

**CONFLICTED CONCEPTIONS:
AN ETHNOGRAPHY OF ASSISTED REPRODUCTION PRACTICES IN
ARGENTINA**

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ABSTRACT

Kelly Amanda Raspberry: *Conflicted Conceptions: An Ethnography of Assisted Reproduction Practices in Argentina*
(Under the direction of Sue Estroff)

In this ethnography, I focus on the community of reproductive medicine professionals in Argentina to examine how assisted reproductive technologies (ART) are transformed according to local conditions of practice, as well as how they are transformative of the societies they newly inhabit. Based on three continuous years of ethnographic, interview and archival research conducted primarily in Buenos Aires, my findings reveal that the production of ART in a given place is not a culturally-neutral process, but rather involves local forms of science, medicine, modernity, morality and choice.

In chapter one, I give a contextual history of how ART began in Argentina, and locate today's Argentine infertility specialists within a transnational network of training, scientific prestige, innovation and competition. In chapter two, I examine the specificities of the local production of ART in Buenos Aires, which include a series of moral positions on family, motherhood, and the role of the Catholic Church in medical practice, as well as creative maneuverings around legal, economic and political constraints. In chapter three, I analyze the practice of gamete donation in Argentina, in which beliefs about genetic inheritance, options for family making, and the market-side of reproductive medicine all intersect. In chapter four, I focus on the problematic of the morally and

legally ambiguous embryo, and examine two techniques in particular, embryo cryopreservation and preimplantation genetic diagnosis (PGD), to illustrate how medical and scientific protocols are translated to fit local conditions of practice. Throughout these chapters I argue that the production of these medical technologies are shifting deeply rooted beliefs about the sanctity of human life and the role of technology in manipulating that life. I conclude that currently in Argentina the reproductive medicine professionals who provide ART to the public are society's moral guardians, diagnosing the healthy body and family, defining when personhood begins, and dictating what protections are due human life. In the last instance, this cultural analysis is revealing not only of assisted reproduction practices in Argentina, but also circulates back to inform the production of ART as a global medical technology.

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TABLE OF CONTENTS

LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
ABBREVIATIONS.....	xii
INTRODUCTION: Life Under the Microscope and the Cultural Politics of Assisted Reproduction in Argentina.....	1
INTERLUDE I: Living and Working with Assisted Reproductive Technology.....	45
CHAPTER ONE: The Gestation and Birth of ART in Argentina.....	61
INTERLUDE II: “High Complexity” Aspirations and Transferences: The In Vitro Meeting of Egg and Sperm in a Buenos Aires Infertility Clinic.....	120
CHAPTER TWO: Ideologies In Vitro and the Daily Performance of Assisted Reproductive Technologies.....	151
INTERLUDE III: Twelve Tries, One Daughter.....	226
CHAPTER THREE: “The Fertile Market”: Argentine Variations on Adoption and Donation.....	233
INTERLUDE IV: “I Would Not Freeze My Children”: Cryopreserved Embryos and a Legal Guardian in Buenos Aires.....	287
CHAPTER FOUR: The Genesis of Embryos and Ethics In Vitro: Embryo Cryopreservation and PGD.....	294
INTERLUDE V: “God Answered our Prayers”: The Miracle of IVF at a Reduced Cost.....	337
CONCLUSION: Life Beyond the Microscope.....	342
BIBLIOGRAPHY.....	353

LIST OF TABLES

Table

1. Chronology of significant political and ART-related events for a contextual history of ART in Argentina.....70
2. Biological developmental stages of the in vitro embryo.....300
3. Laboratory procedures in Argentina based on biological stages of embryo development.....304

LIST OF FIGURES

Figure

1. Tradition and modernity in Buenos Aires.....	1
2. "With a little help from science." <i>Viva</i> magazine cover-story on ART treatments in Argentina.....	19
3. Typical "street scene" in Buenos Aires: child performer in Recoleta neighborhood.....	30
4. Plaza San Martin: downtown Buenos Aires.....	36
5. Surgery area in ART center in Buenos Aires.....	39
6. Embryology lab and scopes in Buenos Aires.....	40
7. Embryos as visual decoration at the FLASEF 2002 meetings in Punta del Este.....	42
8. <i>Clarín</i> article: "The First Babies Created by Fertilization in the Country Turn 18 Years Old.".....	61
9. "IVF 1985" with names of original CEGyR team.....	91
10. Painting on wall inside diagnostic reproductive medicine lab (L). Cross hanging inside director's personal office (R).....	95
11. Bank Boston in the downtown area of Buenos Aires.....	109
12. Tanks and Armed Police in front of the Casa Rosada in Buenos Aires. First anniversary of 2001 protest: December 20, 2002.....	111
13. Red Cross volunteers. First anniversary of 2001 protest: December 20, 2002.....	111
14. Las Madres de la Plaza de Mayo protesting payment of the external debt.....	112
15. "We are all Argentines." Government ad for a public celebration of 25th of May (the national revolution day) at the Plaza de Mayo.....	116

