension of children's lives," reduce potential health risks, and "predict and prevent all less-than-optimal social, emotional, cognitive, and physical outcomes" influences the bank's distribution of milk, as well (Wolf, 2007:615).

Evidence for this influence is found in prescribing practices: large majority of infants who receive milk from San Jose and the other HMBANA-affiliated milk banks are apparently healthy (see Table 2 at end of chapter). From 2002 to 2004, between 43% and 46% of the infants receiving milk from the San Jose milk bank were healthy, prescribed milk because their mother's milk supply was insufficient or absent. The overall percentages for other HMBANA-affiliated milk banks were similar: from 2002 to 2004, between 38 and 43.6% of recipients were healthy infants. I further explore the link between demand and intensive motherhood in Chapters 5 and 6, but note here that intensive motherhood does motivate parents of recipients to purchase donor milk as a commodity, therefore promoting both the giftification and the commodification of the milk.

The fact the breast milk is sacralized and that donors give the milk as a gift also partially defetishizes the milk. Although parents of recipients never meet donors, they imagine these donors as they use the milk, identify with donors' experiences, and express feelings of gratitude for them. Letters mothers of recipients send to the bank display their perceptions of the milk as a sacralized gift, and represent an attempt to communicate with donors. "I am in awe of each and every one of you; you pump for the sake of children you have never met. Your precious gift is the prefect nutrition," wrote the mother of one recipient (Mothers' Milk Bank, 2003). Another letter from a mother, whose son was born prematurely, (undated), reads: "Your contributions are priceless and you give life to so many babies. You are a select group of people who can contribute such a wonderful and priceless gift. I hope to someday give back the time, effort, and compassion that has been given to us". Although these parents of recipients purchase the milk as a commodity, the social relations that created the milk—the relationship between a mother and her infant—are not obscured. These parents imagine donors' motivations (pumping for the sake of children they've never met) and assume they feel compassion for their children. In this way they strive to make moral connections to the producers of the milk, partially defetishizing the milk in the process (Bryant and Goodman, 2004:359; Lyon, 2006; Willis, 2000).

Intensive motherhood continues to sustain the donor model of breast milk banking, and structures the bank's recruitment strategies as well as its procedures. The bank continues to use imagery and rhetoric shaped the assumption that mothers are inherently altruistic and giving. Bank managers and employees also view the milk as sacralized, reinforcing their commitment to the donor model, and preventing the bank from making a profit from the milk they sell as a commodity. Meanwhile, parents of recipients assume that donors are altruistic and pump for the

sake of donation, assumptions rooted in intensive motherhood. Intensive motherhood, therefore continues to help giftify banked breast milk today.

Medical Practices and Beliefs

By 1995, fears about HIV/AIDS transmission via donor milk had subsided, and both supply of and demand for donor milk accelerated quickly, as noted above. Today, medical practices and beliefs propel both supply and demand and helped sustain the donor model of breast milk banking by actively promoting breast milk as the healthiest source of nutrition for infants.

On the supply side, donor breast milk has increased as breastfeeding rates have increased. After a slight decline in the 1980s, breastfeeding rates have climbed steadily in the past 20 years (Schanler and Wright, 2001). In 1995, 60% of mothers initiated breastfeeding in the hospital; by 2008, 75% of new mothers were breastfeeding (Schanler and Wright, 2001; http://www.cdc.gov/breastfeeding/data/nis_data/). Medical authorities' strengthening preference for breastfeeding helped propel these increases. In 1997 the American Academy of Pediatrics released a policy statement reaffirmed its support for breastfeeding, and outlined the potential benefits of breastfeeding (American Academy of Pediatrics, 1997). Meanwhile, changes in labor and delivery wards made it easier for mothers to initiate breastfeeding. In 1992 the U.S. began its version of the UNICEF/WHO Baby-Friendly Hospital Initiative, which encourages hospitals to adopt practices that support breastfeeding and certifies hospitals that meet the initiative's rigorous standards. Although only 119 hospitals in the U.S. are currently certified, hospitals throughout the country have adopted practices that support breastfeeding, including rooming-in and having lactation consultants on staff.

Notably, although the AAP's 1997 policy statement said nothing about donor breast milk, it did state that human milk was "the preferred feeding for all infants, including premature and sick infants," which likely created new interest in donor milk. In 1995 the bank distributed 30,521 ounces; in 2010, it distributed 420,046 ounces to 50 hospitals and 161 private patients. The bank periodically experiences shortages of milk, and the executive director, Pauline Sakamoto reports that it needs to attract 60 new donors per month simply to keep up with demand.⁵⁰ And the growing consensus among pediatricians and public health advocates that breast milk benefits *all* infants expanded the potential pool of recipients from premature and sick infants to healthy newborns.

As noted above, the San Jose Mothers' Milk bank will dispense donor milk to anyone who has a doctor's prescription, and does not deny milk to anyone as long as it has an adequate supply. However, the bank does prioritize recipients in case of a shortfall. The order of prioritization is as follows:

1. Premature infants
2. Pediatric infants in the hospital
3. Pediatric Patients outpatient
 - a. Failure to thrive
 - b. Intolerance/malabsorption
 - c. Pediatric diagnoses regarding immunity
 - d. GI problems or surgeries
 - e. Certain chronic diseases, i.e. seizures, IGA deficiency
4. Mothers' low milk supply or contraindications to breastfeeding

⁵⁰ Author interview with Pauline Sakamoto, October 15, 2010, San Jose, CA.

5. Multiple births
6. Adoptees and guardianships
7. Adults: Cancer, Immune Deficiency

(Sakamoto, 2004).

The potential recipients listed from 4 to 6 may be healthy, full-term infants. Medical authorities' belief that breast milk is the healthiest choice for all infants has increased the use of donor breast milk both among private patients feeding infants at home, and in hospitals. At the beginning of 2011, The Joint Commission, an organization that accredits hospitals, announced new guidelines mandating that donor milk be available to all newborn infants in accredited hospitals, not just infants in the NICU. Such is the strength of medical beliefs about the benefits of breast milk that donor milk is now available to all infants.

Another source of demand also emerged in the late 1990s. In June 1999 *Discover* Magazine published an article about breast milk's ability to destroy cancer cells (Mothers' Milk Bank, 2000). As a result, adult cancer patients and their doctors began contacting the bank about using donor breast milk as a form of alternative cancer therapy. Since 2000, the San Jose bank has regularly sent milk to adult cancer patients (as well as adults suffering from gastrointestinal diseases) at a pace of a dozen or so a year.

Since 1995, medical practices and beliefs have contributed both to the steady increase in breastfeeding rates, and increases in demand for breast milk. Today, physicians are willing to prescribe, and the bank willing to provide, donor breast milk to healthy infants who might otherwise thrive on artificial formulas. Medical practices and beliefs have therefore been essential to sustaining the giftified model of breast milk banking.

Technology

A wide variety of technological advances over the past 17 years have contributed to the San Jose milk bank's ability to operate, and the survival of the donor model of milk banking. Although the technologies on which the bank relied during the first 15 years of its existence predate the opening of the bank, beginning in the mid-1990s, remarkable advances in reproductive technologies, breast pumps, and communication and transportation technologies increased both the supply of and demand for donor milk, and make the bank's work more efficient and more widely known.

On the production side of the commodity chain, several technologies have made it easier than ever for donors to gift their breast milk, including portable, highly efficient breast pumps; the FedEx method of shipping; the internet; and the use of surrogates in reproduction. On the distribution side, reproductive technologies such as IVF and surrogacy that have increased the number of multiple births and infants without access to maternal milk, technologies that improve the survival rate of extremely premature and low birth weight infants, and FedEx have increased demand and made it easier to sell breast milk as a commodity. This increase in supply and demand have helped the San Jose bank remain financially solvent and increased its visibility as the largest breast milk bank in the United States. These technologies have therefore contributed to the success of the giftified, non-profit model into the 21st Century. I discuss each of these technologies in more detail below.

Advances in Breast Pump Technologies

Perhaps most important technological advance supporting the donor model of breast milk banking in the past 20 years was the development of the of portable, efficient breast pumps. In

1991, Medela, the leading breast pump company in the world, released its first non-hospital, electric-powered, vacuum-operated breast pump. Five years later Medela introduced the Pump In Style, a portable double-headed pump designed for working mothers (Lepore, 2009). The San Jose bank's own Board of Directors theorized that the availability of these pumps increased the amount of milk per donor (Mothers Milk Bank Minutes, September 26, 1995). Advances in breast pump technologies, coupled with high maternal employment, combined to rapidly expand the potential pool of donor milk.

Today, many donors pump milk at work because they are separated from their infants, using the newly developed, easily portable, efficient commercial breast pumps that came on the market in the mid-1990s. Nearly every donor I interviewed used a Medela Pump n' Style, even if they were not pumping at work. Wendy, who pumped at work, described her reliance on her pump:

“I you would say the breast pump was my best friend ever, the best. ‘Cause it’s like you know how you’re feeling so full it hurts and it’s heavy, and you have the release is like the best, wherever I go. Nowadays you depend on cell phones, you leave home and it’s not there you turn around and get it, to me at that time it was the breast pump. It was like the most important thing, I’m not going to go anywhere without it.”

Interestingly, Wendy repeated Lepore's (2009) contention that today, “breast pumps are such a ubiquitous personal accessory that they’re...like cell phones.” The ease and efficiency of the breast pumps on the market today made it possible for donors to not only pump for their own infants, but pump additional milk that they could donate.

The development of new breast pump technologies also proved to be a financial boon for the bank, which began to collect income from breast pump rentals. After initially providing

breast pumps to new mothers for free, by 1992 the bank was charging for pump rentals, adding another revenue stream (Asquith, 1993). The Board minutes for October 7, 1996, notes that Medela's new "Pump in Style" portable breast pump, had "in effect become a new fundraiser", because the bank was able to purchase pumps for a discounted price and then sell them for profit. Later, the board did reconsider providing free pumps to donors, but decided this would encourage donors the bank "didn't want," presumably referring to women who were motivated to donate because of the free pump rental, rather than from a sense of altruism.⁵¹

Fed-Ex

Collection procedures changed dramatically beginning in around 2000, when the bank had stopped using drivers to pick up milk, due to concerns about insurance for the drivers.⁵² Previously, the bank used volunteer drivers to pick up milk from donors and deliver it to the bank, limiting the bank's collection efforts to the San Jose region. In 2000 the bank began using FedEx to both collect and ship milk. This allows the bank to collect donations from donors throughout the state of California, Oregon, Washington, and Hawaii, and Maryland, and mail milk to recipients in these states, as well. Although the bank also collects milk from depots at hospitals in California, Oregon, and Washington⁵³, and employs a visiting nurse who collects milk from donors in the San Jose area, today most milk arrives via FedEx. The use of FedEx has therefore contributed significantly to both supply and demand.

⁵¹ "Mother's Milk Bank Retreat Notes, March 4, 2001." Institutional records, Mothers' Milk Bank of California (San Jose, CA).

⁵² Author interview with Pauline Sakamoto, December 16, 2010, San Jose, CA.

⁵³ The San Jose bank is currently assisting in the creation of the Northwest Mother's Milk Bank, which will collect donations and serve the Pacific Northwest. For now, milk collected in that region is sent to San Jose for pasteurization and distribution.

The Rise of the Internet

Although the bank began to enjoy an increase in milk donations beginning in 1997, there has been a remarkable boom since 2000. According to the director of the bank, a large part of this increase is due to the explosive rise in internet usage: today, 80-85% of donors learn about the bank via the internet (Sakamoto, 2008).⁵⁴ Between 2000 and 2010 donations quadrupled, from 101,216 ounces from 241 donors to 435,833 ounces from 644 donors in 2010. The bank accepts around 60 new donors per month.

As I learned in my interviews, the internet is an ubiquitous part of donors' lives. Almost every donor said they researched infant feeding and looked for childrearing advice online, and several said that was their most trusted source of information. Donors read babycenter.com and kellymom.com, both of which provide medically- and scientifically-informed articles on breastfeeding, and also logged into groups like The Leaky Boob on Facebook where they looked for advice from other mothers. The internet was also an important source of information on donation, and many donors said they learned about donating by looking online, or did further research on the San Jose milk bank after learning about donation through another source.

The Revolution in Reproductive Technologies

In 1979, Louise Brown, the world's first "test-tube baby" was born in the United Kingdom. The development of in-vitro fertilization (IVF) revolutionized pregnancy, birth, and family formation world-wide. It also created a new source of donation and demand through surrogacy. Surrogacy creates a lactating woman who is separated from the child she gave birth to. The bank's newsletter from Winter, 2000, points to this emerging source of milk, including a

⁵⁴ Author interview with Pauline Sakamoto, October 15, 2010, San Jose, CA.

separate section thanking the 5 surrogate mothers who donated to the milk bank between February and December of 1999 (Mothers' Milk Bank, 2000). Although some "intended" parents ask their surrogate to provide breast milk for the infant the surrogate delivers, others do not make this arrangement, and the surrogate may pump milk to relieve pain. Pauline Sakamoto also believes donating provides an emotional release for surrogates who are grieving over the loss of the child they have given to the intended parents, similar in some ways to bereaved donor's motivations.⁵⁵

The increase in surrogate births in the United States also increased the demand for donor milk, since many surrogate arrangements do not include a provision for the surrogate to supply breast milk. In these cases, intended parents may purchase banked donor milk for their infants. For instance, premature twins born to actor Neil Patrick Harris and his partner via surrogacy received donor milk from the San Jose milk bank, and Harris spoke about their use of the milk publically on a late night talk show, creating additional media interest in milk banking.

The increased use of IVF has also led to an increase in multiple births, and oftentimes the attendant problems of prematurity and low birth weight. All three conditions are common reasons for prescription of donor milk, since mothers of premature infants often do not begin lactating immediately, and may not have enough milk for multiple infants. For instance, the octoplets born to Nadya Suleman in 2009 received donor milk from San Jose, although the bank does not advertise this due to the notoriety of the case. My interviewees also included the father of premature twins born to a gestational surrogate.

Advances in Treatments for Prematurity

⁵⁵ Author interview with Pauline Sakamoto, October 15, 2010, San Jose, CA.

Improvements in technologies that increase the survival rates of premature infants have also contributed to demand. The 1990s were considered the “decade of the micropremie” among neonatologists, as smaller premature infants born at earlier gestational ages were able to survive, thanks to advances in surfactant replacement therapy and improved ventilators, new surfactant replacement therapies, and improvements in fluid and nutrition delivery (Jorgensen, 2010:11). The increased survival rate of the most vulnerable premature infants created additional demand for donor milk.

Various technologies have therefore increased both the supply of and demand for breast milk, and made it easier for donors to give their excess milk as a gift, and for parents of recipients to purchase the milk as a commodity. These technologies have also allowed the San Jose Mothers’ Milk Bank to expand its operations and outreach beyond the San Jose region. The technologies that increase supply and demand and make transportation of milk easier ensure the bank’s success and sustain the giftified—yet commodified—model of milk banking.

CONCLUSION

The San Jose Mothers’ Milk Bank is currently the oldest and the largest milk bank in the United States, and exemplifies the giftified model of milk banking. Although both the Boston and San Francisco milk banks were non-profit, both compensated their “donors”; the San Jose bank was one of the first in the country to refuse to pay women for their breast milk⁵⁶. This giftified, donor-based model has now become the standard for milk banks across the country.

⁵⁶ The Evanston, IL milk bank, which opened in the 1950s and closed sometime before the San Jose bank opened did not compensate donors, but the majority of banks operating before 1974 did pay donors for their milk.

The establishment and survival of the giftified model of milk banking was made possible by a confluence of factors that increased both the supply of and demand for donor milk, while simultaneously sacralizing breast milk. The shift from milk sellers to donors, and the continuation of the giftified model, is connected to changes in women's employment, conceptions of motherhood, medical practices and beliefs, and technology. First, changes in women's employment provided alternate forms of employment to poor mothers who previously sold their milk, forcing the banks to rely on donors, who were middle-class mothers. Although early donors were stay-at-home mothers, the increase in middle-class mother's employment beginning in 1970 expanded the breast milk supply, as mothers began expressing milk at work. Second, the rise of the ideology of intensive motherhood, in which motherhood is "child-centered, emotionally-absorbing, and labor-intensive" (Hays 1996:8), became the dominant ideology of motherhood in the mid-20th century. Breastfeeding is a central component of this ideology, and breast milk, increasingly rare, came to embody the virtue of "good mothering" (Blum 1996). Third, dominant beliefs about infant feeding in the medical community changes radically during the 1970s as physicians became convinced of the benefits of breastfeeding, and medical practices changed accordingly. Finally, changes in technology, including improvements in breast pumps, advances in communication and transportation services, and new reproductive technologies, increased the supply of breast milk, and helped spur demand. These four trends supported the San Jose bank's organizational model, creating and sustaining a system reliant on donors rather than sellers. This shift demonstrates that economic and social changes that typically promote commodification under capitalism can paradoxically sacralize previously commodified products.

Table 6: Supply and Demand at the Mothers' Milk Bank, 1974-2011

YEAR	No. of Donors	No. of Recipients	Amt. of Milk Collected (ounces)	Amt. of Milk Distributed (ounces)	Hospital in Service	Private Patients
1974	14	2	1,719	--	1	1
1975	128*	139	16,823	15,976	7	4
1976	105*	178	25,137	23,106	10	--
1977	170	316	41,259	38,626	13	12
1978	126*	404	43,184	42,947	17	7
1979	133*	492	32,434	32,705	13	--
1980	158	299	44,695	44,771	12	--
1981	148	432	47,577	47,001	18	--
1982	184	--	41,077	41,559	13	
1983	135	--	43,213	43,271	--	--
1984	200	--	50,158	47,998	--	--
1985	--	--	--	--	--	--
1986	156	--	45,487	44,368	20	--
1987	168	500 (estimated)	52,293	53,962	15	9
1988	164	--	43,069	43,792	11	6
1989	--	--	--	--	--	--
1990	97	--	32,831	21,630	11	6
1991	--	--	--	29,787	--	--
1992	62	--	29,405	38,639	15	5
1993	--	--	44,031	34,068	--	--
1994	--	--	37,664	34,168	--	--
1995	121	--	31,426	30,521	--	--
1996	--	--	38,211	33,153	8	15

1997	--	--	54,844	54,184	--	--
1998	--	--	67,359	67,928	--	--
1999	--	--	89,383	87,352	--	--
2000	181	--	101,216	91,646	14	65
2001	225	--	142,473	139,995	11	95
2002	--	--	165,850	164,918	--	--
2003	226	--	176,706	174,794	24	84
2004	217	--	176,756	178,080	26	94
2005	241	--	218,104	209,661	32	92
2006	298	--	246,844	250,483	30	118
2007	433	--	303,308	395,407	30	130
2008	504	--	329,525	315,498	34	151
2009	--	--	337,514	300,455	--	--
2010	644	--	435,833	420,046	50	161
2011	621	--	--	450,056	--	--

Cells marked -- indicate missing data.

*Indicates number of donors approved to donate, not necessarily number who actually donated milk.

Table 7. Reasons Infants Prescribed Breast Milk at San Jose, 2000 and San Jose and HMBANA Banks 2002-2004

	SJ 2000	SJ 2002*	HMBANA 2002	SJ 2003	HMBANA 2003	SJ 2004	HMBANA 2004
Premature & related	1	7	79	6	25	2	110
NEC	0	0	4	1	2	1	1
Failure to thrive	2	6	15	3	5	4	8
Formula intolerance (& mother's supply low or unavailable)	3	6	25	7	9	2	11
Allergies	0	3	7	4	12	2	3
Gastronintestinal		0	6	2	12	1	5
Other illness or syndrome	2	7	35	9	170	13	71
Total Premature & Sick	8	29	171	32	235	25	209
% of Total	15%	37%	52%	59%	60%	50%	52.50%
Insufficient volume	10	5	96	6	106	10	133
Breast cancer	6	2					
Other or non-specified maternal	0	2	19	4	22	3	11
Adoptee/Foster Child/Surrogacy (Healthy Infant)	19	21	29	12	20	8	28
Total Healthy	35	36	144	22	148	21	172
% of Total	67%	46%	43.60%	41%	38%	43%	43%
Adult Illness	9	13	15	3	6	4	8
Overall Total	52	78	330	54	389	50	398

*2002 data comes from handwritten list of reasons next to last names of 96 outpatients from San Jose. Some names have nothing written (Institutional Records, Mothers' Milk Bank of California, San Jose, CA.

**SUPPLY AND DEMAND: INTENSIVE PARENTHOOD AND MEDICAL PRACTICES
AND BELIEFS**

As I discussed in Chapter 4, the San Jose Mothers' Milk Bank has used a donor model of collection since it opened in 1974. In that chapter, I explored the ways in which women's employment, the conception of intensive motherhood, medical practices and beliefs, and advances in technology giftified banked breast milk, and how these factors sustain the milk's giftification. Before 1970, changes in women's employment opportunities meant poor mothers who previously sold their milk could find alternate forms of employment, driving milk banks to rely middle class donors. Then the increase in middle-class mother's employment beginning in 1970, combined with improvements in breast milk pumps, increased breast's milk alienability and expanded the breast milk supply, as mothers began expressing milk at work. This alienability was aided by rise of the ideology of intensive motherhood, in which breastfeeding, and by extension breast milk, came to embody the virtue of "good mothering", sacralizing the milk (Blum 1996). Meanwhile, dominant beliefs about infant feeding in the medical community changed radically during the 1970s as physicians became convinced of the benefits of breastfeeding, further sacralizing the milk. When the San Jose Milk Bank opened in 1974, the sacralized status of breast milk made it difficult for the founders to conceive of paying women for their milk as banks had previously, although their objection to donor compensation was couched in terms of safety.

In this chapter, I use data from my interviews with 19 donors to the San Jose Mothers' Milk Bank and parents of 18 infant recipients of that milk to examine how the conception of

intensive motherhood and medical practices and beliefs combine to create the ongoing supply and demand for banked breast milk (see Tables in Chapter 1 for details on sample characteristics). In the first section, I discuss donors' and parents of recipients' shared belief and engagement in intensive motherhood (or intensive parenthood in the case of fathers of recipients). In addition, I look at how this class-based conception influences parents of recipients' perceptions of donors, and how these perceptions are themselves classed. Although intensive motherhood favors middle class values and parenting practices, all the donors and parents of recipients I interviewed, regardless of class status, shared this conception. However, class differences did shape perceptions of donors: middle and upper income parents assumed donors were middle class and shared their values and lifestyle choices, while lower income parents did not share their assumption. These interviews demonstrate the importance of intensive motherhood in shaping breast milk banking today, and how social class mediates perceptions of breast milk banking.

In the second section, I examine the influence of medical practices and beliefs on donors' decision to pump their milk and parents of recipients' decision to purchase and use donor breast milk. As my research demonstrates, medical practices and beliefs are important because they work through the conception of intensive motherhood to motivate donors to breastfeed and parents of recipients to use donor milk. Although the research demonstrating breast milk's health benefits is ambiguous at best, medical authorities' belief that breast milk is healthier than formula promotes the idea that breast milk is "best" for infants, and its provision therefore a moral obligation of good parenting.