16. Chart of International Relationships and Formation of ART clinics in Argentina.....	119
17. Surgery area—where aspirations and transferences are performed—in an infertility clinic in Buenos Aires.....	120
18. Scope and Thermal Plate in workchamber.....	129
19. Eggs Ready for ICSI injection, after hyaluronidase wash and stripping of the cumulus cells.....	132
20. Makler Counting Chamber (L). Sperm under Makler counting chamber (R).....	135
21. Micromanipulation microscope.....	136
22. Micropipette and sperm selected for ICSI.....	139
23. ICSI: two seconds post-injection of sperm into egg, the mark of the pipette is still visible.....	140
24. Nine Day Three embryos (not Augustina’s), varying in quality. Five to eight cells.....	142
25. Small Cryopreservation Machine.....	145
26. Cryopreservation tank.....	145
27. Monitor in the surgery room connected to microscope in the laboratory, used to view in vitro embryos.....	148
28. Nativity scene in Entre Ríos province of Argentina.....	151
29. Full-page advertisement in a magazine: "The ticking clock that you carry within".....	165
30. Logo for a shop inside the Abasto shopping mall in Buenos Aires that sells baby accessories.....	165
31. National Congress Building in downtown Buenos Aires.....	176
32. Catholic Church Cathedrals in the city of Salta, Salta Province (L); and San Isidro, Greater Buenos Aires (R).....	182
33. Mural outside a public hospital in Buenos Aires.....	209
34. Public hospital in Buenos Aires.....	212

35. “I want to adopt a father, his age doesn’t matter to me. Does my age matter to you?” National adoption campaign poster.....	238
36. “Even though he won’t have your eyes, he is going to be just like you.” National adoption campaign poster.....	238
37. University of Buenos Aires School of Medicine.....	259
38. "Borrowed Mothers" article published in <i>Las Noticias</i> , Oct 2006.....	273
39. Day One: 2pn (pronuclear stage), normal fertilization. One pronucleus is from the egg, one from the sperm, each contains 23 chromosomes.....	305
40. Day One: 3pn, abnormal fertilization.....	305
41. Day Two (morning): Normal embryo, good quality, Class IV, two cells....	306
42. Day Two (afternoon): Normal embryo, 10% fragmentation, Class III, four cells.....	306
43. Day Three: Three Embryos, good quality, all Class IV. From bottom, clockwise: six cells; eight cells; eight cells.....	307
44. Day Three: Embryo, good quality (Class IV), eight cells. “Lindo”.....	307
45. Day Three: Embryo, good quality but because of fragmentation (<5%) and granulation is Class III, eight cells.....	308
46. Day Three: Embryo, 10% fragmentation, granulation, Class III. Eight cells.....	308
47. Day Three: Embryo, multinucleated (five nuclei), arrested; has not evolved from this stage since Day Two. Not viable.....	309
48. Incubator in IVF lab.....	314
49. The city and the Pampas: Sunset over Buenos Aires.....	342

ABBREVIATIONS

ART	Assisted reproductive technologies
CEGyR	Center for Studies on Gynecology and Reproduction
CERS	Santiago Clinic of Reproductive Medicine
CREAR	Center of Reproduction and Gynecology
ICSI	Intracytoplasmic sperm injection
IFER	Institute of Gynecology and Fertility
IGyR	Institute of Gynecology and Reproduction
IMAGEM	Institute of Fertility and Reproduction
ISR	Institute of Reproductive Health
IVF	In vitro fertilization
LER	Laboratory of Reproductive Studies
RED	Latin American network of assisted reproduction
SAMeR	Argentine Society for Reproductive Medicine
SER	Center of Reproductive Medicine

INTRODUCTION

LIFE UNDER THE MICROSCOPE AND THE CULTURAL POLITICS OF ASSISTED REPRODUCTION IN ARGENTINA



Figure 1. Tradition and modernity in Buenos Aires, Photo by Kelly Raspberry, 2002.

Encountering reproductive medicine in Buenos Aires, Argentina

Buenos Aires, Argentina on an early fall morning in March 2003.¹ I'm walking down a busy street in the microcentro on my way to Center for Studies on Gynecology and Reproduction (Centro de Estudios en Ginecología y Reproducción), or CEGyR. In

¹ Argentina is in the southern hemisphere; the seasons are the reverse of those in the Northern hemisphere—i.e. winter is June-September; summer is December-March.

1986 CEGyR became the first infertility center in Argentina to succeed at in vitro fertilization, and though by 2003 approximately 16 other clinics in the city have joined CEGYR in offering in vitro fertilization (IVF) and other assisted reproduction procedures to the Argentine public, CEGYR continues to proclaim itself the “pioneer institution in reproductive medicine.”² How “pioneering” CEGYR actually is as a reproductive medicine center is debatable, but within the Latin American reproductive community its reputation as “one of the best” clinics in Argentina remains solid.

The center is a half-hour walk from my apartment in the middle-class neighborhood of Palermo, and this daily excursion on foot exposes me to the diversity of the city and its people. Very shortly after arriving, I realized that working primarily in a private assisted reproduction clinic can create a sort of social bubble of ignorance—the doctors and biologists around me at this private clinic—and their patients—don’t talk about politics (except to question me about the unanimously-opposed US war with Iraq), are stylishly dressed, and chat about weekends spent playing golf or relaxing in their countryside quintas. From this insular work-realm, I can go to the upper class neighborhoods of Recoleta or Barrio Norte where clothing boutiques and home design stores are full of shoppers and upscale restaurants are always crowded on weekend nights. As an educated white US citizen I am treated as an honorary member of Argentina’s upper-middle class. This is a lifestyle completely disparate from the poverty that the newspapers declare that half the nation lives in. The unequal distribution of wealth is obvious enough once you start actually seeing the city: the “cartoneros”

² Throughout this ethnography I use pseudonyms for institutional and personal names, except when the actual name is appropriate for the historical record (as in this case), or when already part of the public record (as in newspaper articles). The majority of those I interviewed consented to the use of their name. When I fictionalize names it is to protect the identity of those who wish to remain anonymous.

(cardboard collectors)—mostly children— who scavenge through the trash every night in my neighborhood looking for cardboard; the unemployed worker’s protests that take place weekly in Plaza de Mayo; the occasional newspaper articles, especially in the leftist daily newspaper, Pagina 12, that decry the deaths of children from malnutrition in northern Provinces; or, the crumbling conditions of the “villas” or shantytowns whose borders inch outwards a little more every year. Once I go through the door of the ART center, these conditions of basic survival are shut out, as if they exist in a different world from this private modern medicine.

As I walk through this commercial area, tall buildings shade the street, effectively blocking the bright sun and casting shadows across entire blocks. Cars and taxis whiz by one after another until red traffic lights make them halt. CEGyR is located in the downtown area of the city, a few blocks from an underground subway stop, the national theater, the Supreme Court building and the Avenue 9 de Julio, Buenos Aires’ major traffic artery. The buildings in this area are filled with cafés offering quick lunches and espressos, kiosks offering an array of quick-mart products, banks, and law and finance offices. In the block ahead I see what I’m looking for: the pink and white sign of the clinic, unmistakable—though discreet if one isn’t looking for it—in its symbolism of fertility. The sign’s logo summarizes the promise of the center with two half-moon pink circles open to the entry of a squiggly and active sperm. The clinic’s name is written boldly in black below this imminent fertile encounter.

CEGyR occupies all three stories of a renovated French-style building and part of an adjoining newer building on this busy street. A security-guard opens the door after I buzz, and a ground-floor receptionist gives me permission to go up the stairs to the

clinic's first and second floors. I have been coming to CEGyR daily for several months, so most of the staff recognize me by now. The administration office—where patients pay for procedures and present insurance coverage—is across from the receptionist. There is also a bathroom here designated in the mornings for men who need to give a sperm sample. Behind a non-descript wooden door on this ground level is the entire surgical area, including the two surgery rooms, a utility area for cleaning instruments, a patient-recovery room, a physician changing area with lockers, and a storage room for liquid nitrogen tanks and the cryopreservation machine. I go past the patient recovery room, through the swinging double-doors to the surgical area. I quickly put on a set of green scrubs, and hang my clothes in an empty locker. The ground floor is where the “messy” work of ART is done: where the money is exchanged, where the unpredictable physical body is encountered, examined, and sometimes “repaired” with the tools of surgery. All week I have observed the operating rooms and endured the smells of burning flesh (a surgical removal of an ovarian cyst), the sounds of unconscious moans of pain during follicular aspirations (procedure to remove the egg from inside the ovary), and the tense rush of hopes and expectations during embryo intrauterine transfers. Today I will go upstairs to return to the laboratory, where it smells of rubbing alcohol, work is done in concentrated silence, the surfaces are kept clean and sterile, and failures are not dwelled on but instead quickly discarded into the trash and recorded on the patient's charts.

First I check in on the overall productive climate of the center for the day. On the first floor the consultation and clinical work of ART is conducted throughout the day: here is the general waiting area, the associate directors and medical staff offices, the ultrasound room, and the nurse's office for blood tests and hormone injections. There is

also a large conference room where the doctors meet for case rounds and colloquia presentations at lunchtime every week. The central room on this floor is the waiting area, which is large and feels charged with desires and anxieties. Today at 10 am, a peak hour for appointments, patients and staff are continually coming, going and waiting, and there is an overall energetic atmosphere. The floor is tiled black and white, the chairs are green and cushioned, end tables offer stacks of (mostly women's) magazines, and a TV presents the day's news items from the corner of the room. There is also a free coffee-machine vendor against one wall, and a busy secretarial area where several women make appointments and monitor the patient consultation visits, using a combination of computers and hand-written charts.

I continue on to the top level (representing a physical enactment of the center's professional hierarchy) where the two clinic co-director's offices are located. Accessed from the first floor by an elegant, twisting wooden staircase, here the small waiting area is decorated to look more like a living room than a clinic. The walls here are cream colored and the arched ceilings are oval-shaped, painted a light green with detailed woodwork. There are gray and beige leather couches coffee tables with magazines, and a ficus tree (as opposed to a television) in the corner. Soft classical music plays in the room. On a small table a water cooler and tea bags are set out, alongside a copy of each of the directors' recent patient-guidebooks on assisted reproduction. Since one director is a gynecologist and the other an andrologist, the books reflect their specialty areas. There are also three large frames of assorted baby pictures on the walls, visual reminders of the purpose and motivation behind each patient's visit. Each director has his own personal secretary, they share a work space behind a half-door that looks onto the waiting area.

Those who can afford the high consultation fees of the center directors—approximately five times the associate doctors' fees—enjoy this more serene waiting area, a contrast to the active atmosphere below.

Also on the second floor, behind a door that patients do not often pass through is a hallway that leads to an upper-level outside patio area used by the staff, and access to the embryology laboratory. For the convenience of the laboratory staff, the embryology laboratory also physically connects to the ground-floor surgical area via an outdoor staircase, and an internal dumbwaiter system for materials. I go down the hallway and glance through one of the laboratory's windows, covered by partially-open blinds. The laboratory is a large square room, with granite countertops along two white-tiled walls, two incubator machines along another and a work chamber and two more incubators against the last wall. Sitting on the countertops is a variety of ART equipment, most importantly a micromanipulation microscope and two sperm-processing centrifuge machines. There are three people working today—an embryologist and two biologists. I can see that they are in the middle of an egg aspiration procedure, and I quickly open the door to the entry-room—separated from the laboratory by another door—and put on a set of sterile booties, haircap and face mask. I knock softly on the inner laboratory door and look through the window so they can see that it is me—the resident anthropologist with her many questions and library of notebooks to be fill. I'm granted permission with a wave and a smile. After several months of my observations, the lab staff is accustomed to my presence, as are the clinicians downstairs. Though my ethnographic work isn't well-understood by most, it is at least humorously tolerated. With my notebook and pen in hand, I begin watching the day's laboratory work, which began at 7:30 this morning and

will continue until around 5 in the afternoon. Today's observations will add further confirmation to my forming impression that the laboratory is where the hopes of the consultation visit, and the messiness and expectations of the surgery room are transformed into the production of human life.