INTENSIVE MOTHERHOOD

As I argue throughout this dissertation, conceptions of motherhood were critical to the establishment of breast milk banks, breast milk's commodification, and breast milk's eventual giftification. My interviews with donors demonstrate how intensive motherhood shapes mothers' decision to pump their milk, creating an excess supply that mothers then give as a gift.

Sacred Milk: Creating the Excess Supply of Breast Milk

All of the donors I interviewed were committed, to varying degrees, to the conception of intensive motherhood (Hays, 1996). As I've discussed in earlier chapters, intensive motherhood is "child-centered, expert-guided, emotionally-absorbing, labor-intensive, and financially expensive" (Hays 1996:8, 49). But although intensive motherhood incorporates scientific motherhood's reliance on expert advice, this conception also incorporates sacred motherhood's expectation that mothering is "natural" or "instinctual."

Breastfeeding is perhaps the ideal example of the supposedly instinctual physical bond of exclusive mothering, embodying the natural, selfless love of the mother for her infant (Blum, 1999; Golden, 1996; Hird, 2007:2). Notably, Bowlby's (1969) maternal attachment theory, which postulates that normal psychological development depends on an infant's secure relationship with its mother early in life, is a key assumption of breastfeeding advocacy (Law, 2000:423-4). The maternal bonding movement that arose in the 1970s in response to the medicalization of childbirth and incorporated attachment theory came to include breastfeeding as part of more "natural" reproductive choices (Law, 2000:425-26). Attachment theory's emphasis on early bonding between mother and infant reinforces these tenets of intensive motherhood.

Wolf (2007; 2011) has expanded this definition to highlight the all-encompassing nature of this form of mothering. According to Wolf (2007:615) "total" motherhood is "a moral code in

which mothers are exhorted to optimize every dimension of children's lives, beginning with the womb, and its practice is frequently cast as a trade-off between what mothers might like and what babies and children must have." While mothers may have wants, children have needs, and "good mothering is construed as behavior that reduces even minuscule or poorly understood risks to offspring, regardless of potential cost to the mother." Under this expanded conception of intensive motherhood, "mothers' primary occupation is to predict and prevent all less-than-optimal social, emotional, cognitive, and physical outcomes; that mothers are responsible for anticipating and eradicating every imaginable risk to their children, regardless of the degree or severity of the risk or what the trade-offs might be; and that any potential diminution in harm to children trumps all other considerations in risk analysis as long as mothers can achieve reduction."

According to Wolf, (2011:83) mothers who adhere to total motherhood embrace "the natural" because it provides an interpretative framework and guide to motherhood that appears more pure and authentic than the complexities of science. It is rejection of the earlier conception scientific motherhood, a way for mothers to "wrest control" from science. Natural mothering tells women that they have an innate capacity to care and nurture their children, while reaffirming their ultimate responsibility for their children's well-being and future. However, as Wolf (2007:85) points out, mothers who subscribe to this interpretive framework continue to rely on the authority of experts to tell them what the natural is, and therefore "resemble the scientifically oriented mothering they explicitly reject." The shift in focus from the scientific to the natural is a shift in discourse rather than a fundamental change in dictates of intensive mothering.

Breastfeeding is a central component of intensive motherhood⁵⁷ because it is considered more natural and healthy than bottle-feeding. Formula is produced by science, engineered in a lab, while lactation is a biological process inherent to the human body. In addition, breastfeeding, and by extension breast milk, is thought to prevent all “less-than-optimal social, emotional, cognitive, and physical outcomes” through its remarkable health benefits (Wolf, 2007). Breastfeeding is a key to good health, a way of protecting against risk and ensuring a child’s healthy, happy future. In addition, breastfeeding represents maternal altruism, her dedication to the welfare of her child even at cost to herself (Comte, 1973 [1851]; Blum, 1999:50). Breastfeeding is therefore not just the correct but the *moral* choice for mothers engaged in intensive motherhood (Wolf, 2007, 2011; Kukla, 2006).

The donors I interviewed demonstrated at least their familiarity, if not their complete commitment to the conception of intensive motherhood in their responses to my queries about why they chose to breastfeed or pump their breast milk. Nine donors told me they breastfed because it was natural. For instance, Rachel told me, “I think breastfeeding is what nature intended.” Jennifer linked breastfeeding to organic food, explaining: “I chose to do organic with [my daughter], so you know I know that it’s a natural way of feeding a child.”

In addition, almost every donor cited the potential health benefits as a motivation for their decision to breastfeed or pump milk. Most cited increased immunity and health childhood development as benefits. For instance, Pamela, who pumped exclusively for both her sons, told me: “The balance—antibodies, and the nutrients, just in general that’s what’s best for him.” Others listed fewer allergies, higher IQ, and protection against cancer as potential benefits.

⁵⁷ For the purposes of this study, I incorporate Wolf’s (2011) definition of “total motherhood” into Hay’s (1996) definition of intensive motherhood, and call the combination of both “intensive motherhood.” In cases where I discuss both mothers’ and fathers’ belief in this conception, I call it “intensive parenthood.”

In many cases, donors explicitly connected breastfeeding and breast milk's health benefits to the fact that it is natural. As Melanie explained: "I just wanted to try and give [my daughter] the best that I could...I wanted to be as natural as I could be, as healthy as it could be for her." As Wolf points out, natural mothers may not reject science outright, but instead "invoke and deploy it selectively" (Wolf, 2011:98). The fact that many donors drew a connection between the naturalness of breastfeeding and its health benefits demonstrates this overlap in interpretative frames.

As the quotes above demonstrate, donors believed that by breastfeeding or pumping their milk, they were providing the best for their infants. And good mothering, for all of the donors I interviewed, involved doing whatever was best for their infant, even if it involved extra work and self-sacrifice. As Alexandra told me: "I just want the best for [my son]...your baby is before you and anything that you need." Breastfeeding, which often involves a great deal of extra work, is part of that commitment to good mothering. As Krystin told me: "If we can we should do whatever we can for our son and this [breastfeeding] is one of those things."

Melinda, discussing someone she knew who unapologetically declared that she would never nurse told me:

"I think the benefits are so important and then under utilized at that. I worked at a French company my last company and the French CEO's wife had a child, I guess in France they think it's strange to nurse. She's had three children and she doesn't ever nurse ever and they think it's weird, they don't even try. I think that's crazy you're absolutely wasting it. Just making a choice that you don't think breast-milk is not beneficial, or you don't want to make the effort, and just never even, 'no, I won't be breastfeeding,' just wasting that."

Melinda was appalled that someone would “waste” the opportunity to provide their child with the benefits of breast milk, when they are already “under-utilized”, meaning relatively few women breastfeed. In Melinda’s opinion, all women should breastfeed if they have the capacity to do so, because it is their responsibility as a mother to provide the best for their children.

Breast milk’s status as natural and healthy and therefore the “best” was thrown into even sharper relief when donors discussed formula. For instance, Mia described her sense of guilt over giving her daughter formula after it became clear that her daughter was allergic to something in her breast milk:

“I felt so guilty giving [her baby] any formula, at that point I was like how would I feel about formula...I would look at her and be like it was not like from me you know it was...like artificial, you know I started having this stigma about formula and it not being as natural for the baby and you know it not being the best nutrition...I felt like I was kind of taking the easy way out, you know because I was using formula instead of breast milk.”

Mia was still convinced that her breast milk was the best and most natural food for her daughter even after it became clear that her milk made her daughter ill, and was therefore not necessarily the best thing for her unless Mia took significant steps to alter her milk. In addition, Mia didn’t want to take “the easy way out”, because that would violate her commitment to intensive motherhood and her mission to protect her child from risk at whatever cost to herself. Even when breast milk was not obviously healthier or more naturally suited to their child’s needs than formula, its moral value as a symbol of good mothering made breastfeeding and pumping an imperative for donors.

Dana, who was both a donor and a recipient of donor milk⁵⁸, had spent a considerable amount of money on donor milk in addition to spending “hundreds of hours” pumping. For her, both the money spent on donor milk and the time and effort spent pumping were part of the labor involved in being a good mother:

“I think now it seems like people for lack for a better phrase take the easy way out. I think breast-feeding is a lot more work, now especially with more women working than it might have been in the past. People use formula because it’s easier.”

Good mothering, in these donors’ opinions, is hard work, and breastfeeding is part of that work. Mothers who use formula, or don’t try to breastfeed, are shirking their responsibilities as good mothers. And physical separation from ones’ infant is no excuse for resorting to formula, according to these donors and more generally within the conception of intensive motherhood, is no excuse for shirking ones’ duty to breastfeed (Hays, 1996; Blum, 1999; Wolf, 2011). Donors therefore pump their milk, even if pumping is difficult or uncomfortable. Dana went on to describe her conflicted feelings about pumping:

“I hated pumping but I did it for hundreds of hours...it was the only option for my daughter for six weeks who couldn’t latch. So it was the only option. Had it been for the ability to pump, I would not been able to give her any of my own milk, so I’m appreciative about that. But I was uncomfortable and really slow and it involved so much labor latching on all that gear all the time, it was a lot of work.”

⁵⁸ Dana donated her breast milk to the San Jose milk bank after the bank providing both of her children with donor milk. Both infants had trouble latching, and she had insufficient milk, so the children received a combination of her pumped milk and donor milk. She supplemented her daughter’s diet with donor milk for several months, while pumping her own milk. Once she had enough of her own milk for her daughter, she pumped an additional 40 ounces to give to the bank.

Although Dana “hated” pumping milk, both because it was time consuming and physically uncomfortable, she also appreciated that she could provide her daughter with breast milk, a fact that she reminded herself of during those “hundreds of hours” of pumping. Dana’s milk therefore embodied both physical and emotional labor time, making the milk, in her words, “precious.” Breastfeeding, and by extension breast milk, was a powerful symbol of Dana’s motherly love and dedication to her children.

Breastfeeding’s centrality to intensive motherhood explains the employed donors’ ongoing commitment to pumping at work, despite the discomfort and amount of time it took out of their work day⁵⁹. For instance, Mia described the difficulties of pumping at work, where she had to borrow communal office space and hope that no walked in while she was pumping. But as she told me, good mothers are “always putting the child before themselves...Like I don't care if I am hungry, tired, thirsty, have to go to the bathroom. As long as [my daughter] is warm, fed, loved, happy, you know, comfortable. Her needs come first.” Mirabel and Mia accepted the extra time, effort, and discomfort of pumping milk at work because they considered it part of their moral duty as mothers to provide the best for their infants. Mirabel and Mia, like other donors, discovered that they could pump much more than their own children needed, creating an excess supply that is potentially available for others.

Demanding the Best: Buying Breast Milk

In addition to interviewing 19 donors to the San Jose Mothers’ Milk Bank, I interviewed the parents of 18 infant recipients of the bank’s milk. The majority of these interviews were with

⁵⁹ Donors who nursed as well as pumped sometimes contrasted the discomforts of pumping with the pleasures of nursing. While pumping was usually described as hard and time consuming, donors described nursing as intimate and special, and a positive bonding experience.

individuals, but three were joint interviews with both the mother and father of the recipient. My sample includes 12 women and five men. Three of these men were the heterosexual spouses of women I interviewed, and two of the men were married to homosexual partners. My sample is therefore diverse in terms of both gender and sexuality (see Tables 3 and 4).

My sample is also diverse in terms of social class. The parent's of seven of the infant recipients were middle and upper class, with annual family incomes ranging from \$50,000 to over \$300,000. The parents of six of the recipients received Medi-Cal, meaning their annual family incomes fell below \$25,000 at the time of the interview (see Table 3).

In addition, recipients' reasons for using donor milk were diverse. Nine infants were prescribed milk for health reasons, including prematurity, gastrointestinal illness, cytomegalovirus, and lactose intolerance, while nine were healthy infants who most likely would have thrived on artificial formulas (see Table 5).

Despite this diversity, there were surprising similarities between the parents of recipients. Like the donors, all of them subscribed to the conception of intensive motherhood, although the extent of their commitment varied somewhat. This conception was part of what motivated them to use donor milk, although they tended to discuss their decision to use donor milk in terms of health benefits.

Although my interviewees included both mothers and fathers, the parents of infant recipients of donor milk generally shared donors' commitment to intensive motherhood. Although the extent of their commitment varied, the parents of recipients believed that good parenting means being child-centered, involves a strong emotional commitment and often personal sacrifice, is expert-guided, and (particularly in the case of parents who paid for donor milk out of pocket) is financially expensive. Parents of recipients shared this belief regardless of

gender, social class, or sexuality, although mothers were generally more committed this conception than fathers. However, it should be noted that the majority of parents in my sample are white, and as Blum (1996) has demonstrated intensive motherhood and adherence to breastfeeding norms are racialized (see Table 4 in Chapter 1). The lack of racial diversity in my sample may lead me to overstate this claim.

The mothers of recipients all described their commitment to putting their children's needs first, demonstrating the dominance and universality of intensive motherhood. For instance, Rana, who had insufficient milk, said that motherhood meant that "now you have a new person who's more important than anything in the whole wide world, and you really see what your made of." Inez, who had the same problem, echoed the importance of being nurturing and happy in their children's presence, saying that was the most important thing a mother could do for her child.

Miriam, the mother of a foster daughter suffering from cytomegalovirus and lactose intolerance, focused on the sacrifice involved:

"It's like giving so much of myself all the time, and sometimes you know like you were saying it's a lot of work, is it sacrifice. It is a lot of sacrifice you put their needs almost all the time before your own, to where I'm getting up in the morning you're feeding them, you're getting them dressed, if I have time I'll get a shower. You know it's just part of being a parent, and especially being a mom, it's like I have so many things to think about all day, and their needs constantly. Like if I'm not able to eat until they're down for their nap for lunch, that's okay I'll just eat when they're down, I don't always get to do things when I want to do them so I think that's part of it."

Miriam viewed motherhood as a "giving of the self" that involved constantly putting her children's needs before her own. This was both physically and emotionally taxing, because it

involved not just putting off physical self-care, like eating, but constantly thinking about her children's needs. For these mothers of recipients, being a good mother was hard work, time-consuming, emotionally-absorbing, and involving a great deal of personal sacrifice (Hays, 1996).

Beth, a Medi-Cal recipient whose son received donor milk because she had insufficient milk, told me being a good mother involved a life-long commitment:

“You have to be able to give all of yourself to that child, you know I mean once that child's life begins yours has ended. Depending on how you look at it, if you think your child life ends at 18 you shove them out the door, or they're gonna be you're kid for the rest of your life and you take care of them, you know you have to be completely willing to give up your entire self to raise and better a person... You're taking a big step into making a life and then teaching it to be a part of society and to have a good life, have a better life than you did. So you know you need to be nurturing, and you know I don't necessarily think that uneducated mothers are bad, but I think a good mother would educate herself along the way, if she isn't already... Being able to educate yourself on what your child need... I think a lot of times people don't respect babies in that 'Oh well, they're just a baby.' No that's a person, he's a person, and he understands what we're talking about. He doesn't understand the words, he understands the emotions you know... you have to be able to realize what situations you're in, is that gonna be healthy for your kid, make the decision to make it better for you... So really just taken them into consideration 100 percent everything, whether it's emotion, or nurturing, or physical, or you know whatever it may be you have to realize that your needs come last before the baby.”

Beth, like the middle class mothers of recipients, and the donors quoted above, believed being a good mother involved putting your child's needs before your own, and sacrificing your "entire self" to raising them to adulthood and beyond, an example of the child-centeredness and self-sacrifice at the heart of intensive parenthood. It also involved controlling ones emotions and constantly thinking of how the mothers' situation affects her child. In addition, good mothering involved education and a reliance on expert advice to teach a mother what a child "needs." Good mothering, for Beth, involved a complete physical and emotional commitment to her son's well-being, and an attempt "prevent all less-than-optimal social, emotional, cognitive, and physical outcomes" so he could have a good life (Wolf, 2011). Notably, Beth was one of the lowest-income respondents, used WIC and Medi-Cal, and grew up in poverty. Yet she was strongly dedicated to intensive motherhood, despite her limited economic resources, demonstrating that intensive motherhood crosses class lines.

Even the fathers I interviewed were committed to the intensive conception of good parenting, although the extent of their commitment varied more than it did for the mothers I interviewed. For instance, Adrian, the father of three adopted children, told me:

"As a dad I want to be there for my son or daughter, for my sons and my daughter, I think my role as a dad is very important, as equally as important as a mom. So I think being present as a mom and a dad is one of the first things of being a parent, and loving your kids, and teaching them, training them, and you know everywhere from how to be a good moral person...to the way to treat people, anywhere from changing their diapers when it's appropriate you know, and feeding them, and just nurturing them."

Although Adrian focused more on teaching his children an aspect good parenting, he also saw love and nurturance as a central part of his role, as well as being “present,” both physically and emotionally. He went on to tell me what he had given up to be a good father:

“We had parties in our house all the time. Now we just can’t do that stuff, it’s you know you hang out with friends that have kids, because you’re afraid to hang out with people who don’t have kids because you’re kids will drive them insane. I mean so many different things, I can’t work the over time like I like to. Even though I love being home I can make decent money being home [more], think about how much more money I’d have if I didn’t have to buy diapers, ... [and] probably with her quitting was a 35 percent cut in what we were bringing home every month, and now we have more mouths to feed. Okay well we’re not going to Mammoth [a ski resort], and we can’t buy a new car, so your life just totally changes to you know, to take care of your kids.”

Like the mothers of recipients, Adrian felt that being a good parent involved personal sacrifice. It was also financially expensive, both because he had to give up additional income in order to be more “present” and because of the cost of raising children.

Jason, a gay father from Australia who had lived in the United States for several years, and whose twins were born to a surrogate in California told me being a good parent meant:

“Being a loving parent and taking your child’s interests, your child best interests, you know the most important priority. And then it comprises a number of different things, their clothes, medical advice, parenting practices...I’d say being loving, securing, take their interests as your ultimate concern.”

Although Jason was male, he shared the mothers of recipients’ belief that being a good parent involved doing what’s “best” for your child, and putting your children’s needs first. In his

opinion, good parenting also involved spending money on things like clothes, listening to medical advice and learning about parenting, and making sure he provided a loving, caring environment, also hallmarks of the conception of intensive parenthood. My interviews with both mothers and fathers of recipients of donor milk therefore suggest that the conception of intensive motherhood should be expanded to encompass fathers, and become intensive parenthood.

Caveats and Challenges to Intensive Parenthood

Although parents of recipients shared donors' commitment to intensive parenthood, many also spoke of trying to find balance in the face of the rigorous demands of intensive, total parenting. For instance, Inez told me:

“I think ideally motherhood shouldn't be described as a self-sacrifice. It should be a joyful experience, of course you'll have to sacrifice some things, that's natural, you know I mean pregnancy is a sacrifice you know of, well your figure, your time, your, its painful, you know I mean so on and on but you know so I feel being a mother shouldn't be considered as a sacrifice...I think that's a faulty belief because you cannot make your child happy if you feel you're sacrificing.”

Although Inez did think motherhood involved sacrifice, she was ambivalent about its centrality to good mothering, because she thought it was difficult for a mother to be happy, and therefore ensure her child's happiness, if she felt she was making a sacrifice to raise that child. Jason, the gay father of twins, echoed this ambivalence:

“You have to put their [your children's] interests first. Having said that by, I think being happy yourself makes you a good parent so you know I think it's important balance your well-being with your child, if you have no love or you have any interests of your own

activities that could make you a worse parent than a better parent, there's definitely a balance."

Jason felt that you had to balance your commitment to putting your child's needs first with your own needs and interests, or you risked being the best parent you could be.

The three couples I interviewed—Rana and Eliot, Miriam and Aaron, and Jane and Adrian—all spoke of the importance of tending to their marital relationships in the face of the demands of intensive, total parenting. For instance, Rana listed "communication with your partner" as one of the things that made someone a good parent. Miriam told me:

"Having a good marriage as a foundation to raising children, being a good parent wanted to add that is having a good foundation in your relationship with your spouse I think that's a really huge thing too. I think if we're at odds or fighting or having problems it's gonna really trickle down to our kids, so I think it's really important thing putting our marriage and, and it doesn't always happen but I think putting that as a priority even before the kids is saying we need to make time for each other, so we're healthy and we're communicating."

Adrian echoed this sentiment:

"To hang out and take care of us a little bit, I think that's an important part of parenting having a good marriage it's just hard so that's like to me, if the parents, if the kids see stability in us then I think that is just a huge benefit for them to see the stability in us, as opposed to us wanting to tear each other apart. That happens I don't like you right now, and our kids see that every now and then."

The quotes above indicate just how difficult it can be to maintain a good marital relationship while practicing intensive parenthood. But notably, these parents still discussed the need for self

care and marital care in terms of what was best for their children. Although parents of recipients challenged the stringent moral imperatives of intensive parenthood, which demands commitment of time and energy, emotional absorption, and personal sacrifice, they rationalized these challenges in terms of providing the best of their children. This allowed them to reconcile the contradictions inherent in this conception with the realities of their lives, and adds another facet to our understanding of how actors understand and internalize cultural conceptions of parenthood.

But although there was some variability in the extent to which parents adhered to this conception, and many of them struggled with the demands of intensive parenting, the interviews with parents of recipients indicate just how dominant the conception of intensive motherhood is in American society. All the parents I interviewed believed that good parenting was child-centered, labor-intensive, time-consuming, and emotionally-absorbing. This belief spanned divisions in gender, social class, and sexuality, suggesting that intensive, total mothering has expanded well beyond middle-class women to influence the experiences and beliefs of all parents.

Donor Milk: The Next Best Thing

Because the parents of recipients are committed to intensive parenthood, they want the “best” for their children. They believed that breastfeeding is the best method of infant feeding, sharing donors’ beliefs about breastfeeding’s health benefits. But as Blum (1996) and Wolf (2011) demonstrate, breastfeeding is valued for more than its potential health benefits: is a way for mothers to signal their commitment to providing the best for their infant, because it is construed as behavior that reduces even minuscule or poorly understood risks to offspring”

(Wolf, 2011:615). When breastfeeding is impossible or insufficient to meet an infant's needs, donor milk is the best alternative for demonstrating good mothering. For instance, Jane, the mother of three children adopted through the foster system, two of whom used donor milk, told me: "We're trying to do the best that we can for these kids, and [giving them donor milk is] what we think is the best, you know." Parents of recipients saw breast milk as best, even when it wasn't maternal breast milk.

Teresa, a Medi-Cal recipient who had difficulties nursing and insufficient milk, illustrated the powerful symbolism breastfeeding, and by extension breast milk, has for mothers as she described her difficulties breastfeeding and her discovery of donor milk :

"[A good mother is] willing to do whatever it takes to make sure that the child is provided for, safe, taken care of, and I think that's ultimately what motivated me to continue in the whole breastfeeding thing. Even though it was really difficult and challenging for me, just doing everything in my power and capability to make sure that my child has the best."