“I am a HALITUS baby...and I already have more than 9000 ‘siblings’” reads the caption at the top of a full-page advertisement placed in June 2001 in the daily Argentine newspaper *Clarín* by Halitus, an assisted reproduction center in Buenos Aires. Underneath the caption is a photograph of a toddler, “Olivia Dumas,” wearing a chef’s hat, and to the right, a first-person narration of “Olivia’s story”: her mother and father were having trouble getting pregnant, so they came to Halitus.³ After a cycle of assisted fertilization, Olivia was conceived. Olivia’s narrative continues on to say that she is one of more than 1,400 babies that have been born as a result of assisted reproduction techniques at Halitus. Her narration then refers to “the large Halitus family” (numbering over 9,000 babies overseen by the medical group at Halitus) who are spread across the world, and solicits its “family members” to email with their stories. An informational sidebar introduces Halitus as “the most prestigious and well-known reproductive medicine institution in our country,” and subsequently provides detailed information about the center’s services and contact information. This advertisement, apparently one of the first of its kind in Argentina, caused a stir within the reproductive medicine community in Buenos Aires. The ethics committee of another assisted reproduction

³ The choice of Olivia’s paternal line is a popular culture reference in Argentina. “*El Gato Dumas*” is a well-known chef in Buenos Aires.

center in Buenos Aires, Institute of Gynecology and Reproduction (IGyR), met shortly after to compose a letter to the Argentine Society for Reproductive Medicine in protest of what they considered Halitus' misleading self-aggrandizements. The objections to this advertisement raised at this meeting, and later by other clinical practitioners, revolved primarily around the slippage between the total number of births at Halitus (9,000) and the much smaller fraction that are reported as actually a result of *assisted reproduction* techniques at the center (1,400); the suggestion that Halitus has an international clientele; and the proclamation of Halitus as the best clinic in Argentina.

I begin with this advertisement because it provides an entry point for identifying the amalgam of actors and interests involved in producing assisted reproduction in Argentina. In the last 30 years, international developments in science, medicine and technology have created a variety of high-tech conception possibilities, such as in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), and cryopreservation of embryos.⁴ Throughout this ethnography, I reveal how the production of these assisted conception technologies in a given place—in this case Buenos Aires—depends upon the local articulation of a global network of people, materials, knowledge and practice. I argue that assisted reproduction is everywhere an apparatus of complex actors, and invites a social analysis that can discern inherent cultural differences. For instance, the claims made in this advertisement, as well as the responses it provoked from others in the reproductive medicine community in Buenos Aires, elucidate the particularities of

⁴ In vitro fertilization is a process by which eggs are surgically removed from a woman's ovarian follicles, mixed with sperm in a petri dish and incubated. The fertilized eggs are then transferred into the woman's uterus two or three days later. Intracytoplasmic sperm injection differs from IVF only in the method of insemination of the egg. ICSI injects a single sperm directly into the cytoplasm of an egg, using a glass micro-pipette. Cryopreservation is low-temperature storage that preserves viability long-term, usually of embryos or gametes.

assisted reproduction practices in Argentina. I suggest that at the crux of this specific controversy is the fundamental notion among many in the reproductive medicine community in Buenos Aires that assisted reproduction is first and foremost a medical practice, rather than a profit-making business. This advertisement is therefore seen as violating an invisible boundary between “biology”—what medicine is concerned with—and “society”—which is outside the realm of true science and medicine.

As I discuss in the following chapters, the majority of practitioners within the reproductive medicine community in Buenos Aires prefer not to discuss their professional practices in social (whether economic, political or cultural) terms. Instead, assisted reproduction is legitimized as a medical treatment for the *biological disease* of infertility. Clinic directors in particular justify these high-tech procedures, which include in vitro fertilization and embryo cryopreservation, in the service of a “universal right to reproduce.” The lack of a public (i.e. state subsidized) in vitro fertilization program in Argentina, and therefore the limited number of the population who can afford such services, is further lamented by these practitioners as an “ethical” problem in need of redress by the government. These assisted reproduction professionals thus see themselves as engaged in “projects of life”: helping the human species reproduce. In other words, the supply of private assisted reproduction services in Argentina is predicated upon a common assertion that, in the words of the Latin American regional director of a major pharmaceutical company, “reproduction should not be a luxury. Everyone has the right to reproduce.” It is my contention that statements such as these require a critical cultural analysis: in what ways are local circumstances and histories at play when reproductive medicine experts in Argentina assert that biological reproduction is a universal right for

every individual? I propose that an ethnographic analysis of assisted reproduction practices makes visible the internal logics of medicine, technology and science as they play out in daily dramas of human desires and practices.

Specifically, this ethnography focuses on the community of reproductive medicine specialists in Buenos Aires, Argentina and asks: what are the social processes and motivations guiding the acceptance and mobilization of assisted reproduction practices in Argentina? Throughout these chapters I begin to explore the kinds of human and hybrid actors and social circumstances emerging from the production of ART in Argentina. While some practices of assisted reproduction—like artificial insemination—are not unique to the 20th century, in general the transformative impact of reproductive technologies on contemporary social life is unprecedented. In discussing the “new” of “new reproductive technologies,” Adele Clarke asserts, “What they are transforming is conceptions of what it is to be human, male, female, reproductive, parent, child, fetus, family, race, and even population” (1995:149). I suggest that in Argentina these high-tech options for making babies are indeed transforming not only “conceptions” but also material realities of personhood, family, modernity, and “being Catholic.”

In addressing these themes, I propose to contribute to the anthropological project of disrupting and denaturalizing the divisions placed between nature and culture, bodies and society, science and morality. The main purpose of this ethnography is to reveal how assisted reproductive technologies are transformed according to local conditions of practice, even as they transform the societies they newly inhabit. This ethnography thus joins a growing body of literature that examines the global spread of assisted reproductive technologies and reveals that the circulation of biotechnology around the

world is not a value-free process of “technology transfer.” Rather, as these ethnographic analyses demonstrate, patients and professionals enact and experience ART in culturally specific ways (Becker 2002; Ehrich et al. 2006; Franklin 1997; Kahn 2000; Thompson 2005). My work particularly speaks to a recent ethnographic focus on the “margins” of production—the non-Western sites of high-tech medicine (Bharadwaj 2002; Handwerker 2002; Inhorn 2003; Inhorn and Van Balen 2002; Roberts 2006). Indeed, contextual analyses of reproduction and reproductive technologies serve to denaturalize and make uncertain the “biological facts” of reproduction and kinship, and to disrupt the traditional dichotomies of nature and culture (Franklin 2003; Franklin and Lock 2003; Franklin and Ragoné 1998; Morgan and Michaels 1999; Rapp 1999; Thompson 2001; Strathern 1992).

In building on this literature, I examine the technical apparatus of assisted reproduction as it is produced in Argentina for local variations in practice. Questions central to my research included: are treatment protocols in Argentina also predicated upon a standardized form of technological promise? To what extent does the enactment of a global apparatus of assisted reproduction translate into local forms of science and medicine, desire and “choice” in Argentina? What does an interrogation of biotechnology practices in a region traditionally considered “developing” reveal about the conditions of modernity and globalization? The analysis that I present is therefore an investigation into how local conditions—social, political, economic, historical ones—play through and influence the work of assisted reproduction in Argentina, and how this local performance

of ART in turn produces new (but old) forms of family, health, modernity, medicine, and life itself.⁵

In the following chapters I suggest that the professionals in Argentina produce and participate in a “local culture of assisted reproduction,” one that is different from those produced for example, in England or the United States—even though these are sites of reference for Argentine specialists. In starting with the notion of a “local culture of assisted reproduction,” I call upon a particular branch of social constructivism within science studies in order to tell the history of objects of knowledge, both human and non-human, as actors (Haraway 1991; Latour 1988; Latour and Woolgar 1986 [1979]). This “culture” then, refers to a network of international actors, each following their own squiggly trajectories, perhaps originating in and traveling to very different places, but at some point all rallying at the node of analysis: a delineated slice of the local arena where specific practices take place. In other words, this “culture of assisted reproduction” is without boundaries, and depends on a transnational flow of techniques, knowledge, equipment, people, genetic material, and biological media. And yet, at the sites of ethnographic analysis, this culture is a discernible nexus of interaction: how these international agents come together, and what they produce, is localized, and contingent upon the particular specificities of the history, place, time, and power relations involved,

⁵ I do not attempt to provide an analysis of ART in all of Latin America here, as that would entail making general statements about a large and diverse region. As one doctor told me, Latin America is like “*curanto*”—a traditional stew from the south of Chile:

“Latin America is like a *curanto*, like a pit into which the pig, the fish, the meat, the corn, everything falls in together. [...] In a good *curanto*, individuality is maintained, even though everything acquires a little bit of their neighbors. I think Latin America is also very different, in the way of doing things, Central America or the Caribbean countries are completely different from the Southern countries.[...] But these different ways exist more in some countries than in others.”

Where appropriate to my local analysis of ART in Argentina, I do describe relevant practices in other parts of Latin America, particularly in neighboring Chile.

not only at the local level but at the international as well.⁶ Thus, instead of relegating facts and nature to one side, and interpretation and society to the other, I seek to explore all the players, the objects and subjects, as situated, located elements in this story that has multiple narratives. In the following analysis, I therefore use the notion of a “local culture of assisted reproduction” in Argentina to concretely examine the ways in which ART is a contingent historical and material reality, productive of hybrid knowledges and bodies specific to the locale of practice.

The story of assisted reproduction in Argentina that I tell in this ethnography is a partial and interested one, motivated by the contention that the reproductive medicine community in Buenos Aires provides a dynamic vantage point for identifying local variations in ART. With the birth of twins in February 1986, Argentina became the third Latin American country to achieve IVF success, eight years after the world’s first “test-tube” baby was born in England. Today approximately 22 private clinics provide high complexity assisted reproductive techniques to a national population of 36 million; 16 of these centers are in the greater Buenos Aires area. All of these clinics are located within the elite sector of private medicine, and services are accessed primarily by heterosexual upper-middle class members of society. The concentration of clinics in the capital city reflects the fact that Buenos Aires is the nation’s center of economic, political, cultural and social production; one-third of the country’s citizens reside in the greater Buenos Aires area.⁷ Alongside this growth in centers, the core of the professional community of

⁶ In their “Introduction” to the seminal text, *Conceiving the New World Order*, Rapp and Ginsburg discuss a similar non-geographical delineation of local and global processes (Rapp and Ginsburg 1995:8-9).