Teresa was strongly committed to breastfeeding, because she believed it was the best for her child, and was willing to do whatever it took to provide breast milk to her son. Despite the fact that she was "breaking down all the time emotionally" while trying to breastfeed, Teresa continued to attempt breastfeeding because she believed it was moral imperative. Once her doctor told her about donor milk, she felt a profound sense of relief:

"Knowing he was getting breast milk, you know I think that's what really helped *me* more. I mean it helped him you know because breast milk is the best for babies...in my head I wanted him to have breast milk only, I didn't want him to have formula."

Teresa was so relieved that she could give him donor milk that she felt it had helped her as much, if not more, than it helped her son. Notably, in the quote above, she quickly switched from saying breastfeeding is the best, to “breast milk is the best for your baby.” Teresa was strongly committed to providing the best for her son, and when maternal milk was unavailable, she decided donor milk could also be the “best.” Although her own body turned out to not to be designed for exclusive breastfeeding, she still fulfilled the moral imperative to provide her child with the best by using donor milk and continuing to attempt to breastfeed herself. Teresa valued donor milk for more than its health benefits: it provided her with an opportunity to continue to be a good mother who gave her child the best despite her problems breastfeeding.

Julie, who couldn't breastfeed because she was HIV positive and whose daughter suffered a brain injury at birth, also believed strongly that breast milk was best, both because of its health benefits, and its symbolic value as good mothering in a bottle. Because her daughter was not premature or suffering from a gastrointestinal illness, she had to go through a great deal of work to ensure that the milk was covered by Medi-Cal (this was not universally the case—other parents of recipients on Medi-Cal with healthier children had fewer problems getting coverage). Julie described her determination to get coverage for the milk:

“I was very possessed, I was very ‘We are getting the milk!’ I called children services, I tried to get them to pay for it too, I went through a lot of avenues, I exhausted a lot of resources and ideas to get this milk, and we got it, we did it.”

Julie told me she was determined to get breast milk for her daughter because she felt breast milk was the best nutrition, and initially denied that she was motivated by her belief that providing breast milk was an important part of being a good mother, telling me: “some people were like if you have to give her formula it's okay it doesn't mean you're a bad mom, it's not about me being

a bad or good mom, it's about getting the right nutrients for my daughter." But her later comments contradicted this assertion:

"It makes me feel good to know that for the first 13 months of her life she was able to get breast milk, and that's so important to me that both of my children got breast milk even though one got it through breastfeeding, the other one got it through beautiful women who wanted to donate their milk. I love it, even though some people are like 'you're giving your child someone else's milk?'...I just couldn't imagine like, it would just have bothered me that my daughter was drinking formula. I mean some people are like whatever a lot of babies do it you know, but it's really not fine."

Julie's about-face illustrates the complex meanings and valuations parents of recipients assigned to donor milk. They do it because it is healthier—"the best nutrition," in Julie's words—but they also assign it an abstract value as the "best" for infants that is rooted in their beliefs about what makes a good mother. Although Julie did believe strongly that the milk benefited her daughter health-wise, she also admitted that she would have felt strange giving her daughter formula, and doesn't think it is "fine" to give any child formula. Although she initially couched her determination to use donor milk in health terms, she also implicitly indicated that her decision was influenced by her belief that feeding her child breast milk was an important part of being a good mother. The strong sense of guilt she felt over her inability to breastfeed her own child and engage in a central tenet of good mothering motivated her to overcome multiple obstacles to get donor milk for her child.

Using Donor Milk: Reconciling and Challenging Exclusivity

Although parents believed they were provided the next best thing to maternal milk by giving their children donor milk, some parents did express some qualms about using others women's breast milk, and these qualms were paradoxically rooted in their commitment to intensive parenthood. As noted above, one aspect of breastfeeding's symbolism in the conception of intensive motherhood is the exclusive bond it creates between mother and child. Bottled donor milk presumably does not violate this exclusive bond, since the milk is disembodied and alienated from the donor. For respondents who were unable to breastfeed because they were male or because they adopted their child this was the case: donor milk was an acceptable alternative because it came in a bottle. However, the parents of recipients still acknowledged the importance of exclusive bonding in their conceptions of good parenting. For instance, Jason, the gay father of twins born to a surrogate told me he and his husband did not ask their surrogate to nurse the twins because they were concerned about her bonding with the infants, and although the twins received pumped milk from a friend in Australia, he rejected her offer to nurse them directly, because he was worried the twins would form an attachment with her, creating an exclusive bond between them. As he put it, "the act of breastfeeding is a very powerful parenting act," one that might threaten his own bond with his children.

Miriam, the mother of a foster child who suffered from cytomegalovirus and lactose intolerance, told me she wouldn't let someone else nurse her child, even though she used donor milk, because:

"I'd prefer to have that experience of feeding my child. Even though it's coming from a bottle and not from my breast it's still, you know, the experience of holding the baby and having them smell you that's the goal, the connection you have. I wouldn't want them to be connecting with my neighbor or with my best friend."

Although Miriam wasn't able to nurse her daughter, she still considered bottle feeding a bonding experience, and she worried that letting someone else nurse her daughter would threaten that bond. Using donor milk didn't threaten that exclusivity. The fact that donor milk was disembodied and alienated from its producer meant Miriam was able to give her child the best she could while still participating in intensive, exclusive, total motherhood.

Jason and Miriam, neither of whom was physically capable of breastfeeding, believed in the exclusivity of breastfeeding and appreciated the maternal-infant bond it creates. But they did not view bottled donor milk as a challenge to that exclusivity. Instead, the availability of donor milk in a bottle allowed them to engage in intensive, exclusive, total parenting.

For the mothers who had insufficient milk or were unable to nurse their infants due to disease, however, the inability to adequately breastfeed and the use of donor milk was more troubling, because it highlighted their own shortcomings and threatened their exclusive bond, even though the milk was disembodied and bottled. Several of the mothers in this situation spoke of a profound sense of failure over their inability to nurse successfully. As noted above, Teresa, who had insufficient milk, told me she was "breaking down all the time emotionally" during the first few weeks she tried to breastfeed. Julie, who was HIV-positive, told me she was "devastated" when she was told she shouldn't breastfeed her daughter. She went on to explain:

"I mean a part of me internalized [the inability to breastfeed] it a little bit, because of the fact I want to breastfeed my child, not [just] because of the breast milk first and foremost important, but there's also that sacredness that bond that you share with the child, and I mean I thought, of course me and my daughter are very bonded, but I didn't get to bond with her like that. It was like this plastic bottle between us...And that psychologically

messed me up, me as a woman you start questioning, you feel inadequate, I can't breastfeed my child."

Julie was worried that she wouldn't be able to develop the sacred mother-infant bond with her daughter if she didn't breastfeed, echoing both the religious-based beliefs that underpin the conception of sacred motherhood, and more modern, scientifically-informed beliefs about the importance of breastfeeding in establishing a maternal-infant bond (Blum, 1999). This inability to construct that exclusive bond affected Julie, leading to feelings of inadequacy as a mother.

Rana, who was pumping and using donor milk because had difficulties nursing and insufficient milk, also described feelings of inadequacy and failure:

"I felt like this is not the way it's supposed to be done. And I know [the pump's] a tool, I just felt like we have made this so complex. Yet I understand it does help, but it just makes you feel like you're a cow. You know, and it just, it hurt my feelings somehow...I didn't realize an emotional response I would have to it...It makes me feel broken. Makes you feel like you're hopping around on two toes and you're on crutches....It's like my breast milk doesn't come in, I've gotten other milk, I'm doing this pumping, like I'm trying to do everything I can to get every drop out of me."

The quote above indicates Rana's sense of failure over her difficulties producing milk. Although pumping and using donor milk are "tools", they are also "crutches" that highlighted her own inabilities. Unable to nurse, she felt "broken" and disabled, inadequate to a central task of intensive mothering—creating an exclusive bond with her child.

Coupled with this sense of failure were ambivalent feelings about using donor milk. As Beth told me: "I would rather it [the breast milk] be from me than from other people." Rana was also ambivalent, telling me: "I want [my son] to have part of me and him, and not just random

donated milk or milk from the breast bank.” Both of these mothers wanted to create and maintain an exclusive bond with their child, and they had a difficult time reconciling their use of donor milk with this exclusivity. Although they valued donor milk, and their use of it was a way of engaging in intensive motherhood, its use conflicted with the exclusive tenet of this conception of motherhood.

Mary also expressed reservations, and her case illustrates both the feeling of inadequacy and the conflicting emotions the use of donor milk creates for mothers in this situation. She told me:

“Emotionally it was very difficult for me to feel like I couldn’t produce enough for him and I was having to rely on other people...Breastfeeding was my preference, and I definitely always felt a little strange about giving the donor milk. Like wishing I wasn’t. You know I felt ambivalent to even have to do it.”

Although Mary also told me she felt gratitude towards the donors, she struggled with having to use other women’s milk, because she wanted to breastfeed exclusively, and giving her child someone else’s milk felt “strange”. According to the tenets of intensive, exclusive, total motherhood, breastfeeding creates and maintains the exclusive maternal-infant bond. Giving an infant another woman’s breast milk is a direct challenge to this exclusivity, and created feelings of ambivalence and resentment among some mothers of recipients.

Mary also told me that she did not discuss her use of donor milk with many people because it made her feel “uncomfortable”. When asked why, she responded:

“I mean I feel already there’s like this pressure to breast feed in this area, I don’t know if it’s across the country, but like it is like if you don’t breastfeed you’re a terrible mom...I feel like any friends I have who have used formula have always kind of felt guilty about

it, or felt like they've gotten weird looks, and I feel like I was very judgmental of people who used formula before [my son] was born and so I think part of it is just its almost like you don't want to like admit that you can't produce everything you are supposed to for your child."

Mary was embarrassed by her use of donor milk because she thought it reflected badly on her mothering abilities. She didn't want to tell other people that she couldn't produce what she was "supposed to" for her son. The moral imperative to breastfeed was so strongly ingrained in Mary's belief system that she feared other people's judgments if they learned she used donor milk and was not exclusively providing breast milk for her child. Mary was engaging in a practice that challenged the exclusive bond she wanted—and was expected to—create between her and her son, leading to feelings of ambivalence and discomfort. And while Mary was uncertain whether moral judgments about infant feeding choices were confined to the region she lived in or more universal, evidence from various studies suggest that mothers throughout the United States experience strong pressure to breastfeed and fear condemnation when they are unable or unwilling to engage in this mothering practice (e.g. Blum, 1996; Law, 2000; Wolf, 2011).

Although parents of recipients generally believed that good parenting involves an exclusive bond, and that breastfeeding is a way of creating and maintaining this bond, the circumstances leading them to use donor milk conditioned their feelings about using the milk. Specifically, fathers and mothers who had no ability to nurse easily reconciled its use with their engagement in intensive parenthood, because the milk was disembodied, and therefore stripped of its abstract quality of bonding. In this way, the milk was more fetishized for these parents, because they didn't view the milk as establishing a relationship between the milk donor and their

infant. The fact that the milk was more fetishized was positive for these parents, because it didn't challenge their exclusive bond with their child, challenging Marx (1867) and others (e.g., Horkheimer and Adorno, 2002 [1947]) belief that commodity fetishism is inherently negative.

Mothers who could nurse, however, viewed the milk differently. Although disembodied, the milk did represent the donor, and using it intruded on their exclusive relationship with their child. It also highlighted their own inadequacies and contributed to their sense of failure as mothers. For these mothers, the milk was less fetishized, because donors' abundance of milk and ability to not only provide milk for their own child, but the recipients', was present in their minds as they used the milk.

Using Donor Milk, Parenting, and Social Class

In addition to motivating use of donor milk, the conceptions of intensive parenthood shaped parents' of recipients' views of donors. And because intensive parenthood is class-based, their images of donors were also classed. Although all of the parents of recipients shared the conception of intensive parenthood, regardless of income level, social class prejudices began to reveal themselves when they discussed their views on breast milk donation. Specifically, middle and upper income parents of recipients tended to assume that donors were middle class mothers who shared their values and lifestyle choices, while lower income parents generally did not share this class-based assumption (with one vocal exception, discussed below).

Parents of recipients, regardless of income, did assume that the women who donate milk share their belief that breastfeeding is best for children. For instance, Heidi, whose son was on Medi-Cal told me: "So here I am getting breast milk from these wonderful women who know the importance of baby's receiving [breast milk but] who can't [get maternal milk]." Miriam made a

similar comment, telling me: “I do think of it as just women...who understand and realize the importance of what they’re doing, and give it to a child a need.” Julie, another Medi-Cal recipient, echoed their comments: “I see moms who know the value of breast milk, and they don’t want a drop of theirs to go to waste.” All of these parents assumed that donors shared her commitment to providing the best for infants, even if it wasn’t their own child.

However, many of the middle and upper-income parents of infant recipients (and one lower-income parent) had fairly specific ideas about donors that were rooted in assumptions about social class and mothering. For instance, Inez, one of the wealthiest respondents in my sample, told me that she assumed donors are people who are “educated and aware.” She went on:

“And therefore I would assume this person who’s educated and aware, eats healthier or somewhat healthy. Not drinking beer and eating chips...[a] peace activist, you know, in Northern California, eating vegetarian food.”

Inez, who had a graduate degree and ate organic food, assumed that donors shared her educated background and lifestyle choices, and shared her awareness of the importance of breastfeeding.

Jane shared Inez’s vision of donors as peace activists, at least initially, telling that before she started using donor milk, her stereotypical vision would have been someone “kind of granola.” Now she envisioned someone more generally dedicated to helping children:

“I just think about the heart issue they must be really interesting type of people that really have a passion for helping out children, you know. And for them to never meet the recipients you know it’s out of the goodness of their own heart, they’re not doing [it for] any benefits other than ‘I know that somewhere out there I’m helping you know either sick kids or kids in need or intolerant’...I think my view would be, I guess would go back

to the heart issue. You could be a hippie or a professional, and if you got the heart and extra milk then why not?"

Although Jane no longer assumed donors were all "granola", a term that evokes a middle class lifestyle of "natural" mothering, including consumption of organic foods and social and environmental activism, she lists "professional" women as the alternative, another term with strong social class connotations. Although Jane hadn't met the women donating their milk to her son, she had a specific, class-based idea of who they were derived from the cultural conception of intensive motherhood.

Rana, a middle class mother whose ethnic background was Middle Eastern, assumed that donors were not only middle or upper class, but white:

"From my experience, I feel like probably a lot of the donors are white upper-class, stay at home housewife or people who are you know, people of color that may genetically have extra good genes or something for milk that are working class."

Rana assumed that donors were white women of privilege who have extra milk because they can afford to stay at home and therefore have the extra time to pump milk. Alternatively, they may be working class women of color, but she assumes these women won't have the time to pump enough to donate; instead, they must have "extra good genes" that make them super-producers.

She went on:

"I envision a lot of these women would be white women because they're the ones that can afford to stay at home and they have more care and they can have you know a midwife, a doula, this that the other, you know, it's easier process cuz they can also hire help like a nanny, you know. I've met some women that have nannies before they have given birth to you know so its socioeconomics. Like everything else in America you

know. So I envision most of the breast milk my son is getting is from white privileged women, yea.”

In addition to being privileged, both because of their race and financial resources, Rana thought donors had extra breast milk because they had their children naturally. This contrasted with Rana’s own son’s birth, where felt she’d been bullied into interventions, contributing to her subsequent difficulties nursing and producing milk. She also believed donors had time to pump because they have nannies. Their privileged position as both white and upper class gave donors an opportunity to not only breastfeed, but donate their milk.

Rana’s sense that breastfeeding is a white, middle and upper class privilege echoes Blum (1999) and others (e.g. Hays, 1996; Wolf, 2011) assertion that since the 1960s, breastfeeding has become a class-enhancing project that lets white, middle and upper class mothers assert their moral superiority over poor and minority women, who are less likely to breastfeed. Breastfeeding’s elevation as “the most important gift a mother can give her child” means it has become a mark of distinction, a visible badge of good motherhood (Wolf, 2011:viii). White, middle class and upper class mothers have the cultural and economic resources to both define and engage in “good mothering”, and to breastfeed and pump milk, which is particularly time consuming. Breastfeeding has therefore become a potent symbol of both racial and class inequality, and these inequalities in turn influence breast milk banking (Hayes, 1996:164; Blum, 1999). As my research suggests, today, the majority of breast milk donors are white, middle class women. The fact that they have the cultural and economic capital to breastfeed and pump their excess milk means they can donate breast milk and engage in its giftification. While social class shaped the supply of breast milk and commodified it in the first era of breast milk banking, today class inequalities promote the milk’s giftification. I discuss this further in Chapter 6.

The lower-income parents, meanwhile, tended to describe donors in class-neutral terms. For instance, Samantha envisioned donors as “women [who] lose their baby, or their baby doesn't want their milk, or they have too much, and they decide to donate it to other babies that need it.” Instead of describing donors’ characteristics, she described their circumstances, which were class-neutral. This difference may be rooted in the fact that these parents adhered to the conception of intensive motherhood despite their lower social class status. They therefore did not perceive good mothering as classed, and did not assume that middle class mothers were more altruistic and giving.

Jackie, like Samantha, did not associate donation with middle class women. When asked who she envisioned donating milk, she actually used a racial epithet, telling me:

“Actually if you want to know the truth we call it Aunt Jemima breast milk here. I assume women of every color, probably black woman, probably Mexican woman, probably Chinese woman, probably white woman, everybody of every race is doing their feeds together. So basically it’s an American providing the breast-milk.”

Jackie’s view of donors was the opposite of Rana’s, who assumed donors were privileged white women. Her “Aunt Jemima” comment invoked an image of a working or lower class black woman in a service occupation, and she went on to list several racial and ethnic minorities as the most likely sources of the breast milk. If anything, she assumed donors were lower class, like her.

The fact that the lower-income parents of recipients strongly adhered to the conception of intensive motherhood, despite their lower-class status, might explain why they did not share the middle and upper income parents’ class-based assumptions about donors. Like those parents, they envisioned mothers like themselves, who valued breast milk and cared about helping

infants, but because they were not middle-class themselves, they did not necessarily associate nurturance and altruism with white, middle-class values and mothers. In Chapter 6, I more closely examine how social class differences mediate parents of recipients' perceptions about breast milk exchange and their experiences of commodification.

However, it should be noted that all but one of the lower-income respondents in my sample are white, which is a limitation of this data. As Blum (1996) and Roberts (1998) have noted, black mothers in particular have experienced a long history of state interference in their reproductive and childrearing choices that may lead them to resist mainstream mothering norms, including exhortations to breastfeed. Lower-income parents of color who use donor milk may have different ideas about donors' socioeconomic characteristics, and the assumptions voiced by Rana, who is a woman of color (although middle class) suggest that this is a possibility.

A notable exception to the social class divide in views of donors was Beth, who described how her perceptions about donors were rooted in her experiences growing up in a lower class household:

“I grew up in a poor family—they would rather give their babies formula because it’s easier, you know. And that told me a lot about the people who were raising their children, cause I’ve grown up in places where, the parents would rather spend the money on themselves rather than taking care of their children, just drop their kids off at grandma and grandpas house. So having lived through stuff like that and going to these [breastfeeding] classes –it’s not people like the people I grew up with,[the donors] are willing to take the time to take care of their kids, and even care about someone else’s. They could throw that milk out, they could not even express it and let it leak on

themselves and not care about anybody else, and I know it kinda goes back to money again, and also demographics.”

In Beth’s experience, poor mothers selfishly fed their children formula and neglected to care for their children. She therefore assumed that donors, who not only cared for their own children, but other women’s children, must be middle class. Beth’s experiences, and her perceptions of these experiences, connected the moral superiority of breastfeeding to middle class values and lifestyles. It should also be noted that although Beth came from an impoverished background and was low-income, she also had a college degree and was pursuing work as a teacher, and was striving for upward mobility. This points both to the fluidity of social class, and the complex ways in which personal biography can shape views of milk donation, mothering, and social class, topics that should be pursued in further research.

The interviews with donors and parents of recipients illustrate the ways in which the conception of intensive motherhood contributes to both the supply of and demand for donor milk today. Both donors and parents of recipients share this conception, regardless of social class. But despite the universality of this conception, social class differences did become apparent when parents of recipients discussed their views of donors. These interviews point to the importance of cultural conceptions of motherhood in continuing to shape breast milk banking, and the ways in which social class mediates individuals’ perceptions of others involved in breast milk’s exchange.

MEDICAL PRACTICES AND BELIEFS

Although intensive parenthood is a strong motivation for both donors and parents of recipients, medical practices and beliefs that favor breastfeeding and breast milk combine with

this conception to create both the supply of and demand for donor milk. As I noted in Chapter 4, medical practices and beliefs surrounding infant feeding began shifting from a preference for formula feeding to a preference for breastfeeding beginning in the early 1970s. In 1978, the American Academy of Pediatrics (AAP) released a policy statement outlining the potential benefits of breastfeeding for infants, including superior nutrition, decreased risk of obesity, strengthened immunity, and a stronger maternal-infant bond.

During the 1980s, as physician support for breastfeeding grew, breastfeeding advocates began to professionalize and become more integrated into the medical system. In 1985, the La Leche League International (LLLI), which was originally established in the 1950s in opposition to prevailing medical preferences for formula, created standards to train and certify health care providers called lactation consultants. Although lactation consultants are not necessarily nurses or doctors, they are often employed by hospitals and recommended by doctors.

In 1997, the AAP released a revised statement reaffirming its belief that “human milk is uniquely superior for infant feeding” (Work Group on Breastfeeding, 1997:1035). This statement cited not only the individual health benefits, but also the social and economic benefits of breastfeeding for the nation. It recommended that breastfeeding begin as soon as possible after birth, that “trained observers” conduct formal evaluations of breastfeeding performance in the hospital, and that all breastfeeding mothers and their infants be seen by a pediatrician 2-4 days after discharge from the hospital so the doctor might observe and evaluate “successful breastfeeding behavior” (Work Group on Breastfeeding, 1997:1036). The statement also recommended exclusive breastfeeding for the first six months of life and continued breastfeeding for the first year.

By the early 1990s, physicians and breastfeeding advocates had begun referring to colostrum, the rich, often yellowish breast milk that mothers produce in the first few days after birth, as “liquid gold”, and eventually use of this term expanded to include all breast milk (e.g., Sears, 1993). At the same time, the federal government, in conjunction with the AAP and other medical associations, began working on national breastfeeding promotion campaigns that targeted both mothers and physicians (Institute of Medicine, 2001:9). The term liquid gold was incorporated into these public health campaigns, and currently appears publications on childrearing and breastfeeding and in advertisements promoting breastfeeding awareness (e.g., <http://first5fresno.org/policy/current-projects/breastfeeding-friendly-campaign>).

Despite widespread acceptance of breastfeeding’s superiority to formula feeding and its purported health benefits among medical and health authorities, however, the research on breastfeeding is far from conclusive. Breastfeeding advocates tend to highlight studies demonstrating breastfeeding’s benefits, but overlook research that suggest the health benefits are nonexistent or marginal at best. For instance, Golding et al. (1997a, 1997b) found little consistent evidence that prolonged and exclusive breastfeeding protects children against eczema, asthma, or other allergies, and noted that studies linking breast milk to IQ have not been able to control for confounding factors such as parental IQ.