⁷ Since Buenos Aires is the center of ART production in Argentina, I focus this ethnography on the clinics within the capital. There are many differences between the greater Buenos Aires metropolitan area and the surrounding provinces, and by referring to “Argentines” and “Argentina” I do not mean to conflate the city of Buenos Aires with the entire nation, nor present a homogeneous view of the country. A fascinating

experts (the clinic directors and chief biologists) in the country remains a relatively small and close-knit group. Five principal centers, all located in Buenos Aires, perform 70% of the (approximate) total of 4,000 procedures of IVF and ICSI produced per year in Argentina. The majority of this first generation of ART doctors and scientists trained at least partially in the U.S or Western Europe on fellowship, and now, as the directors of the largest centers and labs, are responsible for guiding the next group of local ART specialists.

The last ten years mark a major period of growth and transition for the reproductive medicine community in Argentina. Around the world the industry of assisted reproduction has been expanding, and in Argentina this growth is visible in terms of an increasing number of centers and the incorporation of new techniques every year. As a result of this expansion, assisted reproduction centers in Buenos Aires increasingly compete with one another in efforts to provide the most successful and “modern” services in the area. One clinic director in Buenos Aires who recognizes this shift within the industry told me, “Medicine is becoming more and more of an enterprise, and like other businesses, it needs to: one, take care of clients, and two, market its services. The difference is that we’re not only dealing with clients, but with patients and their illusions.” He went on to state that the use of advertising to raise public awareness (and thus increase desire for assisted reproduction) is a beneficial one, a view that is shared by most in the community. Perhaps partly in response to this increase in public marketing, the current situation in Argentina is one in which institutional growth has been accompanied by a rise in public demand for assisted conception services. In recognition

follow-up to this research would be to examine more closely the production of ART in the provinces, and how it is similar to and different from that in Buenos Aires.

of this “created demand,” one clinic director pointed out that common approaches to dealing with infertility have changed in Argentina: “People used to not have children, or they would adopt. Now, they will try assisted reproduction.” For those who can afford to try ART, adoption is relegated to the status of a “last step” in the path to making a family. This preference for assisted reproduction in Argentina is built on traditional values of motherhood and family. This ideal of having “a child of one’s own” is precisely the hopeful promise of ART.

Argentina is the second highest producer of ART practices in Latin America after Brazil, and houses some of the most reputable specialists of the region.⁸ Because of this, it is a site for a people-based form of “technology transfer” in which professionals from the provinces and from other Latin American countries come to do residency programs or training workshops at the principal centers in Argentina. The knowledge circuit is thus not only a North to South flow from the US and Europe to Latin America, but within the region as well. Within Latin America, ART production is also growing, as evidenced by the rapid expansion of the Latin American network of assisted reproduction (*Red Latinoamericana de Reproducción Asistida*) or RED—a collaborative network of private assisted reproduction centers in Central and South America, which formed in 1995. In the 2003 RED registry, with a total of 117 centers reporting figures, there were 21,034 ART cycles initiated (including IVF, ICSI, GIFT, cryopreservation, egg donation), with 6,268 babies born from ART in Latin America that year (Zegers-Hochschild and Galdames

⁸ The total number of initiated ART cycles for Argentina was 4,126 in 2003, thereby making up 19.6% of all ART done throughout Latin America. Brazil produces 47% of all cycles in the region and has 48 centers (Zegers-Hochschild and Galdames 2004:3).

2004:2).⁹ These numbers are admittedly much lower than those in the North—in the United States for example 411 centers contributed to a CDC report stating that there were 127,977 assisted reproduction cycles undertaken, and 49,458 babies were born in 2004 (CDC 2006:11). However, what is of interest here is the unabated increase over time in Latin American production of ART, from 4,496 cycles in 1992 to 21,034 in 2003 (Zegers-Hochschild and Galdames 2004:10).

The emergence of assisted reproduction as a socially-acceptable option for parenthood is not without its opponents in Argentina. Like most of Latin America, Argentina is a predominantly Catholic country, and Catholic values strongly influence public morality and national policy decisions. Approximately 90% of the population in Argentina identify as Catholic, though most are not practicing. The Roman Catholic Church has mounted the strongest international opposition to assisted reproduction, on the grounds that these practices evidence a disrespect for the “right to life” of all fertilized gametes, and attempt to remove conception from the realm of “marital intercourse” (Pellegrino, Harvey and Langan 1990). In 1987 the Sacred Congregation for the Doctrine of the Faith in Rome issued an international doctrine, *Donum Vitae*, in which assisted reproduction practices are evaluated in terms of two fundamental principles: “the life of the human being called into existence and the special nature of the transmission of human life in marriage” (Pellegrino, Harvey and Langan 1990:8).¹⁰ This understanding of assisted reproduction as a set of moral violations has specific

⁹ Rates of assisted reproduction are calculated according to “cycles” per year, rather than in terms of people or single procedures. One “cycle” is measured by the start of the first phase of a given technique, for example when a woman begins taking hormone drugs for IVF. Thus in one year, the same woman may undergo multiple cycles of IVF. In addition, the number of live births is usually lower than the number of babies born because multiples (twins, triplets) are counted as one live birth.

¹⁰ The full name of the *Donum Vitae* is: *Instruction on Respect for Human Life in its Origin and on the Dignity of Procreation, Replies to Certain Questions of the Day*.

implications for practice. A biologist in Buenos Aires who is a practicing Catholic explained the Church's judgment scale to me this way:

The Church has the concept that everything must arise from the [conjugal] union, in a natural way. Even though insemination isn't spontaneous, it is like one is giving a little push so that it [conception] will occur spontaneously. In other words, one isn't forcing fertilization. There used to be, it's almost fallen into disuse, the GIFT method which definitely was fertilization inside the fallopian tubes. In the case of ICSI, someone puts the sperm inside the egg. It is a totally man-made process. One is forcing the natural laws.

From an orthodox point of view, a practice such as gamete intrafallopian transfer (GIFT), which allows a transferred sperm and egg to fertilize within a woman's body, is more acceptable than in vitro fertilization, in which conception occurs in an incubated dish inside the laboratory.¹¹ The dominance of Catholicism within Argentine society surfaces in different ways, including through a traditional status quo emphasis on marriage and family and a conservative code of ethics. As of yet, the national government of Argentina has not overtly legislated ethical guidelines or regulations on the practice of assisted reproduction.¹² Within-clinic medical procedures and protocols are largely self-regulated by the professionals themselves, and contingent upon the director's own moral and ethical principles. Some reproductive medicine practitioners in Argentina refuse to perform "laboratory conceptions" in respect of the Catholic Church's proscriptions, while

¹¹ *Donum Vitae* wholly condemns in vitro fertilization: "Such fertilization is in itself illicit and in opposition to the dignity of procreation and of the conjugal union, even when everything is done to avoid the death of the human embryo" (Pellegrino, Harvey and Langan 1990:28).

¹² In contrast, Britain in 1990 passed the Human Fertilisation and Embryology Act (HFEA), which regulates embryo research and thus infertility services. France, Australia and Canada have also created commissions to monitor assisted reproduction. Germany and Italy passed fairly-restrictive laws, while Spain approved a more permissive one. Although in the US several regulatory bodies have proposed various guidelines for assisted reproduction, at this moment such practices are not overseen by a federal advisory commission. Instead, the professional societies the American College of Obstetrics and Gynecologists (ACOG) and the American Society of Reproductive Medicine (ASRM) have issued internal guidelines for assisted reproduction practices.

many others pursue creative ways to reconcile Catholic beliefs with their daily medical and scientific practices.

In accord with this social conventionality, the reproductive medicine community in Argentina, as I mentioned earlier, defines assisted reproduction solely as a medical response to the biological disease of infertility. As one director of a fertility clinic in Buenos Aires told me, “I am convinced that my role in medicine is to cure people and I will attempt to make pregnancies occur in the most natural way.” This practitioner, who professed that his personal Catholic religious beliefs influence his work ethics, is similar to many of his Argentine colleagues in emphasizing that the distinction between “helping nature” and “defying nature” is an important one. From this perspective, doctors are “giving nature a helping hand” (to borrow a phrase from Sarah Franklin 1997) by providing assisted reproduction services to stable heterosexual couples who would presumably not be able to conceive and experience biological parenthood otherwise. On the flip side, using high-tech medical procedures to create “socially deviant” family forms, for instance single and lesbian mothers, qualifies as “unnatural” and beyond the purview of “morally responsible” doctors in Argentina. By enacting this morality in their clinical practices, Argentine doctors participate in a popular discourse in which only stable, heterosexual couples (usually from the upper classes) are socially “fit” to produce offspring. As these examples demonstrate, particular constructions and values of nature, family, medicine and ethics are operating as guidelines for the practice of assisted reproduction in Argentina. Taking these circumstances into account, throughout this ethnography I ask, what kinds of reproductive “choices” are being offered within the local culture of assisted reproduction in Buenos Aires, Argentina?



Figure 2. "With a little help from science." *Viva* magazine cover-story on ART treatments in Argentina. February 10, 2002.

Review of Relevant Literature

Located at the intimate level of the non-reproductive body, assisted reproduction offers a particularly revealing site for analysis of the inseparability of medicine and society. The apparatus of assisted reproduction in Argentina engages a complex of social values about family and health; conflicting religious and scientific ethics; class, gender and regional stratifications of health care access; and ideologies of development and modernity. To make sense of these productive intersections, this project draws from three complementary bodies of literature.

Politicizing and Living Reproduction.

In the history of anthropology as a discipline, the theme of reproduction has been central. In their introduction to the anthology, *Reproducing Reproduction* (1998), Sarah Franklin and Helena Ragoné discuss a recent resurfacing and reconfiguration of reproduction as a critical subject in anthropological theory. They point out that prior to the emergence of feminist anthropology in the 1970s, the discipline's relationship to reproduction was a focus on systems of biological paternity and kinship structures, using a model of universal, essential woman. The "virgin birth" debates are a prime example of this preoccupation with the "biological facts" of reproduction, as separate from the more variable forms of "culture" (see Franklin 1997 for a review). Recent anthropological work has attempted to deconstruct this essentialized dichotomy between biological and cultural aspects of reproduction, leading to a surge in scholarship on reproduction and on the old but new problem of kinship in reproductive knowledge. Several recent anthropological works have begun to address the uncertainties that reproductive technologies pose for Euro-American folk models of kinship (Edwards et al. 1993; Finkler 2000; Franklin and Ragoné 1998; Strathern 1992). These works build from the premise that new social and biological relations are being produced when more than two parties contribute to the creation of a single viable fetus. One particularly striking example of this reconceptualization of kinship is an essay by Charis Cussins (1998b), which addresses the denaturalization effects of assisted reproduction procedures on biological parenthood relationships.