Breastfeeding may also harm infants’ health (e.g., Golding. 1997). Pollutants, medications, and addictive drugs may all pass from mother to infant via maternal breast milk; while viruses including HIV (Bess and Browning, 1999), cytomegalovirus (Schleiss, 2006), hepatitis C (Jones, 2001), and Epstein-Barr (Jones, 2001) may also be cause for concern. In addition, recent research raised alarms about vitamin D deficiency in exclusively-breast fed infants (Gordon et al., 2008). Calls for vitamin supplements for exclusively breastfed babies call

into question its status as the “perfect food” for infants. However, public health campaigns and infant feeding advice in childrearing manuals rarely, if ever, mention the potential negative effects of breastfeeding, and present research demonstrating breastfeeding’s benefits as uncontested. Today, medical authorities firmly support breastfeeding, at least rhetorically.

Importantly, recommendations supporting breastfeeding rest on the assumption that the benefits of breastfeeding are indistinguishable from the benefits of breast *milk*. Most studies on breastfeeding do not distinguish between nursing and pumped breast milk, or for how infants are given bottles: e.g., in arms or propped (Law, 2000:417). The social act of infant feeding is conflated with the biological properties of lactation and human milk. Therefore it is uncertain whether feeding infants pumped maternal milk has the same potential health benefits as breastfeeding.

Despite the lack of certainty about breastfeeding and breast milk’s benefits, both donors and parents of recipients generally believed that breast milk, even non-maternal breast milk, was inherently superior to formula and conferred important physical and psychological benefits to their children. The interview data discussed above demonstrates both groups’ beliefs that breast milk is healthier, and therefore the “best” food for their infants. Medical practices and beliefs therefore combine with intensive parenthood to motivate donors to pump their milk, and parents of recipients to purchase the milk for their infants, increasing both supply and demand. I discuss the ways in which medical practices and beliefs influence these choices below.

Listening to Expert Advice: Donors

With one exception (Erica), donors accepted medical authorities’ claims that feeding their infants breast milk, either by nursing or through a bottle, was healthier than formula and

beneficial to their children. This reliance on expert advice is one of the hallmarks of intensive motherhood. Donors often mentioned their pediatricians as instrumental in their decision to breastfeed. For instance, Carol's pediatrician was Dr. William Sears, author of a popular series on childrearing and a leading proponent of attachment parenting, a parenting style that incorporates breastfeeding as one of its central tenets. As she told me:

“Our physician is Dr. Sears...and we have read all the books and we just follow it by breastfeeding. And we carry her all the time, we don't let her cry, we give her what she, we believe her wants equal—are the same—as her needs, there's no such thing as a desire for her that isn't an actual need for her.”

Carol closely followed Dr. Sears' advice on childrearing, which included breastfeeding on demand. She did this despite the fact that it sometimes made life more difficult. As she admitted later:

“It's like the not so great fact of attachment parenting...is that they're so used to getting everything that they need and being close to you that of course you know they're gonna be night nursing more than babies that weren't raised that way.”

But although Carol perceived that nursing on demand created more work and less sleep for her, she continued to adhere to Dr. Sears' advice, in part because it made her more confident of her mothering. As she told me:

“I never want to parent and just wing it...I wanted to be deliberate about it and so that's why I latched onto the Dr. Sears stuff so much and so I feel like I am making an impact with her.”

Carol was nervous about her own skills as a mother, later telling me that her greatest fear about becoming a mom was that she would “screw it up.” Although she became more confident on her

own skills as her daughter got older, during the early months she was comforted by her reliance on her pediatrician's advice.

Although other donors described their decision to breastfeed in terms of their personal history (e.g., their mothers breastfed them), or took infant feeding advice from friends or family (e.g., their husbands had a strong preference for breastfeeding), all of the donors interviewed were influenced by prevailing medical practices and beliefs that strongly support breastfeeding. Although donors often did their own research on infant feeding, this research was invariably informed by scientific and medical research. Several donors took breastfeeding classes at the hospitals where they gave birth, and many saw lactation consultants either in the hospital immediately after giving birth, or after they were discharged.

Interestingly, only a few donors, like Carol, explicitly mentioned their pediatrician when asked whom their most trusted source of information is when it comes to infant feeding. Instead, donors listed lactation consultants, books on childrearing, or online sources. Leanna told me that she actively resisted her pediatricians' advice on breastfeeding:

“I don't think she [the pediatrician] has the greatest training, 'cause one thing she told me was to nurse each side for five or ten minutes. And I didn't have a whole lot of education at that point at the very beginning, but that just didn't sound right to me. So I asked my lactation [consultant] when I went to see her, and she said oh no that's way out of date information, I love my pediatrician but not for breastfeeding advice.”

Leanna doubted her pediatricians' advice on breastfeeding, but still relied to a medical professional—a lactation consultant—for expertise on infant feeding. Although donors generally did not rely on their pediatricians as much as earlier generations of mothers did, medical practices and beliefs were still very influential in donors' decision to breastfeed.

As Wolf (2007; 2011) and others (e.g., Blum, 1996; Law, 2000) have demonstrated, breastfeeding has become a central part of the public health discourse in the past 40 years as medical authorities became increasingly convinced of breastfeeding's superiority over formula. Meanwhile, public health and health promotion have become moral regulators of social life (Foucault, 1980; Lupton; 1995). Breastfeeding has therefore become part of "the imperative of health" in modern society, making it a mother's moral obligation to breastfeed (Foucault, 1980:170; Wolf, 2011). Donors are aware of and accept this moral obligation, and their responses demonstrate the powerful combination of moral imperatives of health and motherhood.

Medical practices and belief also motivate mothers to pump their milk when they are separated from their infant. As Blum (1999:183) notes, "today's Disembodied Supermom gets medical approval to carry her breast pump to work, and though her milk, to maintain her claim to exclusive class-enhancing motherhood" (Blum, 1999:183). Medical professionals' preference for breastfeeding, and medical practices that promote breast milk's health benefits, therefore combine with the conception of intensive motherhood, which prepares mothers to listen to and accept the advice of medical professionals to create an excess supply of breast milk that is available for donation.

Listening to Medical Authority: Parents of Recipients

Physicians' and other medical authorities' belief that breastfeeding and by extension breast milk is superior to formula was influential to parents of recipients' decisions to use donor milk. In many cases, parents of recipients who had not heard of donor milk were encouraged to use it by their infants' pediatricians, lactation consultants, or NICU staff. For instance, Juan,

whose foster son was born two months prematurely, was encouraged by a nurse in the NICU to use donor milk. As he described it:

“There was a woman [in the NICU] ...she was the breast milk coordinator, breast milk something. She was really pushing [donor milk] so she, I had never heard of it, so she recommended it. So she made a call to the bank, and it took a day or two so I decided to drive down there. Because he was doing very well, but we felt until he reaches his, I forgot what it’s called, adjusted due date, what day he would have been born, just for the first couple of months to give him breast milk and see how that goes. So I drove down there, and I got him a batch, I think two weeks worth. But then he passed away five or six days afterwards.

Although his son had appeared to be doing fine on formula, the lactation consultant in the NICU recommended they use donor milk. Unfortunately Juan’s son developed necrotizing enterocolitis (NEC), a gastrointestinal disorder common to premature infants shortly after he began to take donor milk and died. It is unclear whether donor milk in any way contributed to his death; breast milk is often prescribed to prevent NEC, so it is possible that he had already begun to develop the disorder before he received donor milk. For the purposes of this research, Juan’s case demonstrates the preference for donor milk among lactation consultants and some medical authorities hospitals, and parents’ willingness to use donor milk at the urging of these authorities.

In other cases, physicians’ recommendations combined with parents’ engagement with to intensive parenthood to motivate them to use donor milk. For instance, Heidi wasn’t able to produce enough milk for her son, but was committed to giving him breast milk. She described her emotional response to her inability to produce enough milk and her doctor’s recommendation that she use donor milk:

“The reason I receive donor milk is that I just planned on nursing that was just a given, never had problems with it before, why should I now. Although it was mentioned to me through WIC, women who have gestational diabetes have a harder time producing milk. And after I had him he latched on fine, he didn’t seem real satisfied, I saw probably about five lactation consultants, through WIC through the hospital and at his pediatrician office. So they gave me a pump and he had lost two pounds the first week so that was an indication...I had seen they wanted me to continue trying, and they walked in with formula to give him and I just broke down...I had a really emotional breakdown about not being able to provide for my child, that is something I never experienced before....The doctor [asked what] was so emotional about this not being able to breastfeed, she asked why was it, was it because of nutritional needs, because of the bonding? And I said it is all of it, I know how important it is for them to be receiving breast milk, it’s just, I’ve just read so much about it, and the experience I had, it was so important to me not to giving him some synthetic powder. Anyway the doctor let me know that there was this program, I never heard of it before.”

Heidi was breaking down emotionally at the thought of giving her son formula, because she wanted to have the bonding experience, and was devastated that she couldn’t “provide” for her child. She also perceived formula as “synthetic” and therefore less healthy than breast milk. Although donor milk could not assist with bonding or fix her supply problem, she believed it would fulfill her son’s nutritional needs, and therefore relieved some of her anxiety about not being able to provide the best for her child. Heidi had already accepted medical authorities’ claim that breastfeeding, and by extension breast milk, was superior to formula, and her

physician's recommendation that she use donor milk combined with this belief to motivate her use of the milk.

Parents of recipients also shared donors' belief that breastfeeding is superior to formula feeding, and that breast milk will confer health benefits even if it is bottle fed, and even if it is not maternal milk. They cited developmental benefits, heightened immunity, fewer allergies, and higher IQ as benefits of breast milk. They also shared donors' belief that breast milk is more natural and organic.

Parents of recipients believe this despite the fact that there is very little data to support the idea that non-maternal breast milk is superior to formula, particularly for healthy children. There have been a handful of studies of donor milk use among preterm infants in NICUs (see for instance Quigley, 2007). These are the only studies of breast milk that actually control for the feeding method, because all babies receive sustenance through a bottle. But even in these studies, outcomes are mixed. Preterm infants fed donated breast milk have a lower incidence of necrotizing enterocolitis, a dangerous gastrointestinal disease (see Boyd et al., 2007 for a review of the research). However, very low birth weight preterm infants who receive donated breast milk also develop more slowly than infants receiving formula (Lucas et al. 1989:1577; Quigley et al., 2007). Differences in the composition of preterm maternal milk and mature donated milk and its effects on preterm infants' health are also subject to debate but little research (Lemons, 1982). However, the evidence of potential benefits has led the World Health Organization to recommend that member states use donor milk for "vulnerable infants" (Leaf and Winterson, 2009:398).

Although it is impossible for me to judge within the confines of this study whether the infant recipients did derive health benefits from donor milk, parents whose children had

gastrointestinal problems or were lactose intolerant did report improvements in their children's health after they began using donor milk. For instance, Mary's son was born with a malabsorption, meaning he absorbs food at a much slower rate than normal. After Mary discovered she had insufficient milk, she began supplementing with formula, which led to excessive vomiting. She had heard of donor milk and asked her son's pediatrician and GI specialist if they would recommend it and eventually secured a prescription. She said the difference in her son's health was immediate:

“Yea, it was like within a day he went from like twenty to like five [vomiting incidents] or something...for two weeks he had no vomiting, and it was, that the only thing I changed was going from formula to breast milk. And then he went to vomiting again and I figured out it was cuz of the medication he was on so then I took him off the medication and then he stopped altogether, he stopped vomiting altogether, but definitely the difference between formula and breast milk was like instant.”

Mary and other parents of recipients whose children suffered from gastrointestinal disorders or lactose intolerance and who had attempted to use formula reported immediate improvements in their children's health and behavior after they received donor milk. These experiences confirmed the parents' belief that breast milk was healthier than formula.

In nine cases, however, infant recipients were healthy children or suffered from conditions for which breast milk is not medically indicated, and their parents' use of donor milk throws into sharp relief the overlap between medical practices and beliefs and intensive parenthood. As I noted in Chapter 4, although the San Jose Mothers' Milk Bank prioritizes premature and sick infants, a significant minority of infants who receive milk from the bank apparently healthy (see Table 2 in Chapter 4: Reasons Prescribed). Among the parents of healthy

children in my sample, giving their children donor breast milk represented their effort to “optimize every dimension of children’s lives,” reduce potential health risks, and “predict and prevent all less-than-optimal social, emotional, cognitive, and physical outcomes” (Wolf, 2007:615). For instance, when I asked how she thought her daughter benefited from receiving donor milk, Inez noted her daughter’s physical strength:

“I’m not in the medical sphere but I, you know she’s very strong, its extraordinary, my nanny can’t believe. She’s like extremely strong, extremely alert, extremely developed...you know, so she like she can roll over since her first week you know which is like, the nanny says in unheard of...I even thought that maybe she’s getting different antibodies or something like that [from using donor milk].”

Inez attributed her daughter’s strength and health to the fact that she got both maternal and donor breast milk. She also noted that she herself ate an extremely healthy diet, both during her pregnancy and afterwards, and assumed that donors ate healthily, as well. Eating healthy and feeding her daughter maternal and donor milk represented Inez’ best efforts to optimize her daughters’ development and cognitive and physical outcomes. For Inez, and for the other parents of recipients, breast milk not only the healthier choice for their infants, it was the moral choice, because it represented their efforts to provide the best they could for their children.

CONCLUSION

My interviews with donors to the San Jose Mothers’ Milk Bank and parents of recipients of that milk demonstrate that intensive motherhood and medical practices and beliefs combine to create the ongoing supply and demand for banked breast milk. Both donors and parents of recipients are committed to a conception of parenthood that is “child-centered, expert-guided,

emotionally-absorbing, labor-intensive, and financially expensive” (Hays 1996:8, 49). Medical authorities’ strong preference for breastfeeding, and by extension breast milk, makes it the gold standard of parenting. Donors therefore seek to optimize their children’s outcomes and prevent risks by breastfeeding and pumping their milk, and parents of recipients by feeding their children donor breast milk.

GIFTIFYING AND COMMODIFYING: PERCEPTIONS OF BREAST MILK'S EXCHANGEABILITY

As I discussed in Chapters 4 and 5, employment, intensive motherhood, medical practices and beliefs, and technologies “giftify” breast milk at the point of production in the commodity chain. The process of “giftification” involves three parts: it must be alienable from the human body, perceived as unexchangeable for money, and exchanged as a gift. In previous chapters I discussed how technologies, including efficient, portable breast pumps, combine with middle class mothers’ employment conditions to make breast milk more alienable. The last chapter demonstrated how the cultural conception of intensive motherhood combined with medical practices and beliefs to sacralize breast milk, motivating mothers to breastfeed and pump their milk, creating an excess supply of milk available for donation. These two factors also motivated the founders of the San Jose bank to create the donor model of breast milk banking, establishing a system of gift exchange at the point of production.

The first section of this chapter focuses on the second part of the process of giftification: the perception of unexchangeability for money. More specifically, I investigate the meanings donors attach to their breast milk, and the way these meanings influence their perceptions about the milk’s exchangeability. Donors, who are engaged in intensive motherhood and accept medical authorities’ preference for breast milk view breast milk as a morally and symbolically valuable, and this value motivates them to give the milk to someone else, rather than dispose of it. This symbolic value also leads many donors to view the milk as unexchangeable for money, motivating them to give the milk without expectation of remuneration. But my interviews

demonstrate that this is only one of several, sometimes conflicting perceptions. Many donors do perceive the milk as exchangeable, if not for money than for other tangible or intangible benefits. And a large proportion of middle class donors in my sample also expressed an interest in being paid for their milk, even though they give the milk away as a gift without expectation of compensation.

The second section of this chapter uses my interviews with parents of recipients to analyze their experiences purchasing breast milk, and their perceptions of the milk's exchangeability. Chapters 4 and 5 showed that intensive motherhood and medical practices and beliefs combine to commodify breast milk at the point of distribution, by motivating potential consumers of the milk to perceive the milk as exchangeable for money, making them willing to purchase donor milk. However, my interviews indicate that parents of recipients' perceptions are also complex and sometimes contradictory, and social class also mediates these perceptions. Although they are actively engaged in the milk's commodification, middle and upper class parents view the milk as a form of good parenting and do not think donors should be compensated and perceive the milk as unexchangeable for money at the point of production and collection. Meanwhile, lower income parents think donors should be compensated, perhaps because they do not associate donation with middle class values and therefore do not assign the same symbolic value to the milk.

The interview data analyzed in this chapter therefore demonstrate the complexities of milk's gifting and commodification, and the ways in which social class shapes perceptions and interpretations of exchange. As my data indicates, breast milk is not only gifting and commodified at different points in the commodity chain, it is also subject to multiple and

sometimes conflicting meanings within the same link in the chain, demonstrating the influence of both moral and economic valuations on perceptions of breast milk's exchangeability for money.

DONORS' PERCEPTIONS ABOUT BREAST MILK'S VALUE AND EXCHANGEABILITY

In interviews, donors used a variety of terms to describe their breast milk: liquid gold, precious, good stuff, a valuable resource, and hard work. Their breast milk symbolized their efforts to provide the best for their infants. This symbolic value as good mothering influenced donor's decision to give the milk as a gift, rather than dispose of it, suggesting that they view the milk as unexchangeable for money. However, my interviews suggest these practices and perceptions do not always overlap. Although donors gave their milk away as a gift, many *did* perceive the milk as exchangeable, either for money or other benefits. In the sections below, I begin by discussing donor's symbolic and moral valuations of their milk, which makes it difficult for them to throw the milk away. Second, I examine their perceptions of the non-monetary benefits of exchange. Finally, I discuss donors' perceptions about breast milk's exchangeability for money, and how social class mediates these perceptions. Although breast milk is sacralized and donors make the decision to give the milk away as a gift rather than sell it, they are also aware of the economic value of the milk and the fact that it is sold as a commodity both by banks and by other individuals. This knowledge also shapes their perceptions of the milk's exchangeability, and makes middle class donors, in particular, more willing to consider selling their milk.

“A Gift That I Have to Give Right Now”

Donors are motivated to give their milk away to someone else because they view the milk as valuable, and therefore find it difficult to dispose of their excess breast milk. In this section I discuss the sources of this perceived value.

Health Benefits

Nearly every donor initially cited the health benefits of breast milk as the reason they decided to donate their breast milk. Donors from both income groups called breast milk “liquid gold”, repeating the popular and public health rhetoric about breast milk’s value as the healthiest food for infants. They listed a wide range of health benefits attributed to breast milk. For instance, one donor, Carol, called breast milk the “cure for everything.” Another donor, Leanna, explained: “the antibodies and the nutrients are ideal” for babies. Other donors listed fewer allergies, strengthened immunity, higher IQ, and even protection against cancer among the potential benefits. Even Erica, the one donor who expressed serious doubts about the research on the health benefits of breast milk, felt that it must be healthier than formula, because it hasn’t been processed or reconstituted.

Personal interactions with physicians also contributed to donors’ belief that breast milk was liquid gold. When asked why she donated her milk rather than throw it away, Tracy referred explicitly to the role of her physician in her decision to donate:

“I felt it was valuable, liquid gold. The doctor...right after [I] gave birth his mouth was open so I got him on the boob not thinking anything of it, and he sat there and ate for like an hour. And the doctor kept coming in and out and he was like ‘wow you’re giving him liquid gold.’ I was like, okay, that’s cool.”

Tracy not only received support for her decision to breastfeed from her doctor, she repeated the term “liquid gold” when she discussed her decision to donate. Other donors heard about donation through lactation consultants or Women, Infants, and Children (WIC) nurses and nutritionists.

The majority of donors assumed that “preemies in the NICU” were the recipients of their donations (although some listed adoptees and infants born to mothers infected with HIV/AIDS as potential recipients), and many donors viewed the milk as particularly important for premature infants. As Krystin told me, breast milk has “the most leverage” for premature infants, because “they consume only a tiny a bit of milk but that they can have such huge benefits from it.” This focus on premature infants is unsurprising considering that the San Jose and other milk banks actively promote the idea that donor milk goes to premature infants, although a sizable share of the milk goes to healthy infants.

In addition, four of the donors I interviewed, Rachel, Angela, Jennifer, and Alexandra, were mothers of premature infants themselves. Jennifer, who gave birth to twins three months prematurely told me:

“They [the doctors and nurses in the NICU] call it the liquid gold...it was a huge thing for them. Just being at the hospital having [the nurses] give [my breast milk] to [the twins] I felt at least I was contributing some. It’s just I know it would have probably helped her [daughter] in her path and developing and stuff like that...they knew that would be the best way for them to develop, and to gain the weight...and to prevent diseases, prevent them getting sick, it was the best way for them to get out of the NICU quicker.”

Jennifer’s experiences in the NICU convinced her that breast milk was vital for premature infant’s health, and this belief in the milk’s value for preemies motivated her to donate after her

son died and she discovered that her daughter could not use some of her pumped milk because she was allergic to something in the milk. Interestingly, she did not see the contradiction between her belief that breastfeeding is natural and her daughter's allergy to her milk, indicating again just how powerful the rhetoric of the natural is in the conception of intensive motherhood.

However, Jennifer, like nearly all the other donors, was also fine with the idea of healthy infants or even sick adults using her milk. As another donor, Allison, told me: "I don't really mind how it's used as long as it's benefiting somebody." Donors believed that all infants receive benefits from breast milk, even if they are healthy and might thrive on artificial formulas. Donors accepted and internalized the belief that "breast is best" popularized by the medical community and public health campaigns, and this was an important motivation for giving their milk to others.

Early Motherhood

For many donors, breast milk is not only healthy; it is also uniquely tied to the experience of early motherhood, and therefore rare and precious. For instance, Leanna cited the relative rarity of breast milk, and the fact that it cannot be purchased in a store like formula when discussed her reasons for donating:

"It just seems like a valuable resource that not everybody can have, not everybody has access to. I mean I know there's a small percentage of women who can't produce milk for their babies, and there's the mothers of premies whose milk supply doesn't come in. It's a valuable resource and you can't just go out and buy it in the store."

Leanna also explained that part of her motivation to donate was the limited time in which to give, since she would only produce milk for a relatively short amount of time. As she explained: "I

feel like it's a gift that I have to give right now, and it's only for such a short time." Another donor, Wendy, also cited the limited time for donation: "It's not like blood...everybody has blood, any time year round ... the breast-milk only comes when mom's give birth." Both Wendy and Leanna view breast milk as even more valuable because there is a limited supply and a limited amount of time in which to give, making donation a compelling option when they found they had an excess supply.

Other donors described the way in which donating connected them to other mothers going through similar experiences as new parents. Five donors cited the value the milk might hold for the mothers of recipients as a motivation for donating. Wendy told me: "I think the moms of the sick babies [benefit], just knowing that there's going to be this continuous supply of their sick babies' food...having that security." Wendy thought the mothers of sick infants who received donor milk would be comforted in the knowledge that they could provide the best for their infant, even if they weren't able to provide it themselves.

Erica, who questioned the research on the benefits of breast milk because it was often contradictory, decided to donate despite her doubts because she thought it might benefit other mothers:

"I thought if there were other mothers who would like breast-milk I would like to give it to them...[If] it's worth that much to somebody, like it's not clear to me why that is, but... they're willing to do that [accept someone else's milk] than I'm very happy to give it away."

For Erica and other donors, helping other mothers was a strong motivation for donation. The breast milk was not only a gift for another woman's infant, a way for a donor to extend her

intensive mothering to someone else's child, but a way for a mother to assist another mother who shared similar values and beliefs about the importance of breastfeeding and breast milk.

Donors whose infants were premature and in the NICU were even more likely to think of mothers of recipients, since it related to their own experiences: three of the four mentioned recipient's mothers when discussing their decision to donate. Angela called her experience "a lesson in empathy", and described the other mothers struggling to pump even the smallest amount of milk for their children. Jennifer told me:

"I think the mothers of the infants [benefit], because they're feeling they're getting the nutrition their child needs. I'm sure that it would feel inadequate as a mom if I couldn't produce it [milk], and I think it's a motherly feeling that I want to be able to provide for my child."

For the donors quoted above, donation was not only a gift to an infant, it was a gift to another mother, expanding the number of beneficiaries and increasing its symbolic value.

Breast Milk as Embodied Labor

While all the donors cited the health value of breast milk as a motivation for donation, and many discussed the milk's connection to their mothering experiences and their empathy with other mothers as motivations, seven of the middle and upper income donors also cited the time and effort they spent pumping as a reason for donation. For these donors, breast milk derives at least some of its value from the physical and emotional labor they put into pumping their breasts. For instance, Mirabel, when asked if she had considered pouring her excess milk down the drain responded that she would "die rather than throw the milk away, asking me: "Do you know how many hours you spend watching this thing come out of you?" Another donor, Mia, answered:

“I was like this stuff is gold, I can't throw it away...Because that was hard work. It takes so much time and energy to pump it and it's like so many, especially that stuff that I donated because it was from the very beginning, so it was just jammed packed with antibodies and I feel like some of that was colostrum, or you know like the transitional milk. That was the really you know good stuff. And I was like somebody else could use this and you know I can't.”

Mia explicitly linked the milk's value (comparing it to gold) to the amount of work she put into pumping. The time and effort, or more specifically, the *labor* put into pumping, made the milk valuable. Mirabel and Mia pumped because they worked full time and were separated from their infants, and pumping milk not only allowed them to continue to engage in intensive motherhood by providing breast milk for their infants, but also physically demonstrated their commitment to their infants and to good mothering.

In some cases donors referred specifically to the physical labor of pumping milk—the time and energy—as the source of its value, while others discussed the emotional aspects of pumping. For instance, one donor, Pamela, explained her decision to donate this way:

“Part of it is selfish, was like the pain of pumping. I don't want to go through that for nothing, you know and if, if somebody else can benefit from it you know, and it's not like I was putting myself through the extra trouble...it's so much work to get it, you know it's kind of a part of you, as demented as that sounds. It's hard to just throw that away, all that effort away.”

Not only the time and effort, but the annoyance of pumping milk several times a day for months made the milk particularly precious to this donor, because milk represented both physical and emotional labor spent in pursuit of providing the best for her child. Meanwhile, Pamela's

comment that the milk is “kind of a part of you”, made explicit the fact that the milk represents her embodied labor time. On the rare occasions when she has had to dispose of her milk, she has had to leave the house while her husband throws it away, because it represents so much physical and emotional labor, and symbolizes her good mothering.

For the two of the donors who began pumping because their own infants were born prematurely and treated in the NICU, Rachel and Jennifer, and the emotional labor involved in pumping was even more significant. In these cases, donors were unable to nurse their infants, and were physically separated from their children for long periods during the earliest weeks of their lives. Rachel told me:

“You go home every night and they stay in the hospital you’re completely helpless there’s absolutely nothing you can do which is a really, really difficult psychological introduction into new parenthood. And again the only that I could ever advocate for him as a parent, the only thing that I could affect was producing milk.”

Jennifer expressed similar sentiments: “It was a huge thing...having them give [my milk] to them. I felt at least I was contributing some.” After her son died and she discovered her daughter could not drink her stored milk because of food allergies, she couldn’t bear to throw the milk away: “It was depressing to think that I worked so hard, and stayed up so many long nights to just throw it away.” Jennifer’s milk was imbued with additional value because it was connected to a very difficult emotional experience. The milk represented both physical and emotional embodied labor time and a situation in which pumping milk was one of the few ways in which these donors were able to mother their children. In both cases it made throwing the milk away impossible.

Breastfeeding's centrality to intensive motherhood motivated these donors to continue to breastfeed despite significant challenges, or pump exclusively for long periods of time when they were unable to nurse, despite the discomforts of pumping. For instance, Pamela described how she felt about her failure to breastfeed and how pumping assuaged these concerns:

“With the first [child] like just the first couple weeks I felt bad [for not nursing], I felt I was doing something wrong. Like I failed somehow, but then you know my husband was very supportive, he was like he's still getting the breast milk, you're putting yourself through hell to get it, there's nothing to feel bad about.”

Not only was her son getting her breast milk and therefore the what she believed was the best, but she was “going through hell to get it”, proving her commitment to intensive mothering, despite her inability to nurse. Her breast milk was not only embodied labor time, it was labor spent working to provide the best for her child. Pumping is a “labor of love,” and the milk it produces symbolizes donors' commitment to the conception of the intensive motherhood, and their sense of responsibility for their children's long-term health and well-being. Rachel, a mother of a premature infant, made the strongest case for this symbolism while describing of her emotional reaction to donating her milk:

“I remember I cried when they picked up the cooler [of milk]...I had some sort of emotional attachment to my freezer [full of milk], from that difficult time when we didn't know what was going on with him and how he was doing and you know what the final outcome would be, that was in the hospital that's what I did.”

For Rachel, and for the other donors, breast milk is more than just a food for their infant: it is good mothering in a bottle. Pumping breast milk is more than technological solution to the biological necessity of lactation: it is an expression of their devotion to the infant and their

commitment to providing the best for their child. Both the labor of pumping and what the labor represents—maternal love and responsibility for their infant’s well-being—make the milk valuable, and therefore impossible to throw away. The labor that produces the milk is also singular, creating a product that is unlike anything else. This singular, symbolic value of the labor and the milk makes it difficult for donors to throw their milk away, and motivates them to find another use for the milk.

Medical practices and beliefs that designate breast milk as “liquid gold” therefore combines with intensive motherhood to create donors’ perception that breast milk has unique value and therefore should not be thrown away. Disposing of the milk is not an option because “wasting” this “precious resource” is immoral. The moral valuations donors attach to their milk—they fact that it symbolizes their good mothering—motivates them to search for another an alternative to disposing of the milk.

Donors’ Perceptions of Breast Milk’s Exchangeability

The symbolic and moral valuations donors attach to their milk not only made it difficult for donors to throw the milk away, it also shaped donors’ perceptions about breast milk’s exchangeability and contributed to their decision to gift the milk. However, my interviews indicate that the relationship between breast milk’s sacralization and its giftification is less straightforward than the literature on motherhood might suggest.

First, although donors gave their milk away as a gift and therefore did not receive monetary compensation, most did feel they received non-monetary benefits from donation that motivated them to give their milk as a gift. Second, donors were aware that breast milk was sold for money, both by the bank and by individuals online, and this also shaped their perceptions

about breast milk's exchangeability. Although all these donors made a conscious decision to donate rather than sell their milk, they did not rule out the possibility of being paid, and a majority of middle class donors actually said they would like to be paid for their milk. On the other hand the three lower-income donors rejected payment, suggesting that social class might mediate perceptions about breast milk's exchangeability.

Ultimately, all these donors decided to gift their milk rather than sell it either because of the intangible benefits they received, or because of class-based concerns about milk selling. I discuss these complexities and contradictions below.

The Benefits of Donating: Exchanging for Non-Monetary Benefits

Although my interviews demonstrate that donors adhere to the conception of intensive motherhood, these data also suggest that donors' motivations more closely resemble reciprocity—a mutual give and take of benefits—than the altruistic dedication one might expect from this conception of motherhood. Donors' perceived their decision to breastfeed and pump milk for their own infants as altruistic, but often perceived their decision to donate as involving fewer costs to themselves and a larger measure of non-monetary benefit. I divide these benefits into three categories: material benefits, positive personal feelings, and generalized reciprocity.

Material Benefits. When asked if they felt they benefited in any way from donation, three donors listed tangible benefits. Two middle-class donors, Wendy and Pamela, noted that breastfeeding and pumping milk helped with weight loss. Wendy also cited relief from engorgement as a benefit, describing pumping milk as an enjoyable experience: “I would say the

breast pump was my best friend ever, the best. ‘Cause it’s like you know how you’re feeling it’s so full it hurts and it’s heavy, and you have the release is like the best, wherever I go.”

Similarly, Krystin, who did not think anyone should profit off breast milk, described pumping as a break from caregiving, a time to relax and decompress:

“I usually pump three or four times a day, I get a little sit down break and you know I’m able to, if someone’s here, I can pass my son off to them...I just make sure I have that time to sit down during [my son’s] nap...it’s been lovely.”

For Krystin, who pumps exclusively to donate (she exclusively nurses her son), pumping provides a respite from mothering her own child, challenging my expectation that pumping milk is a form of intensive mothering, and demonstrating another way in which donors can benefit from giving. Each of these donors described tangible physical or psychological benefits that provided additional motivation for donating milk and made the exchange less than altruistic, since the donors felt they received benefits even as they gave a gift.

Positive Personal Feelings. Seven donors told me that donating is beneficial to them because it gives them a sense of satisfaction to know that they helped others. Jennifer told me: “I feel good that I done something for somebody else, just knowing that I helped save someone or helped give nutrition to another child or another person, I think that that’s a benefit to me on an emotional level.” Another donor, Sadie, who wanted to continue to pump even after her child weaned so she could donate said: “I feel good that I was able to do that, and I often think of wanting to keep doing it.” The feeling that they had done good for others was an important psychological benefit for both these donors.

Several donors also discussed their pride in their ability to produce and donate very large amounts of breast milk. For instance, Wendy, a two-time donor, ate foods to stimulate milk production so she could donate more, and told me she ultimately donated 10 to 15 gallons of breast milk, or between 1000 and 2000 ounces (the usual minimum donation is 100 ounces). Allison, who donated four times, described her occasional sense of pride in the amount she pumped and could donate: “I would sometimes show my husband look at this, look at what I did. He’s like, ‘well better call in another shipment!’” Allison’s sense of accomplishment made her feel good about herself.

Pamela, another two-time donor, told me she felt good about donating and experienced a sense of accomplishment and even competition when it came to donating:

“I’m glad I can do it, it feels good that I’m able to donate it. I feel that I’m not donating as much this time around, but I figure every little bit is going to help. And then of course the motivation to donate, especially with the first one I kinda got it in my head that I’m gonna make it to ten thousand [ounces donated]. When I was six thousand, I was like are you sure you measured that right?”

Pamela felt so good about the amount to donated after the birth of her first son, she wanted to donate even more after her second son was born so she could break the record she had set for herself. Although she was motivated to help others, she was also motivated by the sense of pride and accomplishment she felt about her ability to give away large amounts of milk.

Angela, whose infant was born prematurely described telling the nurses in the NICU about her donation:

“When I was in the hospital I was like, oh yeah I just donated 500 [ounces]...I would come from the pumping room and I would have 12 ounces from an overnight stay. And

the nurses would be like what's wrong with you [that you have so much milk]? I was like I don't know, I have to donate, and they were like oh that's good you're saving a lot of babies. So I think [the nurses] knew more who was getting it."

Donating large amounts of milk gave these donors "bragging rights", and brought them both personal satisfaction and the admiration of others, both significant psychological benefits.

Generalized Reciprocity. Five of the donors discussed their decision to donate in terms of generalized reciprocity (Polanyi, 1957; Sahlins, 1972)⁶⁰, meaning their donation was a method of reciprocating from a gift they previously received, or a way to contribute to a generalized communal good which benefits them now or may benefit them or their child in the future.

For two donors, the reciprocal exchanges were relatively straightforward cases of repaying the bank. Wendy gave her milk the first time in exchange for a free breast pump rental, telling me, "I just donated to thank them." She admitted that she had hoped to receive the same benefit the second time. Dana donated after her two children, both of whom were healthy, received donor milk from the bank. She also gave milk to the bank as a form of repayment, telling me: "We were privileged to get that luxury. I was hoping to help the babies that maybe needed it more than mine did." Dana donated to repay the milk bank in kind, and perhaps out of an added sense of guilt that her children did not necessarily "need" the milk as much as some other infants.

⁶⁰ Generalized reciprocity, according to Sahlins (1972:194) are "transactions that are *putatively* altruistic, transactions on the line of assistance given, and, if possible and necessary, assistance returned" [italics mine].

Jennifer, the mother of premature twins, also discussed her decision to donate in terms of reciprocity, although her repayment benefitted a more abstract or generalized “other.” As she told me:

“I was in it to do something good for somebody else. I felt like so much good had been done to me, to at least have as much time as I had with my son, and to have her [daughter], that I felt like it was my turn to give something back.”

Jennifer had a sense that she had benefited from other people’s good intentions, particularly the people at the hospital where her children were born, and wanted to do good for others in kind.

Three donors, Krystin, Erica, and Carol, connected their decision to donate breast milk to their decision to donate blood, in each case discussing giving in terms of receiving. Krystin told me:

“I see it as volunteer work, I like to always do some type of volunteer work or donate something. I used to donate blood, which I don’t do now. I feel blessed to have had such an easy process with breast feeding, to have a healthy baby, and you know I, I give something back.”

Krystin considered giving time, blood, or breast milk a way of contributing to a communal good that she had already benefited from.

Erica also compared breast milk donation to blood donation, and put her decision in a large context of how she tried to live her life:

“I guess I do believe in Karma in some sense. If I do this then somehow, potentially it’s the right thing to do and it makes, it makes more things available to other people and that will eventually come back to me, or it will make someone else’s life a little easier. So

yeah again donating milk is consistent with I donate blood, I've tried to donate cord blood, it's consistent with like what I try to do.”

Erica anticipated that giving breast milk, like giving blood, would ultimately benefit if she was ever in need.

Carol, who also connected milk donation explicitly to blood donation, also described donating milk in terms of reciprocity, in this case the potential benefit to her own child. After saying she donated milk because it was “best” for infants, she went on to explain:

“Even if it wasn't my kid getting it [my milk] necessarily, it's still good for them. It's just like if you donate blood, it may not be going to my direct kid, but its still helping [her].”

According to Carol, donating milk not only benefited other children, it benefited her own daughter, presumably because it might motivate someone else to give in a way that could benefit her child. Although her donation was *putatively* altruistic, Carol anticipated that her assistance would be reciprocated in some unspecified future date and manner (Sahlins (1972:194).

Donors' descriptions of the ways in which they benefit from donation demonstrate that while they do not profit financially from their gift, they do expect and receive non-financial forms of compensation, and their motivations can be interpreted as a form of rational self-interest. The donors who discussed giving in terms of reciprocity made this explicit, verbalizing Mauss' (1990) theory of gifting as an ongoing system of exchange that creates an obligations and reciprocal relationships between individuals and communities. Donating milk also helped donors create a “sense of identity, participation, and community,” exactly the types of positive social relations Titmuss (1997:20) expected from donor systems. Dichotomous theories of gift exchange therefore anticipate these findings. However, these findings challenge the cultural expectation that mothers are motivated to donate by maternal altruism.

These findings also point to the blurring of the boundary between breast milk's perceived exchangeability and unexchangeability, and therefore between its commodification and giftification. Although the quotes above do not indicate that donors perceive the milk as exchangeable for money, they do show that donors view the milk as exchangeable, and therefore potentially quantifiable and equivalent, and more similar to a commodity.

Gift or Commodity? Donors' Views on Selling Breast Milk

Despite the fact that donors assign moral value to their breast milk, donate the milk, and generally indicated their preference for the donor model of milk banking, in many cases, practices and perceptions about breast milk's exchangeability for money diverged. More specifically, nine of the 16 middle and upper income donors said that they would be interested in being compensated for their milk when asked if they would like to be paid. In addition, three of the middle and upper income donors who rejected compensation had briefly considered selling their milk or had calculated how much they would have made if they were selling their milk themselves. Four donors middle class donors who did not want to be paid said they didn't object to other women being paid.

This suggests that many middle and upper income donors do perceive the milk as exchangeable for money, even as they actively participated in the milk's giftification. However, each of them ultimately decided to give their milk away as a gift, a decision rooted in class-based concerns about milk selling.

Meanwhile, each of the three lower-income women stated unequivocally that they did not want to be paid, and two of them told me that they didn't need the money, despite their low incomes and the fact that they received government welfare benefits. Overall, these data suggest that

social class mediates perceptions about breast milk's exchangeability . I examine donors' feelings about donor compensation below, exploring their complex and sometimes contradictory perceptions of breast milk's exchangeability.

“Who doesn't want money?”

As noted above, when asked whether they would be interested in being paid for their milk, nine of the 16 middle and upper income donors indicated that they would. Wendy told me: “Yes, more money no problem, who doesn't want money?” Sadie, another donor in this category said, “I see it as valuable...if they think it has value [and] they want to pay, why not?” Both these donors recognized the milk's economic value and saw nothing wrong with selling milk, indicating that they viewed the milk as exchangeable for money.

Other donors said they preferred to give the milk away, but had considered the income they might make selling their milk. Pamela explained:

“I'd be lying if I said money is not a motivator. I mean look at the economy, and if I didn't have to work 45-50 hours a week for something I already had, you know yeah I wouldn't say I'd turn it down.”

Leanna admitted:

“[Being paid for my milk] would be kinda nice, but I don't do it for that reason, but yeah I thought about it. ‘Cause three or four dollars an ounce would be a nice little income every month.”

Erica told me it was always her intention to give the milk away for free, but confessed:

“I looked up once how expensive it was, and I remember thinking if that’s true like it was like thirty dollars an ounce or something, wow...I could fund my science career—whatever it ends up being, hopefully a career—you know with, with my breast milk.”

Carol, who viewed breast milk as God’s blessing and initially rejecting the idea of being paid because it would “defeat the whole purpose”, quickly reconsidered when she thought of the financial benefits:

“Sure, that’d be like a little home business I guess for a time, I never really thought about it until were talking about it right now, yea a little extra money would be nice.”

Interestingly, these donors viewed selling their milk as a form of potential part-time employment, similar to milk sellers in the early part of the 20th Century.

Two other donors, Melanie and Jennifer, considered selling their milk not as a potential form of employment, but as a way to save money for their own children. Melanie told me: “Getting something out of it—I wouldn’t mind, I would put it in my daughter’s baby account. I wouldn’t mind at all.” Jennifer told me she had looked at website where she could sell her milk and thought it would be “a great way to start a college fund” for her daughter. Interestingly, Talbot (1928a:3) reported similar saving strategies among sellers to the Mothers’ Milk Directory in the 1920s.

Several donors also said they thought payment for breast milk would increase the supply. For instance, Melinda told me she wasn’t interested in being paid, but was still open to the idea because she thought it would increase donations. Pamela made a similar point, telling me:

“I think [payment] would actually encourage milk [donation]. I know mother’s milk bank has their expenses to cover, even if there was a small kickback that could encourage more people to donate their excess. ‘Cause heaven knows there has to be higher demand than

there is supply, so I don't know I think it would motivate more people to try to do so.”

Melinda and Pamela acknowledged the fact that there is a large demand for breast milk, and that donation might not be the most efficient system to match supply and demand. They felt that a commercial system might be preferable to the donor system now in place.

Although none of these donors ultimately sold their milk, for a variety of reasons discussed below, their willingness to consider donor compensation suggests that their feelings about breast milk are more complex than Blum (1999) and Wolf (2011) suggest. Although they assign symbolic value to breast milk, they also consider it exchangeable for money. The milk may be sacralized, but its commodity potential is apparent to and accepted by those most intimately involved in the milks' giftification. This suggests that donors hold multiple and even conflicting perceptions about breast milk's exchangeability simultaneously, and challenges the strict dichotomy between the gift and commodity.

Donors' perception that breast milk is potentially exchangeable for money may be rooted their perception of breast milk as embodied labor. Although I discussed the ways in which the physical and emotional labor of breastfeeding and pumping milk sacralizes breast milk, making it impossible to throw away, my interviews also suggests that this sacralization does not automatically create the perception that it is unexchangeable for money, even among those actively involved in its giftification. Although on one level, donors view pumping milk as a labor love that makes the milk unexchangeable for money, on another level, they view it as “hard work”: labor that is quantifiable and equivalent to other forms of labor. The product of this labor—breast milk—is therefore also quantifiable and exchangeable for money.

The fact that all seven of the donors who viewed their milk as embodied labor time were open to donor compensation supports this theory, although it should be explored in further research. For instance, Melanie, who told me she donated her milk because “all the work that went into it, what a waste to have to so much [and not use it],” also said she “wouldn’t mind” being paid. Melinda, who didn’t want to be paid but thought it would be a good idea because it would increase supply made the link to compensation for labor more explicit:

“You know it’s about making time you don’t always have. You have to think ‘do I have milk, am I going to go down at two in the morning and pump to get an additional few ounces or not.’ So [payment] would be an interesting motivator...know you have to think about it, you have to naturally have a surplus and it’s really easy, or you have to make the time to pump and be motivated and money is a motivator that would probably increase overall interest in supplying [breast milk].

As Melinda put it, “money is a motivator,” and she viewed money as a potentially positive motivator for women to pump their excess milk and increase the overall supply. Pumping breast milk, in her eyes, is hard work, because it involves getting up in the middle of the night and taking extra time out of your day to pump. Two of the donors who viewed milk as embodied labor and said they didn’t want to be compensated but thought it was fine for other women to be paid compared milk selling to the history of wet nursing, indicating that they saw it as a form of employment with a historical precedent. Donors assigned two conflicting meanings to breast milk, viewing it both as the product of a labor or love, and as a product of hard work that can be sold at a price, because of the labor involved in producing the milk. This may contribute to the disconnect between practice and perception, and the willingness to consider payment for the milk even as they give it away as a gift.

Rejecting Payment: Perceptions of Breast Milk's Unexchangeability and Social Class

Although a majority of the middle class donors expressed an interest in being paid for their milk, or accepted the idea of other women being paid, all of the donors I interviewed had decided to donate their milk rather than sell it. In some cases this was because the donor believed the milk was unexchangeable for money. For instance, Rachel, a middle class mother of a premature infant who said she cried when she donated the milk for the first time because of her emotional attachment to the milk, told me: "I never thought about selling it, not as a parent of a preemie. My whole thing was like, who can I help?" In Rachel's view, breast milk's benefits for premature infants, and her own experiences as a mother of a preemie, made the milk unexchangeable for money.

Another middle class donor, Carol, described breast milk as "God's way of creating this perfect food for infants," indicating that she viewed breast milk as literally sacred. She then told me, "I donate because I have it and it is good for people," and that it would be wrong not to give the milk away. When asked if she wanted to be paid, she said, "That defeats the whole purpose." She had also made a conscious decision not to donate to Prolacta Biosciences, the for-profit bank, preferring to donate to a non-profit. Carol's belief that breast milk is sacred contributed to her perception that breast milk is unexchangeable for money and should be gifted rather than sold. Interestingly, Carol did reconsider her rejection of payment, admitting that "a little extra money would be nice," but her initial vehement rejection of payment points to the moral underpinnings of donor's perceptions of breast milk's value and the ways in which these valuations contribute to their decision to donate, rather than sell their milk.

Krystin also viewed breast milk as unexchangeable for money. She told me that she made a conscious decision not to donate to Prolacta, the for-profit milk bank, because:

“I’d like to see it go to families that maybe can’t afford the big price of Prolacta... I feel like giving away the milk for free and then having someone else profit over it, like not that I would want to be paid myself, but it feels like it’s a blessing, it should be passed on for free.”

Krystin was worried that if a company profited off her milk, people who needed the milk would not be able to afford it. But she also viewed her milk as sacred, a “blessing” she had received, and therefore something one should not exchange for money.

In addition, Krystin was worried that paying donors might threaten the safety of the milk supply, telling me:

“I think it makes it a different model if we were able [to be paid], my concern is people making decisions to donate when they’re not safe to donate, that kind of thing...you know I got it for free, I feel very lucky to have it, I don’t really feel like it’s something you should profit off of.”

Krystin did not want to be paid because it would make the breast milk exchange a “different model”, one that was less safe and might attract the wrong kind of donor (a view shared by many parents of recipients and discussed further below).

Jennifer shared Krystin’s concern that compensating donors would compromise the milk supply’s safety. She told me:

“I think that people [might] abuse it, like people that sit down, let’s say their child is 2 or 3 years old and they’re doing it to make money that’s their way of making money, I don’t know how...I guess I have questions as to how responsible they are with themselves as

far as taking care of themselves to produce that milk...Are you just as diligent as taking care yourself, [when you are] selling it somebody as you would for your own child, it raises a little bit of question to me.”

Jennifer was worried that donor compensation would attract women who weren't motivated by altruism but by profit, and that these donors would not take as good care of themselves as someone donating the milk as a gift, so the milk would be less healthy.

And while Jennifer and Krystin explicitly discussed the dangers of a seller model in terms of health, they also made implicit judgments about the moral character of sellers, suggesting that someone who sold their milk would lead an unhealthy lifestyle. Leanna made this link explicit, telling me:

“I would not buy someone else's milk, just because they never know, I mean they could present you with blood tests and stuff like that, but still you don't know about alcohol or even prescription drugs that they take...So I guess I think [donors] are a little more honorable, just because it takes effort to do this and so I guess I hope that nobody is going to put all that effort in to be malicious and put bad things in their body and pump milk.”

Melinda expressed similar reservations, telling me payment for milk “opens up other doors,” perhaps attracting “people that may just want the money and may not have the cleanest milk, if they're doing drugs, or drinking or what not, and they just want money.”

According to Melinda, Leanna, Jennifer, and Krystin compensation would degrade the milk, not just physically but morally. Not only would it lead to tainted milk, but mercenary donors who are less honorable and don't care as much about other people's children. Notably, all these donors

were middle class, and their fears echoed the concerns of middle and upper class parents of recipients, which I discuss in detail below.

Some donors were also worried about who would purchase the milk if it was sold rather than gifted. Jennifer said she would be worried that perverts would purchase the milk, while Angela said she was concerned that fetishists would buy the milk. Rachel told me she was upset to read about adult athletes purchasing breast milk to enhance performance, because the milk should go to needy infants, not be used “recreationally.” Wendy mentioned that she had read about a restaurant selling breast milk ice cream and thought it was “weird” because breast milk is so “precious”.

These middle class donors assumed like Titmuss (1997) that donation is a safer and more moral of collection than a commercial system. They expressed concerns that payment for breast milk might lead to a tainted milk supply, or that people might use the milk who don't need it (e.g. athletes) or for unsavory purposes (e.g. fetishists). The donor model used by the San Jose Mothers' Milk Bank made them feel more secure about the safety of the milk, and that the milk was going to infants, the appropriate beneficiaries in their minds.

Notably, the lower income donors I interviewed and gave somewhat different reasons for their rejection of payment for their milk. As I noted in the methods section in Chapter 1, I was only able to interview three lower income donors. This tiny sample limits what I can say about the social class differences among donors. However, my interviews indicate that there may be differences in lower income donors' perceptions about the exchangeability of breast milk. All three lower income donors in my sample, Ramona, Alexandra, and Tracy, told me they did not want to be paid for their milk, and Ramona and Alexandra told me explicitly that they didn't need the money, despite the fact that they were receiving government benefits. Ramona told me

they had asked if she preferred to donate or sell her extra milk at the WIC office in her community, but she rejected selling her milk out of hand:

“I didn’t want to sell it...It felt like if I wanted to do something good for somebody why would I have to charge for it, it’s coming from me...for me I’m more of a person who’s like giving, not receiving.”

Ramona viewed her milk as something “for her” and because she is a giving person, she did not think she should be paid for her milk. Giving her milk away as a gift was apparently connected to self-identity, and charging for the milk would have threatened vision of herself. In addition, giving away her excess milk as a gift may have been one of the few ways in which Ramona could give to others, since she had limited economic resources.

Alexandra also said she preferred to give rather than sell, telling me: “It helps more if you’re doing it out of the kindness of your heart than for the money...If I can help somebody without taking from them why not do it that way.” Alexandra believed that the milk “helped more” if it was given as a gift out of the kindness of her heart, indicating that gifting, in her eyes, added symbolic value to the milk. She also saw herself as a giving person, like Ramona, unlike the middle and upper income donors above who viewed donation as a form of generalized reciprocity or were interested in being paid for their milk.

Alexandra and Ramona’s answer suggest that income may influence donors’ views of donor compensation in unexpected ways. The donors with the least amount of money may be the least willing to perceive the milk as exchangeable for money. Because of the limitations of my data and small sample size, I can only speculate on the reasons for this contrast between middle and upper income and lower income donors. However, it is possible that Alexandra and Ramona prefer to give away their milk *because* they receive government benefits, and this is a way both

of “giving back” and engaging in generalized reciprocity, similar to the sellers who rejected payment in Boston. In addition, giving away their breast milk may help them affirm their identities as “givers” and not “receivers” in a culture that expects mothers to be selfless and altruistic.

Another possible explanation is Ramona and Alexandra’s shared ethnic identity, which is Mexican-American. The fact that Tracy, the other WIC donor in my sample and the only African-American donor I interviewed, gave a somewhat different answer when asked whether she was interested in selling her milk, suggests that this may be the stronger explanation. Tracy said she did not want to sell her milk because she trusted the milk bank to screen the milk and give it to infants who were really in need of the milk. She also said she wouldn’t mind if other women were paid for their milk, as long as they weren’t making a large profit off of it. She perceived the milk as exchangeable for money, within limits. Both these answers were more similar to the middle income donors’ responses than Alexandra and Ramona’s. The fact that Tracy, despite being lower income, was also college educated and pursuing a graduate degree also differentiated her from the other two WIC respondents.

My small and diverse sample of lower income respondents makes it difficult to assess what role social class and race plays in donors’ views on compensation and commodification. However, the similarity of Ramona and Alexandra’s responses, in contrast to the primarily white, middle income donors, suggests important directions for further research. The history of breast milk banking demonstrates that the commodification and giftification of breast milk is intricately connected to social class inequalities in every era. Meanwhile, the relative absence of racial and ethnic minorities among breast milk sellers and donors suggests that the economic and cultural factors that influence breast milk banking in every era are racialized, favoring white women’s

participation in both milk selling and donation. Minority women are underrepresented in the story of breast milk banking, and their experiences and perceptions about breast milk's exchangeability should be examined in further research.

Overall, my analysis of interviews with donors shows that while the high moral and symbolic value they assign to their milk motivate donors to preserve their excess milk and find someone to give it to, their intentions are not always purely altruistic and they do not necessarily perceive the milk as unexchangeable for money, as the tenets of intensive motherhood might suggest. Instead, many donors perceive their gifting as a form of reciprocal exchange in which they also benefit, closer to Mauss' conception of gifting as a form of mutual obligation. In addition, my interviews indicate that even as they engage in the giftification process, many are interested in being paid for their milk, pointing to a disconnect between practice and perception in this form of gift exchange.

In addition, my data suggests that social class may mediate perceptions about breast milk's exchangeability. Although the class-based conception of intensive motherhood and medical practices and beliefs sacralize breast milk and motivates donation, middle class donors do not necessarily perceive the milk as separate from economic exchange. Instead, their gift and the process of exchange is subject to various meanings and may be more easily commodified at the point of production and collection than one would expect.

PURCHASING MILK: PARENTS OF RECIPIENTS AND COMMODIFICATION

As discussed previously, although banked breast milk is giftified at the point of production, it is commodified at the point of distribution and consumption. Parents of recipients view breast milk as exchangeable for money, and purchase the milk as a commodity. Notably,

parents are willing to purchase the milk both because they believe it is healthier for their infants, and because it represent the “best” they can give their infants, and symbolizes good parenting. Parents of recipients share donors’ sacralized perception of the milk, but this makes them more willing to view the milk as exchangeable for money. The milk’s sacralization paradoxically commodifies it at the point of distribution and consumption.

However, social class appears to mediate this perception: my interview data demonstrates that middle and upper income parents who pay for banked breast milk out of pocket perceive breast milk as exchangeable for money, but also engage in creative consumption, which expands the milk’s use value and partially defetishizes the milk.

In the sections below I discuss parents of recipients’ perceptions of breast milk’s exchangeability, both at the point of distribution and consumption, and at the point of production and collection.

“I Was Willing to Pay a Million Dollars:” Parents’ Perceptions of Breast Milk’s Exchangeability for Money

As I explained in previous chapters, the San Jose bank is non-profit and only charges a processing fee of \$3 per ounce. Parents of recipient who are covered by Medi-Cal do not have to pay this fee, because their insurance program covers it. However, parents of recipients who don’t have Medi-Cal often spend hundreds or even thousands of dollars on donor milk. They are willing to spend this money because they view the milk as a necessity, both because it is healthier and because it allows them to engage in intensive parenthood. Mary’s case illustrates this double meaning and the willingness to perceive the milk as exchangeable for money. When I asked her if buying breast milk from the bank was a financial hardship, she responded:

“It was pretty hard, we definitely used our savings to pay for it. I mean that was not part of our income stream, I mean it was like we would pay \$500 a time for donor milk and we probably paid like up to \$2000 for milk over the year, is my guess, cuz I think we did it about four times. But like the alternative was terrible so, like the alternative was formula and he literally would vomit twenty times a day on formula and so I was like I was willing to pay a million dollars a day to stop the vomiting.”

Mary and her husband spent approximately \$2000 for breast milk, dipping into their savings in order to afford the milk, in addition to accepting milk informally from friends. Mary viewed commodification and the financial hardship that accompanied it as necessary, because her son could not digest formula. However, as I noted in Chapter 5, Mary also said she felt uncomfortable giving her son formula regardless of his medical condition. She perceived breast milk as exchangeable for money because it was a necessity both in terms of health and in terms of fulfilling the requirements of intensive motherhood.

For parents whose children were not ill, the large amount of money spent on donor milk was justified by their belief that breast milk, any woman’s breast milk, is superior to formula and that its use represents good parenting. For instance, Dana, who had insufficient milk and whose daughter was lactose intolerant, used donor breast milk to feed both her children. As she explained to me, she would have preferred to breastfeed exclusively, but was “pretty happy to have found the bank” because she felt breast milk was the best for her children, explaining:

“Just because of the all the recommendations, the Pediatric association, all the information saying it’s better for children, for their health, so it was just really important to me [for them to have breast milk].”

Dana went on to say she felt “privileged” to afford to buy donor milk for her children, and called the milk a “luxury.” Dana’s belief that breast milk is best for infants made her willing to pay for the milk and view it as exchangeable for money. Meanwhile, the high accumulated price made it seem like a luxury item, equivalent to other expensive commodities.

Rana and Eliot, who were spending \$2,700 a month on donor milk, were also motivated to purchase the milk by their belief that it presented good parenting, and felt they were privileged to be able to afford the high cost. I had the following exchange with them:

Me: “So the cost has been somewhat of a financial hardship?”

Eliot: “Oh yea.”

Rana: “Its, I think if we had to do ninety dollars a day right now, what is that a month?

Times thirty, \$2700, so...”

Me: “And your insurance doesn’t cover it all, does it?”

Rana: “No.”

Eliot: “At that point we [have essentially] hired a wet nurse.”

Rana: “Yea but at that point, you know, for babies, especially for premature babies I think it’s very important for them to receive this, and I hope that there’s gonna be more awareness and more donations for women who can’t afford it, cuz I also feel very privileged that we are able to afford certain things, you know. And we may not have a nanny and you know own a house but we are not, you know, dirt poor so for me I had discussions with Eliot that, you know, let’s cut back somewhere else. You know before I, before we stop getting milk from the bank... You know it’s like, you know what if we want to cut back right now, let’s cut back somewhere else because you know I don’t want

us to be emotionally damaged because we gave up on our dream to give our baby breast milk.”

Although buying breast milk was a financial burden for Rana and Eliot, Rana felt it was worth the high cost, in part because it made her feel better. If she hadn't spent the money on donor milk, she worried she and her husband would be “emotionally damaged” by their inability to be good parents who provide their infant with breast milk. Purchasing breast milk was a “privilege” that allowed them to continue to engage in good parenting. Dana, Rana, and Eliot perceived breast milk as exchangeable for money at the point of distribution because of their engagement in intensive parenthood and the milk's symbolic value as good parenting in a bottle.

Although middle and upper income parents of recipients were motivated to purchase breast milk as a commodity because they believed it was the best for their infants, they were also aware that others might not share this perception, and judge their decision to use another woman's breast milk. For instance, Mary was uncomfortable telling other people that she purchased donor milk, even though it was a medical necessity. When asked if she discussed using donor milk with other people she told me:

“Its mostly private, like with my closest friends I talk about it and yea, with my closest friends...and like a couple of neighbors who like, I have a neighbor who had premature twins and so I felt like she kind of understood the medically fragile issue, and she used donor milk at one point but not through the milk bank. But I would say mostly its private, I haven't publicized it. It feels a little uncomfortable.”

She went on to describe a friend's incredulous response when she told her she used donor breast milk, telling me: “ I think it's something people don't really talk about and I think the assumption is usually you give your child as much [maternal milk] as you can, then you

supplement with formula.” In Mary’s view, people were more likely to accept supplementing with formula than with another mothers’ milk.

Similarly, Inez told me that she didn’t discuss using donor milk with her family or friends because it was “private” and she thought people would consider it “extravagant.” Although parents of recipients actively engaged in breast milk’s commodification as a way of fulfilling their moral obligation to their infants, parents’ reservations about telling others suggests that they experienced ambiguous feelings about their actions, and worried about others’ negative judgments about their use of the milk. This may be because banked breast milk not a commodity like others—although it is exchanged for money and should be therefore be quantifiable and equivalent in the eye of the consumer, it is also sacralized and considered part of the exclusive bond between a mother and her infant (Blum, 1999). I explore these ambiguous feelings and the ways they influence parents’ feelings about donor compensation and breast milk’s exchangeability for money at the point of production and collection below.

Exchangeable, Yet Unexchangeable: Views on Donor Compensation and Social Class

As I discussed in Chapter 5, intensive parenthood not only motivated demand for donor breast milk, it also shaped parents of recipients’ views of donors. And because intensive parenthood is class-based, their images of donors were also classed. Although all of the parents of recipients shared the conception of intensive parenthood, regardless of income level, social class prejudices began to reveal themselves when they discussed their ideas about donor characteristics. Specifically, middle and upper income parents of recipients tended to assume that donors were middle class mothers who shared their values and lifestyle choices, while lower income parents generally did not share this class-based assumption (with one exception,

discussed below). Social class therefore mediated parents' perceptions of commodification: lower income parents were willing to perceive the milk as fully exchangeable for money and commodified along every point of the commodity chain, while middle and upper income parents valued the milk in part *because* it was not commodified at the point of production.

The belief that donors are middle class mothers who engage in intensive mothering and are therefore selfless and altruistic also colored middle and upper income parents' beliefs about donor compensation and breast milk's exchangeability at the point of production. The majority of middle and upper income parents rejected the idea of donor compensation or qualified their acceptance: six objected outright, while two said they wouldn't mind but had serious concerns about the practice. Only two middle to upper income parents (a married couple and parents of a foster child who was covered by Medi-Cal) said they thought donors should be compensated. Lower-income parents, on the other hand, were more accepting of the idea of donor compensation: four said women should be compensated, one agreed but had serious concerns, and only one said donors should not be paid.

My interviews data therefore suggests that social class mediates perceptions of breast milk's exchangeability at the point of production both among donors and parents of recipients, but in reverse. Lower income parents' perceptions of the milk's exchangeability for money overlapped with middle class donors' perceptions, and vice versa. This may be due to differences in payment experiences: middle and upper income parents of recipients might have objected to women being paid because they were paying out of pocket and were worried about increasing costs (notably the middle income couple who had no objections do not pay out of pocket). However, parents who rejected donor compensation did not couch their objections in these terms. Instead, they were concerned about who the donor might be in a seller model. This took

two forms: normative judgments about the type of person who might sell her milk, and worries about the potential for exploitation of poor women. Most lower income parents, meanwhile, had no objections to donor compensation and tended to view the milk as many donors do: as embodied labor time.

Normative Judgments and Exploitation

Jane, whose two foster children used donor milk because they were lactose intolerant told me that she wouldn't use banked milk if the donors were paid:

“When I first learned about the milk bank—it was a little sketchy for me to grasp the concept of you know—I wanted to know if they were getting paid. Because if they were getting paid I wasn't going to do it. I just thought there's going to be some freaky lady out there who, I don't know what she's putting in the bottle, she could be saying it's milk it could be glue. So that was my number one question are they getting paid and if they were, no, I'd rather do formula.”

Jane was concerned that someone who would sell their milk must be “freaky” and dishonest, and might try to pass something dangerous off as breast milk, unlike donors, who are presumably motivated by love and therefore would not engage in malicious practices.

Beth, the one Medi-Cal recipient who shared the assumption that donors were middle-class, also rejected paying donors, and had strongly-held views about donors and sellers:

“If you've ever been to a blood bank as opposed to a plasma center you know, you voluntarily donate your blood when you give plasma you're getting paid for it, so every scoundrel on the street comes and gives plasma because they're getting paid for it. It takes a real person to donate something from themselves, selflessly to someone else.”

For Beth, donors are “real persons”, ethical and committed to others in the same way good mothers are giving and selfless, as opposed to “scoundrels” who want to be paid for something from their bodies.

Similarly, Mary was concerned that a financial incentive would attract sellers with unhealthy lifestyles who would lie on the bank’s forms, or would keep pumping to sell their milk after weaning their own child, at which point they might engage in riskier behaviors. Inez said she would be concerned that sellers would deny their own children their milk, and said she would question the living conditions and diet of any women in a desperate enough financial situation that she would sell her milk.

These respondents’ views of sellers paralleled their views of donors: they were tied to moral assumptions about giving and selling, and by extension, motherhood and social class. Donors, in these parents’ views, embody the same qualities as good mothers: they are giving, selfless, and altruistic. These qualities are also classed, because good mothering is linked to middle-class lifestyles and values. The lower-class mothers compensation might attract were, in their minds, more likely to engage in risky behaviors, more likely to lie, and more likely to engage in bad mothering by denying their own infants breast milk.

Other parents of recipients who rejected the idea of paying donors, and two of the parents who said women could be paid but expressed reservations, were primarily concerned that payment would lead to the exploitation of poor women. As Dana told me:

“I would have concerns about people being in situations they wouldn’t want to be in, but other than that it’s fine...If they weren’t being forced to do it, or if they were desperate, or not willing to do it, it was their only option.”

Dana was worried about donor compensation leading to exploitation, not that it would attract “scoundrels,” but her concerns were still about the social class status of donors versus sellers. Similarly, Eliot foresaw women in prison being forced to sell their milk if donors were paid, similar to prisoners selling blood in the decades before the blood market shifted to donors. Again, these were class-based assumptions: middle and upper income parents assumed that payment would attract mothers with lower incomes or more limited resources who were therefore more vulnerable to exploitation.

Although parents quoted above couched their rejection of donor compensation in different terms—some were concerned about exploitation of poor women, while others were concerned about the “type” of person compensation would attract—they shared the assumption that if donors were paid, the milk would come from lower income women whose main motivation would be payment, not the “goodness of their own heart”, as Jane put it. Interestingly, the responses from middle and upper income donors, almost all of who said they would like to be paid for their milk, belie this assumption, suggesting that middle class donors are just as motivated by money as lower income women, and perhaps even more so. This turns the logic of middle class mothers’ selflessness and moral superiority on its head, and undermines parents of recipients’ class-based objection to donor compensation.

Middle and upper income parents’ assumptions that donor compensation would lead to more lower class donors, combined with middle and upper income respondents’ assumption that donors share their values and lifestyles, points again to the class-based view of good mothering in which middle- and upper-class mothers are more altruistic than lower class women, which I discussed in Chapter 5. Middle and upper income parents are heavily invested in the idea that donors are parents like them—middle class and motivated by love and altruism—and believe

that these class-based abstract qualities are embodied in the breast milk they feed their infants. If the milk came from lower class sellers, the milk would lose this special quality of middle class maternal altruism and nurturance, leading these parents to reject breast milk's exchangeability for money at the point of production.

In addition, as Hays (1996:33) points out, the conception of intensive motherhood is rooted in social and moral norms in which the family is viewed in opposition to the market. Unlike the impersonal, rationalized, profit-maximizing relationships that presumably dominate the economic sphere, familial, and particularly maternal relationships are supposed to be loving, nurturing and selfless. Paying for breast milk violates this division between market and family, because it means purchasing a symbol of good mothering. Middle and upper class parents therefore have to justify their purchase of the milk to themselves. The fact that the milk is given by middle class donors as a gift makes the exchange less commercial, more personal, and closer to the loving, selfless exchanges that are presumed to exist in the family. Paying presumably lower-class women for their milk would shatter this delicate perception of the exchange, making it a crass commercial transaction open to dishonesty and exploitation, hallmarks of the market. As Mary put it when I asked how she felt about women being paid for their milk: "I think if there's a financial transaction, it just, it does not feel the same." Paying donors for their milk would make milk donation an entirely economic exchange, violating the division between the market and the family in the eyes of middle and upper income parents, and throwing into sharp relief the fact that by buying breast milk, they are purchasing maternal love.

For this reason, middle and upper income parents of recipients engage in creative consumption, doing symbolic work to separate their purchase and use of the milk from the purchase and consumption of other commodities (Willis, 2000). This symbolic work expands the

milk's use value and partially defetishizes it. For instance, Eliot, describing his preference for donor milk over formula, drew a contrast between the two objects' means of production, and the effects these differences have on the products themselves:

“I think that the milk is a pure food, closer to the source, hasn't been on a conveyer belt and you know handled by some minimum wage employee who may have not really value their job that much, may space out and ash in the powder or sneeze and just be like whatever its, you know...there's too much of a disconnect between can foods and mothers milk. And I also think that there's more love in the milk, you know, a woman who's doing this without any financial benefit, there's something there, there some sort of community, there's some sort of, you know, I forget the world, but there, they're giving. And they could just be pouring it down the drain or they could just not pump at all. But something is going into it.

Although Eliot purchased breast milk, the idea that breast milk might be produced and sold in the way commodities are usually produced and sold (on a conveyer belt, handled by “minimum wage employees”) made him uncomfortable. Instead, he envisioned selfless donors giving away their milk with no expectation of financial benefit, because donor breast milk is a cultural commodity that communicates its embedded expressive labor. Breast milk, for Eliot, is a “pure” and contains love, while its exchange builds a sense of community. The breast milk delivers “appropriable expressive materials” that Eliot and other middle and upper income parents incorporate into their practice of intensive parenthood, expanding the milk's use value and partially defetishizing it (Willis, 2000:55).

Discussions about donor compensation demonstrate that middle and upper income parents' perceptions of breast milk's exchangeability are complex and ambiguous, and practice

and perceptions can conflict. Although they perceive the milk as exchangeable at the point of distribution and are actively engaged in the milk's commodification, they view it as unexchangeable at the point of production. In addition, their consumption practices expand the milk's use value, partially defetishizing the milk. These perceptions and practices are rooted in class-based conceptions of motherhood and also mediated by the social class status of the consumers.

Medi-Cal Recipients: Safety in Screening and Embodied Labor

The parents of Medi-Cal recipients, on the other hand, generally did not object to compensation for donors, perceiving the milk as exchangeable for money at the point of production. This may be because they did not assume that donors were middle-class or associate donor characteristics like altruism to middle-class mothers, unlike middle and upper income parents. The fact that these parents engage in intensive mothering and are not middle-class themselves disassociates these characteristics from social class. This perception, perhaps coupled with the fact that they do not pay for the milk out of pocket, made them more willing to perceive the milk as exchangeable for money at the point of production.

Parents of Medi-Cal recipients couched their acceptance of compensation in two ways: either they assumed that the bank's screening procedures would prevent unsuitable donors merely attracted by the money, or they viewed the milk as embodied labor and thought donors should be compensated for that labor. Two parents, Teresa and Samantha, told me they were fine with donors being paid, because of the bank's screening and safety procedures. Samantha told me she assures other people of the milk's safety when they express concerns by telling them: "It's not like someone donates for money or something. So it's not just some random person off

the street, so that's not really weird to me as far as using someone else's [milk], you know."

However, she said she wouldn't object to people donating for money because the screening process would prevent any "random person off the street", as opposed to a mother who was dedicated to the health of her own and other peoples' infants, from donating. Although she shared some of the assumptions of the primarily non-Medi-Cal recipients above, her confidence in the bank's procedures helped her overcome those concerns.

Importantly, neither Teresa nor Samantha shared the middle and upper class parents' assumption that donors were middle class. This may have made them more open to donor compensation, because they weren't as worried about lower class women becoming the primary providers. Although they were concerned about safety and screening, they didn't automatically connect risky behaviors or lifestyles to lower class mothers, and therefore perceived breast milk as exchangeable for money at the point of production.

Other respondents who used Medi-Cal, thought that women deserved to be compensated for the labor involved in pumping milk, similar to middle-class donors justification for compensation outlined above. For instance, Jackie cited both the time and labor involved and drew an explicit comparison with formula: "I think they should be compensated, they're helping children everywhere, they're taking time out of their day to do that. We have to pay for the formula." In Jackie's eyes, breast milk is a commodity like others, produced through labor and exchangeable for money, just like artificial formulas. And Jackie, like most of the lower income parents, with the exception of Beth, did not associate donation with middle class women. Instead, when she thought of who donated milk, she thought of working class women of color, which probably contributed to her willingness to see donors paid for their labor.

Heidi, who was using Medi-Cal temporarily after her husband lost his job, making her social class status more ambiguous, nevertheless also thought donors should be paid for their labor. As she told me: “it’s not easy to pump...it’s a big deal.” She went on:

“Absolutely, because I don’t think they would be paid for *all* it’s worth, I mean really...and if that could be the small incentive for more people to do it and for more babies to benefit, how wonderful.”

Heidi felt payment was fair because pumping is “hard work”, and thought it would be a good incentive to increase the supply. However, she also assumed that if donors were paid, they would only get a fraction of the high market price. Instead, she assumed it would be a “small incentive”, something that might push someone whose feelings of altruism weren’t as strong to donate. This was similar to the type of compensation scheme some middle class donors envision, and echoes Pamela’s comment that “even if there was a small kickback, that could encourage more people to donate their excess.” Like Pamela, Heidi viewed breast milk as exchangeable for money, although potentially less money than other commodities.

The two middle class respondents who were open to the idea of compensation were Miriam and Aaron, parents of a foster daughter who is on Medi-Cal. Miriam expressed surprise that donors weren’t being compensated:

“I think it would be fine, I mean I think, actually it’s surprising they’re not getting paid. Cause I felt gosh, it’s a lot of work just pumping and preserving your milk and then dropping it off.”

Her husband also expressed surprise, telling me:

“I find no problem with them getting paid, in fact the same thing my assumption was that oh they must be paying their moms for that work and all that trouble for bringing it in,

and getting tested for diseases. I was actually disappointed when I found out they weren't getting paid, clearly there's a cost to administer the agency, to pasteurize the milk. I was amazed that women on their own would actually bringing this in with no financial [reward], that's impressive to me you know...I think, it's a very gross comparison, but guys get paid for donating sperm and that's not even necessarily like giving, while breast milk is always like giving and don't get paid right you know. Cause if someone buys donated sperm they might not get pregnant, but if you get breast milk for the child the child will be nourished no matter what, you know what I mean. Just all the stuff you hear, people talk about how great breast milk is because of the natural antibodies, it's just great, it's just nature's way of feeding a child. If women are doing all the trouble of doing that, I have no issue whatsoever of them being compensated. Actually I'm surprised that people are so giving are would do that on their own volition you know."

In Aaron's view, donor shouldn't just be compensated for their labor, but because they are providing a special product for infants. And unlike sperm, which is compensated but provides no guarantee of pregnancy, breast milk, he assumes, always delivers on its promise to nourish an infant. Aaron was "amazed" that women would donate their milk, considering the health benefits of the milk, which would presumably translate into a high market value.

Interestingly, Miriam and Aaron also had somewhat class-based views of donors: Miriam assumed donors were women in their 30s who were similar to her friends, while Aaron envisioned donors as lactivists, vocal breastfeeding activists who tend to be middle-class: "I just imagine some women that are very like strong advocates for breast milk. They're so down for the cause, and intellectually it also follows through their own donations." Although Miriam and Aaron assumed donors were middle-class, they weren't worried about compensation attracting

lower-class donors who don't share their lifestyle or values. Their responses suggest that not having to pay for the milk can mediate class-based views about donor compensation, a complexity that should be addressed in further research.

Even Julie, the lower income mother who did express concerns about women being paid for their breast milk, did not have the same concerns that the middle and upper class parents did. She actually thought paying lower-class women for their milk would be "great." As she put it:

"In some ways paying [donors] can have its benefits too, you know it could help. I mean I'm somebody that's on Welfare and fixed income, if I could get paid for my breast milk, and I had any extra to donate, and I could get paid for it that's great. So I think it's a good thing, I think it's great to pay women to donate their milk."

Julie wasn't alarmed at the idea of donor compensation attracting lower income women: in fact, she saw the positive aspects of this outcome, and envisioned women like herself selling their milk. Instead, Julie's hesitation to endorse donor compensation was related to the price of milk: "My concern though is that if they started paying the women for donating the breast milk, then will the price go up for us to try to buy the breast milk?" Although Julie was covered by Medi-Cal and didn't have to pay, she was aware of the high price tag, and concerned that donor compensation would make it less attainable, not that it would attract the wrong type of donor (i.e. lower class).

The responses of Medi-Cal parents to questions about donor compensation and their perceptions of breast milk's exchangeability at the point of production are likely attributable to two factors. First, as I discussed in Chapter 5, lower-income parents of recipients weren't as likely to assume that donors were middle-class, or associate donor characteristics like child-centeredness, altruism, and personal sacrifice with middle-class mothers. The fact that these

parents engage in intensive mothering and are not middle-class themselves decouples these characteristics from social class. They were therefore less likely to assume that donors were middle class, because in their view, donor behaviors aren't classed. And because they did not perceive donation as classed, they were less worried about sellers having unhealthy lifestyles or being exploited, making them more accepting of donor compensation and the idea of breast milk being exchanged for money at the point of production.

Second, the fact that Medi-Cal recipients aren't paying for the milk also mediates their view of breast milk's exchangeability. Although Miriam and Aaron held somewhat class-based views of donors, they still did not object to donor compensation. The fact that parents of Medi-Cal recipients don't purchase the milk as a commodity apparently made it easier for them to envision the milk being exchanged for money at the production end of the commodity chain, perhaps because they have to do less rationalization of the exchange. They aren't as disturbed by the commercialization of breast milk at the production end because they aren't purchasing it as a commodity. Instead, their receipt more closely resembles a gift from the state. Their consumption of the milk therefore doesn't resemble other forms of commodity consumption, and they don't need to do the types of symbolic work parents who purchase out of pocket do to appropriate the milk's expressive value and partially defetishize the milk. Their use of the milk doesn't challenge the valuation of breast milk as sacred and symbolic of "good parenting." Yet, the fact that the milk is free paradoxically makes it easier for them to envision breast milk as a commodity. My data only hints at this possibility, and should be explored in further research, but is an example of the complexities of commodification, and the ways in which actors experience and create meaning as they engage in commodity exchange, and how these experiences and meanings might be mediated by social class (Spillman, 1999).

CONCLUSION

In order for objects to be exchanged, they must be alienated from the human body, and then perceived as exchangeable by the actors involved in the social interaction. Objects are commodified when they are perceived as exchangeable for money, while objects are giftified when perceived as unexchangeable for money (Kopytoff, 1986; Marx, 1867; Mauss, 1923). However, as the diverse perspective suggests, actors can assign multiple meanings and values to objects even as they engage in particular types of exchange (e.g. Almeling, 2011; Zelizer, 1985, 1996). My interview data indicates that both donors and parents of recipients assign multiple, sometimes contradictory meanings to breast milk, which in turn influences their perceptions about breast milk's exchangeability. In addition, my data indicates that social class mediates these perceptions.

These multiple, conflicting meanings create a gap between practice and perception. Although they give their milk away as a gift, middle-income donors are interested in being paid for their milk, perceiving the milk as exchangeable for money. Meanwhile, middle and upper income parents of recipients purchase the milk as a commodity, but reject the idea of donor compensation and view the milk as unexchangeable for money at the point of production. And although these parents purchase the milk as a commodity, they also assign it additional use value as a form of good parenting, partially defetishizing the milk even as they participate in its commodification. These findings the fluidity of breast milk's symbolic status, not just over time but also within the same space and context.

This divergence between practice and perception highlights the fact that participants in markets assign a variety of meanings both to the object they are exchanging, and the exchange

itself. And although my interviews demonstrate the importance of intensive motherhood and medical practices and beliefs to shaping perceptions of exchangeability, they also reveal actors' agency in interpreting the production, distribution, and consumption of both gifts and commodities. Both my comparison of breast milk banking over time, and my interviews with donors and parents of recipients contribute to our understanding of the ways in which markets for human tissues are culturally constructed and therefore dynamic and capable of change.

CONCLUSION

The history of breast milk banking is a 20th century story, intimately connected to the economic, cultural, and technological changes of the past 100 years. Over the course of a century, banked breast milk was first commodified, as it was purchased from milk sellers, and then giftified at the point of production, as banks shifted to a donor model of collection. However, the banks still sell the milk as a commodity, albeit a non-profit one. Breast milk banking therefore presents us with a unique case in which to explore the changes in forms of human tissue exchange over time, differences in types of exchange along different points in a commodity chain, and the ways in which gifting and commodity exchange intersect at each point in the chain.

This dissertation explored how and why the processes of commodification and (what I have termed) giftification occurred by tracing the history of breast milk banking. Using a comparative method, I examined milk banks operating in three eras: 1910 to 1948, 1948 to 1974, and 1974 to the present. In each of these time periods, the interaction between women's employment, conceptions of motherhood, medical practices and beliefs, and advances in technology shaped the way breast milk was perceived and exchanged. Over the course of the 20th century, these factors combined to first commodify and fetishize banked breast milk, and then giftify and partially defetishize the milk. Key to this transition was the shift in producers from poor, unwed mothers to married, middle class mothers. This change both reflected and influenced perceptions of breast milk and motivated milk bank managers to transition from a seller model to a donor model of banking, thereby giftifying the milk at the point of production.

Commodification, fetishization, and giftification are all social processes in which objects that are distinct and/or alienated from the human body are perceived as certain types of things, and then exchanged in particular types of ways (Appadurai, 1986; Kopytoff, 1986; Marx, 1906; Mauss, 1990; Spillman, 1999). A commodity has both (1) a use value, its utility rooted in its material existence, and (2) an exchange value, which is usually expressed in terms of price. For an object to be commodified, it must be alienable, perceived by actors as exchangeable for money, and then exchanged for money (Marx, 1867).

The process of fetishization is closely connected to commodification in capitalist economies. The assignation of a price to an object and its exchange for money makes the social relations at the point of production and the labor that created it appear quantifiable and equivalent, rather than qualitative and specific. The consumer of the commodity mistakes relations between people for relations between people and objects or between objects (e.g., the commodity and money). The exchange value—its price—becomes the dominant value. This occurs because in capitalist economies, the producer and the consumer are physically and socially separate, obscuring the social conditions of production (Marx, 1867).

What I term “giftification” in Chapter 1 involves a similar tripartite process, but instead of being perceived as exchangeable for money and sold, the object is perceived as unexchangeable for money and given away as a gift with no expectation of remuneration. Importantly, an object can be both commodified and giftified, because objects circulate along commodity chains that can include more than one form of exchange (Hopkins and Wallerstein, 1986; Walby and Mitchell, 2006). Objects that may be given away as a gift at one point in the chain may be sold as a commodity at another point in the chain (Walby and Mitchell, 2006).

In this dissertation, I argued that banked breast milk was commodified, fetishized, and giftified over the course of the 20th century. More specifically, I discussed how and why these processes occurred and highlighted the fact that these processes are ongoing—meaning, the extent to which breast milk is commodified, fetishized, and giftified varies over time. In addition, I used the concept of commodity chains to describe the current mixed economy of breast milk banking that incorporates both gift exchange and commodity exchange, and the conditions that helped create this mixed economy.

Finally, I used my interviews with milk donors and parents of recipients to investigate the meanings that the actors involved in breast milk's exchange assign to the milk. While the definitions of commodity and gift suggest that those involved in its commodification will assign economic valuations to the milk, while those involved in its giftification will assign moral valuations, my interviews demonstrate that donors and parents of recipients simultaneously assign both economic and moral valuations to the milk. For actors involved in the exchange, “commodity” and “gift” are not mutually exclusive classifications, but rather mutable categories that are open to interpretation.

In each era, these social processes were driven by a confluence of economic, cultural, and structural factors that combined in different ways in each era to increase breast milk's alienability, influence actors' perceptions of breast milk's exchangeability, and structure modes of exchange along the commodity chain. My analysis highlighted the ways in which gender and social class, in particular, have influenced breast milk's exchange.

In the sections below, I review how breast milk was commodified in the early part of the 20th century, gradually giftified in the 1960s and early 1970s, and then partially defetishized today, and how women's employment, conceptions of motherhood, medical practices and

beliefs, and advances in technology influenced the way breast milk was perceived and exchanged. I also review how these case studies demonstrate the variability in perceptions about exchangeability and forms of exchange over time, along different points in the commodity chain, and among the actors involved in these exchanges.

COMMODIFICATION

As I discussed in Chapter 2, banked breast milk's commodification began in Boston in 1910 with the establishment of the Directory for Wet Nurses, along with the collection and distribution of breast milk at the Boston Floating Hospital that same year. Breast milk's increasing alienability from the human body, cultural beliefs that shaped parents' and doctors' views of the milk, and the availability of a pool of sellers constrained from other forms of employment made this commodification possible.

First, breast milk became more alienable as technological advances—in particular, improvements in breast pumps that made milk expression more efficient and advances in refrigeration and ice distribution that allowed for preservation—made the disembodiment and storage of breast milk possible. This change in breast milk's technicity—the interaction between the milk's material qualities and the technologies available to “procure, potentiate, store, and distribute” it—was the first step promoting its commodification (Walby and Mitchell, 2006:32).

Second, cultural conceptions of motherhood and medical practices and beliefs combined with technologies to influence breast milk's perceived exchangeability. Although the historical practice of wet nursing, in which women were paid to nurse other women's children, set the stage for breast milk's commodification, the link between wet nursing and milk selling is not entirely straightforward. Conceptions of motherhood, medical practices and beliefs, and

technologies also contributed to the perception that breast milk was exchangeable for money at both the point of production and distribution.

The conception of “sacred motherhood” stigmatized wet nursing and limited the use of wet nurses in the United States (Blum, 1999) by valorizing mothers as endowed by God to nurture and care for children and encouraging mothers to breastfeed their children as a moral imperative (Hays, 1996). Wet nursing was therefore stigmatized for violating the sacred bond between infant and mother. In addition, sacred motherhood valorized the values and lifestyles of middle class women; the fact that wet nurses were increasingly poor, unwed mothers living on the margins of society further stigmatized the practice (Golden, 2001). Milk selling, in which the milk was disembodied from the morally suspect wet nurse, was preferable because it did not involve physical contact between wet nurse and infant. Sacred motherhood therefore interacted with breast milk’s technicity to both physically and symbolically alienate the milk from the wet nurse’s body, making it easier to commodify at the point of production.

Meanwhile, a new conception of motherhood began to emerge in this era that contributed to breast milk’s perceived exchangeability at the point of distribution (Hays, 1996). The conception of “scientific motherhood” differed from sacred motherhood in assuming that mothers were not innately maternal or instinctually prepared to mother; rather, it encouraged mothers to rely on physician advice on infant care and created a medical monopoly over infant feeding. Doctors, who strongly preferred breast milk over artificial alternatives and were early proponents of scientific motherhood, took control of the wet nurse market at the end of the 19th century, collecting and dispensing the milk as “therapeutic merchandise,” similar to a medicine (Golden, 1996; 2001:179).

The technology that made the alienability of breast milk possible also made it easier to perceive the milk as exchangeable for money at the point of distribution. Breast milk, expressed into bottles, measured and processed, refrigerated for longer term storage, and fed to an infant through a rubber nipple, now physically resembled cow's milk, artificial infant formulas, and medicines. Bottled breast milk was quantifiable and equivalent and therefore could be exchanged as a commodity. As a result, scientific motherhood combined with contemporary medical practices, beliefs, and technologies to help commodify the milk at the point of distribution, because both parents and doctors viewed the disembodied, bottled milk as similar to other therapeutic commodities and therefore exchangeable for money.

Finally, the fully commodified system of exchange was made possible by the limited employment opportunities available to poor, unwed mothers. Although women's employment opportunities were generally expanding at the turn of the 20th century, these women were often excluded from the labor force by their caregiving responsibilities and low social status. This constraint created a pool of women willing to reside at and sell their milk to the Directory. Later, as this pool of potential sellers began to dry up, the bank began buying milk from married sellers at home—women who were similarly restricted from other forms of employment. In this era, banked breast milk could be exchanged as a commodity because it was one of the only forms of employment available to poor and working class mothers.

However, although the milk was exchanged as a commodity in 1910, breast milk banking also included aspects of gift exchange. As I noted in Chapter 2, the Directory's second mission was "To give destitute girls with babies, an opportunity to earn an honest living" (Talbot, 1912). The Directory was a charity for milk sellers, providing both morally acceptable employment and instruction in appropriate mothering practices to women with few economic resources. Although

the milk was sold for money, the payment for the milk was, to some extent, a gift itself. And although the milk was sold as a commodity, the bank was non-profit and occasionally gave milk away to needy cases. Talbot's sense of moral obligation, both to the sellers and the infant recipients, therefore helped shaped the exchange, influencing the bank's relationship with its sellers and the price of the milk.

The bank's charitable function also meant that while the milk was commodified, it was only gradually fetishized, because the social relations that created the milk were not completely obscured (Golden, 2001). In his early articles about the bank, Fritz Talbot (1911b, 1913) specifically described the Directory's wet nurses'/sellers' personal characteristics and circumstances, as well as the ways in which the bank assisted them. The social relations between the wet nurse/seller and her infant and between the wet nurse/seller and the Directory staff were therefore an important and acknowledged part of the commodified exchange that expanded the breast milk's use value. The value of the milk did not appear to be entirely inherent in the milk itself: It was still rooted in the social relations between the people involved in the exchange and subject to moral, as well as economic, valuations.

Banked breast milk was therefore commodified, but not completely fetishized, at both the points of production and distribution at the Directory for Wet Nurses. This commodification was possible because breast milk's technicity made the milk more alienable, physically disentangling the milk from the body, while the interaction between class-based conceptions of gender, medical practices and beliefs to promote the milk's symbolic disentanglement and perceived exchangeability. Meanwhile, the technologies used to express and store breast milk made it appear more equivalent to artificial formulas, further promoting its perceived exchangeability. Finally, some women's constrained employment opportunities created a pool of potential sellers

who were willing to sell their milk to the bank as a commodity, completing the commodification process and establishing the seller model. However, despite the milk's commodification, breast milk banking in this era maintained aspects of gift exchange at both the point of production and the point of distribution, because the bank was a charity for wet nurses, and sold the milk not-for-profit.

GIFTIFICATION

When the San Francisco Mothers' Milk Bank opened in 1948, it continued to use the seller model of breast milk banking, meaning breast milk was still commodified along every point of the commodity chain. Scientific motherhood and physicians' ongoing authority over infant feeding, combined with improvements in artificial formulas that made breast milk appear even more equivalent to artificial formulas that were sold as commodities, continued to promote the perception that the milk was exchangeable for money.

When the bank first opened, breast milk was even more commodified, because the absence of charitable services such as shelter and a stipend for its sellers meant that the relationship between the bank and its sellers was more impersonal and employment-like than it was at the Directory. The blurring between gift and commodity exchange at the point of production was no longer evident. The milk was therefore more anonymized and fetishized, its value perceived as inherent to the milk itself, rather than the social relations that produced the milk. Meanwhile, improvements in artificial infant formulas and physicians' increasing preference for these formulas made breast milk less singular and special; it became one product among several acceptable alternatives, further promoting its fetishization.

The San Francisco bank was non-profit, however, continuing the trend begun in the early part of the century. Although the milk was increasingly commodified and fetishized at this time, and the sense of moral obligation between the bank and its sellers had temporarily disappeared, moral valuations of the milk connected to the cultural status of its recipients—premature infants—continued to influence the price, making the milk a non-profit commodity at the point of distribution.

And by 1965, I argue, cultural and economic changes were underway that would change perceptions about breast milk's exchangeability for money and giftify breast milk at the point of production in the commodity chain. This was due in part to related changes in conceptions of motherhood and medical practices and beliefs. First, middle class mothers began to challenge physician authority over infant feeding and engage in an "intensive" form of motherhood in which breastfeeding was synonymous with good mothering. Second, the physicians themselves began to increasingly favor breast milk as the healthiest form of food not only for premature infants, but for infants in general. These two cultural trends reinforced one another, contributing to an emerging discourse among mothers and medical authorities that breast milk was the "best" for infants, thereby sacralizing the milk. This sacralization contributed to the growing perception that the producers should not make a profit selling something so fundamental to a baby's health.

Meanwhile, the donors to the San Francisco milk bank were increasingly middle class, as the mid-century economic boom expanded working class mothers' employment opportunities, and breastfeeding rates declined among lower income women. The same economic boom allowed middle class mothers to withdraw from the workforce and breastfeed, meaning the bank's donors were increasingly middle class. These middle class donors were motivated to give their milk as a gift by the altruistic imperatives of intensive motherhood, as evidenced by the

increase in gift language in the bank's recruitment strategies authored by donors on the bank's board and letters from donors returning their payments. And unlike earlier working class and poor sellers, middle class donors no longer needed to collect their milk for income. As the structural position of the producers shifted, and breastfeeding was linked to middle class mothering practices and sacralized, the milk both appeared less exchangeable for money and was increasingly available for free.

By the time the San Francisco Mothers' Milk Bank closed its doors at the end of 1977, banked breast milk's cultural status had shifted as a result of changes in conceptions of motherhood and medical practices and beliefs, altering the perception of breast milk's exchangeability for money at the point of production (Golden, 2001). Meanwhile, the fact that more producers were middle class meant that banks could rely on donors, rather than sellers, to provide the milk. As the structural position of the producers changed, the perceptions of milk changed, and the donor model became viable.

DEFETISHIZATION

The decision by the founders of the San Jose Mothers' Milk Bank to use a donor model of collection, but to continue to sell the milk, albeit not for profit, created a mixed economy in which breast milk is giftified at one end of the commodity chain, but still commodified at the other end of the chain. Notably, increases in women's employment and the technologization of breast milk sustain the donor model, contrary to Marx's (1867) expectations. And today, the milk is partially defetishized, as the identities and social conditions of the milk's producers become more apparent to the milk's consumers, another reversal of the trend predicted by Marx (1906).

Breast milk's ongoing giftification and the viability of the donor model begin with its alienability. Improvements over the years in breast pumps, in particular, make breast milk increasingly easy to disembody. Maternal employment also promotes this alienability, because women who are separated from their infants use these portable, efficient breast pumps to express milk during the day, often creating an excess supply of milk.

However, mothers pump breast milk as a means of engaging in intensive motherhood—a conception in which breast milk is a symbol of the selfless and altruistic relationship between a mother and her infant. Mothers are further encouraged to pump their milk by medical authorities who claim that the milk is the healthiest and therefore the “best” for infants. This sacralization of breast milk makes it difficult for mothers to throw their excess milk away, and it also creates the perception that the milk is not exchangeable for money. Furthermore, the milk represents embodied labor time, in particular, the physical and emotional labor of good mothering. The sacralization of breast milk and the availability of otherwise employed, middle class producers sustains the donor model of milk banking and continues to giftify the milk at the point of production.

Remarkably, even as intensive motherhood and medical authorities' preference for breastfeeding promote breast milk's giftification at the point of production, they promote its commodification at the point of distribution, pointing to the ways in which the same cultural beliefs can promote different forms of exchange at different points in the commodity chain. Parents of recipients share donors' adherence to intensive parenthood and also accept medical authorities' preference for breast milk. When maternal breast milk is unavailable or insufficient, these parents purchase donor breast milk, sometimes because it is medically necessary, but also as a means of engaging in intensive parenting by providing their children the “best” nutrition.

The fact that parents of recipients use the milk as a form of good parenting expands the milk's use value, partially defetishizing the milk. The milk is further defetishized by the bank itself, which publishes the names of donors and their infants in publically available newsletters, and by middle and upper class parents of recipients' active imaginings of the donors and their understanding of the social conditions at the point of production—for example, the middle class mothering practices that produce the milk. Although donors and parents of recipients do not know one another personally, the social relations of production are not obscured in the way they were at mid-century, and as they are for most commodities in capitalist societies.

Importantly, my interviews also demonstrate the complex layering of meaning that donors and parents of recipients assign to the milk and how this influences their perception of the milk's exchangeability. In particular, despite their commitment to intensive motherhood, middle class donors' motivations for donation are not strictly altruistic, and a majority of the middle class donors I interviewed said they would not reject being paid for their milk. Meanwhile, middle and upper class parents of recipients purchase the milk as a commodity but assign it symbolic value as a gift, because they believe it is donated by middle class mothers like themselves. While donors and parents of recipients view banked breast milk as good parenting in a bottle, the moral valuation is in tension with the high economic value of the milk. Middle class donors therefore give the milk away as a gift but say they would like to be paid, while middle class parents of recipients pay thousands of dollars for the milk but value the milk as a gift. These interviews demonstrate how mutable the categories of gift and commodity are, even among actors who are actively engaged in particular types of exchange.

My analysis of the history and current practice of breast milk banking describes the shifts in modes of exchange over time, and it demonstrates that these changes result from and reflect

changes in women's employment, conceptions of motherhood, medical practices and beliefs, and technology. As technologies made breast milk easier to physically disentangle from the human body, they made the milk more alienable and therefore promoted its commodification in the early 20th century. And when the producers of the milk were poor and working class, doctors and parents of recipients demanded that the milk also be as symbolically disentangled from the producer as possible, promoting its commodification.

But in the second half of the 20th century, expanding employment opportunities for poor and working class women, along with the post-war economic boom that allowed middle class women to stay home, shrunk the potential pool of lower income producers and expanded the potential pool of middle class producers. This—combined with shifts in conceptions of motherhood, medical practices, and beliefs about the benefits of the milk—sacralized breast milk and made breastfeeding a symbol of good motherhood. When middle class women became the primary producers of breast milk, and breast milk became a symbol of selfless, altruistic middle class mothering, the symbolic link to the producer became the dominant source of value. The moral valuations of the milk, always present but dominated by economic valuations, became ascendant, gifting the milk at the point of production and expanding the milk's use value at the point of distribution.

Throughout the 20th century, breast milk banking has incorporated aspects of both gifting and commodity exchange. Although this overlap is most obvious in the current era in the case of the non-profit milk bank, where breast milk is presented as a gift at one point in the commodity chain and exchanged as a commodity at another point in the chain, in every time period breast milk has been subject to moral and economic valuations by the actors involved. These moral valuations have influenced not only the price of the milk, but the actors' perceptions and

experiences. This research challenges the strict dichotomy between commodity and gift and demonstrates that these categories can coincide in different ways as objects circulate among people and through society.

CONTRIBUTIONS

This dissertation expands on Golden's (1996, 2001) historical analysis of wet nursing and the transition to milk banking, but differs from her analysis in several important ways. First, although I draw on her finding that conceptions of motherhood, women's employment, medical practices and beliefs, and advances in technology helped commodify and then giftify banked breast milk during the 20th century, I have presented here a more systematic analysis of the role of these factors and the interaction between them in each era of breast milk banking. Second, I extend the analysis past mid-century to examine not only the development, but the ongoing prevalence, of the donor model in milk banking.

Unlike Golden's work, this research has analyzed the donor model using the "diverse perspective". Golden (1996, 2001) suggests that when milk banks transitioned to a donor model, breast milk ceased being a commodity and became a gift, implicitly aligning her work with the "dichotomous view" of exchange (see Chapter 1). My research indicates that banked breast milk is both a commodity *and* a gift, because while breast milk is presented as a gift at the point of production, it is still exchanged as a commodity at the point of distribution.

Moreover, my interviews with donors and parents of recipients demonstrate that the actors involved in these exchanges do not necessarily perceive the milk as either a commodity or a gift, but incorporate both economic and moral valuations into their perceptions of the milk and their experiences giving and buying breast milk. Breast milk's status is therefore much more

ambiguous than a dichotomous perspective would suggest, as the milk is simultaneously viewed by the actors involved both as a commodity and as a gift. My research therefore contributes to the social science literature suggesting that gift and commodity are not mutually exclusive categories, and that exchange is shaped by moral norms and obligations even in capitalist societies (Callon, 1998; Frow, 1997; Ramsay, 1996; Sayer, 2006; Zelizer, 1985, 2005).

My research also contributes to the growing body of research on human tissue exchange that challenges Titmuss' (1997) assumption that tissue selling and tissue donation are opposing forms of exchange. As Almeling (2011), Healy (2006), and Walby and Mitchell (2006) demonstrate, and my research on breast milk banking supports, human tissues circulate in mixed economies in which they are exchanged both as commodities and gifts, and they are perceived by actors involved in the exchange as being both types of objects.

More specifically, I expand on Walby and Mitchell's (2006) finding that tissues that are given as gifts are often sold by recipient institutions by incorporating Hopkins and Wallerstein's (1986) theory of commodity chains, which has been used to describe the circulation of various types of goods, although not human tissues. Breaking down the process of breast milk banking into its component parts of production, collection, distribution, and consumption highlights the ways in which human tissues, like other commodities, circulate along networks of labor and production processes that include different and apparently conflicting forms of exchange. This conceptualization makes it clear that the breast milk is exchanged as both a gift and a commodity, and it has allowed me here to analyze how intensive motherhood and medical practices and beliefs combine with employment and technologies to giftify the milk at the point of production, but commodify it at the point of distribution.

My research also draws on Morgan's (1985) analysis of the role of gendered moral norms that assume women are more altruistic and that family relations should be separate from market relations in his analysis of the ban on paid surrogacy in the UK. Non-profit breast milk banks' roots in charity work and eventual transition from a seller to a donor model also demonstrate the role of gendered moral norms in structuring markets for human tissues in capitalist societies. But while Morgan's case shows that these moral norms promote giftification, my analysis of breast milk banking indicates that the same norms can continue to commodify reproductive tissues, because the moral value of the milk drives the economic value, making its purchase a demonstration of good parenting.

This dissertation also draws on and expands Almeling's (2011) finding that cultural conceptions of gender and mothering can structure markets for reproductive tissues and can create particular perceptions and experiences of exchange. These conceptions presume that mothers are inherently altruistic and motivated by love rather than profit (Hays, 1996). In egg "donation", donors sell their tissues but are encouraged to view the exchange as a gift; both fertility clinic staff and donors draw on cultural scripts about mothers that manage the tension between the moral and economic valuations of the tissue (Almeling, 2011). Middle class parents who purchase breast milk use similar management strategies, doing symbolic work to separate their purchase and use of the milk from the consumption of other commodities. Although they purchase the milk as food and/or medicine, they also value the milk because it represents middle-class mothers' altruism and nurturance. Furthermore, they reject the idea of donor compensation, because donation at the point of production makes their purchase of the milk less commercial, more personal, and closer to the loving, selfless exchanges that are presumed to exist in the family.

However, my analysis differs from Almeling's by showing that milk donors who are presumably motivated to donate by their innate altruism do recognize the economic value of the milk and would like to be paid. In Almeling's example, the fertility clinics work to convince sellers that they are participating in gift exchange, while in the case of breast milk, donors speak openly about their wish to be compensated—even though both groups of women are exchanging tissues symbolically linked to motherhood. This difference may stem from the milk's technicity and the relative ease by which breast milk is physically separated from the body, which according to Walby and Mitchell (2006), tends to commodify tissues. But this finding also turns Walby and Mitchell's expectation on its head, demonstrating that a tissue that is more easily disentangled may still be exchanged as a gift, while the tissue that is harder to disentangle may still be commodified.

My analysis also differs from previous research on reproductive tissues in that it highlights the importance not only of gender, but social class. My historical analysis of breast milk banking suggests that when producers are poor and working class, the milk is more likely to be commodified, and when the producers are middle class, the milk is more likely to be giftified. I also show that social class mediates both producers' and consumers' perceptions of these tissues' exchangeability in unexpected ways. The middle class donors who could afford to give the milk away and are supposedly more engaged in intensive motherhood also tended to perceive the milk as exchangeable for money, while the lower income donors in the sample rejected the milk's commodification. Meanwhile, the middle and upper class parents who purchase breast milk shared the lower income donors' views that donors should not be compensated, likely because they linked altruism to middle class values. Finally, the lower income parents who

purchased breast milk accepted the idea of paying donors, possibly because they engage in intensive motherhood themselves and do not connect altruism to social class.

My research supports the perspective that the process of commodification is neither straightforward nor complete, and that it follows divergent pathways that are influenced by moral norms and obligations even in capitalist societies (Callon, 1998; Frow, 1997; Ramsay, 1996; Sayer, 2000, 2006; Zelizer, 1985, 2005). My findings challenge Marx's (1867) and Simmel's (1900) expectations about the inevitability of commodifying social processes, demonstrating that trends which normally commodify objects when capital is substituted for labor—such as increasing employment and technologization—can also promote its giftification when combined with changes in cultural conceptions of motherhood and medical practices and beliefs about infant care. This dissertation also adds to the growing literature on the mixed economies of human tissues markets by applying the theory of commodity chains to these markets. Finally, my work demonstrates that while gendered cultural norms shape markets for reproductive materials and can limit these tissues' commodification, social class mediates the influence of cultural conceptions of gender in a variety of ways, making poor and working class women's tissues more commodifiable, giftifying middle class women's tissues, and influencing the perceptions of actors involved in these exchanges.

LIMITATIONS AND ALTERNATIVE FACTORS

This dissertation is the first to examine the history of breast milk banking from 1910 to the present. In the first three substantive chapters, I use a combination of narrative and comparative historical methods to construct a meaningful account of this history. I also use milk

banking as a lens through which I view and describe the cultural biography of breast milk over the course of the 20th century.

In order to construct this historical narrative and make comparisons across time, I chose a case study from each era, and each case had its limitations. Each was chosen to some degree by convenience and the availability of institutional records. Ideally, a historical analysis of breast milk banking would involve at least a preliminary examination of all cases in each era before choosing the most representative or best comparative case.

In addition, the quality and quantity of historical and institutional records for each case varied. For the Directory, I was limited to the private papers of Fritz Talbot, the founder of the bank. This created a one-sided view of bank operations, and the thoughts and experiences of both donors and the parents of recipients are missing from this account. Similarly, although the records for the San Francisco Mothers' Milk Bank appeared to be meticulously maintained and preserved, they offer only part of the story. With the exception of a few letters from parents of recipients and a newsletter written by a donor, there is nothing in the archives that indicates how donors and parents of recipients interpreted their actions or perceived the exchange.

Only in the case of the San Jose Mothers' Milk Bank was I able to interview bank managers and employees, donors, and recipients, as well as analyze institutional records. But even this analysis had its limitations: The institutional records for the bank were haphazard, and I was often unable to locate specific documents such as annual reports. I was also unable to examine the bank's records on donors and recipients.

And although the data from my interviews are compelling, I qualify my findings by pointing out that I drew small samples of donors and recipients and had a low response rate. I am also uncertain how representative these samples are of the general population of donors and

parents of recipients. In addition, my findings in regards to social class are merely preliminary, for two reasons. First, my sample includes only three low-income donors and six low-income parents of recipients. Second, social class is a complex social category, and income is only one indicator of socioeconomic status. Although I believe I can comfortably assign “middle and upper class” status to donors and parents of recipients with incomes above the national median, the low-income donors and parents of recipients are harder to categorize, because all had at least some college education, and many were in transitional phases of their lives that negatively affected their earnings (e.g., divorce, temporary unemployment).

In addition to these limitations, it is possible that my method was too deductive, and that I overlooked or underestimated explanatory factors other than employment, conceptions of motherhood, medical practices and beliefs, and technology. One factor that I only briefly touch on is the “imperative of health” in American society (Foucault, 1980). Drawing on Foucault’s theory of biopower in which capitalist societies discipline bodies through self-regulation and surveillance, some more recent sociological analyses argue that public health and health promotion have become moral regulators of social life (e.g., Lupton, 1995; Peterson and Lupton, 1996). The exhortation to breastfeed is one example of this imperative of health, and it is possible that conceptions of health, as much as conceptions of motherhood, are responsible for the sacralization of breast milk and more strongly motivate the milk’s giftification and commodification than I assume.

Another potential explanatory factor I do not discuss is changes in food consumption practices. In 1910, the mass production of glass bottles allowed for the preservation and storage of banked breast milk. It also allowed for the preservation and marketing of the artificial formulas. During this same era the first “convenience foods” such as Jell-O appeared, as bottles

and cans became easier to produce and advances in food science created new products with long shelf lives. By the 1950s, mass produced, canned, and frozen foods were symbolic of American scientific progress and the modernization of consumerism. Canned infant formulas, which allowed mothers to standardize and scientifically control the food their infants received, were also symbolic of 1950s consumerism. This may have contributed to breast milk's commodification and fetishization, as bottled breast milk looked increasingly similar to other types of food.

Today, American food culture and consumerism focuses on organics and “slow foods”, with a focus on so-called natural, local, and seasonally grown foods. This movement is associated with the environmentalism, anti-corporatism, and “green” cultural movements. Breastfeeding is viewed as sustainable and environmental because it creates a minimal amount of waste compared to formula, and breast milk has been called an “untapped natural resource” (Van Esterik, 1997). This focus on the natural, local, and ecologically sustainable in food consumption may add to the sacralization of breast milk and further motivate both donation and consumption of donor breast milk.

EMPIRICAL IMPLICATIONS FOR FUTURE RESEARCH

This dissertation brings together the theoretical insights of the commodification and moral economy literatures to improve to our understanding of the diverse ways in which human tissues can become commodities in capitalist societies. It also describes for the first time a process that parallels commodification: giftification. Although other scholars of body commodification have discussed donor models (e.g., Healy, 2006; Titmuss, 1997; Walby and Mitchell, 2006), none has described the transition from a fully commodified tissue market to a

system that includes both commodity exchange and gifting. And although other scholars have described the ways in which commodities might be decommodified or partially defetishized (Free and Hughson, 2006; Kopytoff, 1986; Sayer, 2003; Willis, 2000), these processes have not been applied to human tissues.

Although banked breast milk is in some ways a unique case, my findings are more widely applicable to other human tissue markets and mixed economies. My use of the concept of commodity chains, and my analysis of different forms of exchange at different points of the chain, can also be applied to other markets for human tissues, including organs and genetic materials. These markets are complex and diverse, and also dynamic: As this dissertation shows, cultural understandings of tissues and forms of exchange can change over time. For instance, blood, like breast milk, shifted from a seller model to a donor model in the United States during the 20th century. Today, blood, like breast milk, is sold but not for profit. My description of the process of gifting and analysis of breast milk's ambiguous status as both gift and commodity may inform new analyses of the blood market. And while few tissues have as long a history of exchange as breast milk, as these histories lengthen, this method of historical comparison and cultural biography can serve as a useful model for future endeavors.

My research expands on previous research indicating that cultural conceptions of gender influence markets for reproductive tissues (e.g., Almeling, 2001; Morgan, 1985). Gender and social class likely shape the exchange of non-reproductive materials, as well. Future research on tissue markets should take these class-based cultural conceptions into account. For instance: Are exchanges of apparently non-gendered human tissues shaped by cultural assumptions in which women are inherently altruistic, and men motivated by profit? Do these conceptions influence

the experiences and perceptions of tissue donors of different genders? And how do these conceptions affect the experiences and perceptions of tissue recipients?

My description of the social processes of commodification and gifting, and the ways in which various economic, cultural, and structural variables interact to create mixed economies, can also be more broadly applied outside the realm of human tissues. For instance, various not-for-profit charitable organizations accept donations of objects (e.g., clothing) that they then sell to support their charitable activities. Meanwhile, advances in digital technologies and the advent of the internet has made the free exchange of various products, such as open source software, easier and more efficient, gifting previously commodified objects even as capitalism advances.

My research also raises new questions about breast milk banking. Further research needs to be conducted on the ways in which social class mediates these conceptions, motivates both donation and use of donor milk, and shapes the experiences and interpretations of donors and parents of recipients. My samples were simply too small to do more than suggest possible connections between class and parenthood in today's breast milk market.

Further research should also be performed on the racial and ethnic components of breast milk banking. The story told in this dissertation is mostly the story of white, non-Hispanic Americans, and the general absence of people of color does not mean breast milk banking is not racialized. In addition, my interview data suggest that while there is an overlap between social class and race/ethnicity that may be difficult to disaggregate, race/ethnicity might influence donors' perceptions of breast milk and gifting. Specifically, the two Latina donors in my sample who receive WIC rejected the idea of donor remuneration, despite their own low incomes and

reliance on government benefits. Differences in culture and the lived experiences of donors of color should be explored in additional research.

In addition, I focus exclusively on non-profit milk banks operating in the United States. Today, breast milk exchange is increasing, and new models are emerging, while older models are reemerging in slightly different forms. One new model is the for-profit milk bank. Another is direct sale between a milk seller and a client, often through online listservs and without a bank as an intermediary. Informal unpaid exchange has also increased with the emergence of websites dedicated to these exchanges and groups organized through social media. Research is needed on these alternative models of exchange—both to understand how my own findings apply to these models, as well as how these models challenge my conclusions.

Another area of concern that I was unable to address in this dissertation is breast milk banking policy, or the lack thereof. There is no federal regulation of milk banks in the U.S., and relatively little state regulation. The reasons for this lack of regulation, and the implications for the current practice and future of milk banking, should be explored, particularly as the milk banks themselves push for greater regulation.

In sum, as rapid technological advances make the physical disentanglement of human tissues either possible or more efficient, and as new markets emerge for these tissues, social scientists, ethicists, physicians, public health officials, and policy makers can draw on the example of breast milk banking to inform their analyses and decisions about regulations and acceptable forms of exchange. Meanwhile, further analysis of breast milk banking and other forms of breast milk exchange are needed in order to fully comprehend the breast milk market.

Breast milk banking in the United States is a fascinating subject for social scientific investigation, because its history is emblematic of social transformations that shaped our society

over the course of the 20th century. The future of breast milk banking is a 21st century story, and emerging markets for breast milk will reflect both the history of milk banking and the social transformations of the new century. This dissertation will hopefully inform new research on breast milk banking and deepen our understanding of the exchange of human tissues in past, present, and future.

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