Reproductive technologies have also been elected as a theme for feminist analyses of reproductive health politics within anthropology. In this vein, assisted reproduction is

located within a “global politics of reproductive health” (Ginsburg and Rapp 1995; Davis-Floyd and Sargent 1997). This scholarship builds from and problematizes prior feminist analyses of reproduction to examine how state policies, privatized health services, and research in biotechnology interact and articulate with class, gender and regional differences in reproductive health between and within countries. The notion of “stratified reproduction,” the power differential between those who can afford to reproduce and those who cannot, is a recurrent theme in this approach (Colen 1995). For instance, Rayna Rapp’s work in the United States illustrates the social stratification of reproductive health services according to class, ethnicity, and gender divides (Rapp 1993;1998;1999). While Rapp points out that amniocentesis has become a routinized prenatal procedure in the US, women’s experience of this technology varies widely according to certain social variables such as professional and educational background, first language, degree of scientific literacy, health care coverage, and religious convictions.

Also of central concern for anthropological inquiry is the potential for reproductive and genetic technologies to serve the purposes of a contemporary eugenics movement. This work looks at how these technologies can be used to render a certain group of people as “unfit” to reproduce, as well as promote the emerging category of the “genetically at risk” individual who is responsible not only for her health, but the health of her family (Duster 1990; Franklin and Roberts 2006; Novas and Rose 2000; Rose 2001; Taussig, Rapp and Heath 2003). For instance, in their article on routine prenatal diagnostic screening in California, Carole Browner and Nancy Press characterize the normalization of these diagnostic tests as part of a “neo-eugenics movement,” one that

differs from previous eugenics movements in that “the intent today is not to select out individuals with undesirable social characteristics but rather those with specific physical or mental disabilities” (1995:308). Browner and Press argue that the promotion of prenatal tests as a necessary practice for ensuring a “healthy” pregnancy, obscures the eugenic aspects of selecting out fetuses with “abnormal” conditions, such as Down’s syndrome. By placing reproduction—in all its myriad forms—at the center of social analysis, these works examine contested forms of cultural production in terms of transnational structures of power that play out in daily life experiences.

Examining the politics of reproductive health practices in Argentina, and their contribution to reconfigurations of family-making, is an important component of this project. In Argentina as elsewhere, the relatively high cost of private assisted reproduction procedures underscores a system of “stratified reproduction.” In practical terms, this means that the majority of people who are attempting assisted reproduction techniques belong to the middle-to-upper classes of Argentina’s largest cities. As I will discuss at greater length in chapter two, practitioners themselves are posing this situation as a “reproductive rights” problem, in need of redress through legislation and healthcare restructuring. However, when (and *if*) Argentina’s governmental leaders will give legislated support for public assisted reproduction programs depends upon a variety of other economic, political and moral circumstances. In all likelihood, Argentina’s recent economic crisis and resulting political instability continues to affect how people think about the future of the country and their families. In addition, practitioners themselves rely upon social criteria to decide who is eligible for high-tech reproduction, at the exclusion of “deviant” non-heterosexual family forms. In chapter one, I begin to locate

these current assisted reproduction practices within a trajectory of professional's perspectives on the history and future of their country.

Given the ethical, legal and social implications of these technologies, there are surprisingly few *ethnographic* studies of the use of reproductive technologies, and fewer still specifically on assisted reproduction. Most of the ethnographic studies that do exist have been conducted in “First World” contexts, and focus primarily on patient narratives. Yet ethnographies are essential for understanding the lived qualities of assisted reproduction, for all of the parties engaged in these practices. Most high-technology procedures involve multiple stages, each contingent on results from the one before. If a particular procedure doesn't work—as is often the case—the whole process must begin again. Creating a pregnancy via assisted reproduction thus involves emotional, physical, economic, and spiritual work on the part of both patients and medical professionals. Anthropological studies of assisted reproduction reveal that from patients' perspectives, undergoing a given procedure, and dealing with infertility, is a long and difficult process (Becker 1997; Franklin 1997; Inhorn 1994, 1996; Kahn 2000; Sandelowski 1993; Thompson 2005). These “patient narratives” disclose the frustrations and hopes of people “living” the medical process in efforts to have a biological child. In particular, Sarah Franklin's (1997) work on in vitro fertilization practices in England explores the ways in which technological progress is literally “embodied.” Franklin discusses the management of an in vitro fertilization process as a daily regime, in which a variety of clinic appointments, hormone injections, and emotional work take precedence over all else. She shows how the requirements of an IVF program often dictate a woman's daily schedule, leading some women to describe the experience as all-encompassing, literally “*living*

IVF.” And yet, this “obstacle course” becomes an option that “must be tried” before acceptance of biological infertility is possible. In this sense, Franklin argues that the “choice” of in vitro fertilization becomes an imperative to exhaust all options for biological conception.

This anthropological work on reproduction provides an empirical foundation for recognizing the social, political and economic dynamics inherent to reproductive practices. In terms of assisted reproduction specifically, the elaborate contingency of these processes clearly necessitate a whole-hearted investment from all parties involved. However the experiences, motivations, and understandings of assisted reproduction from practitioners’ perspectives have not been fully examined in the existing literature. For instance, it is not apparent that patients and professionals share the same goals for these practices, particularly given the low probability of a live-birth “success.” While patient ethnographies are important, I argue that professionals’ experiences and understandings of assisted reproduction are equally salient for a critical analysis of these technologies. This ethnography therefore focuses on reproductive medicine professionals to reveal the meanings assisted reproduction has for clinicians and biologists in Argentina.¹³

Producing Science, Technology and Medicine.

A related and complementary group of studies focus on the contingency of scientific knowledge production, and medicine and science as professional institutions. Ethnographies within science and technology contribute critical approaches to exploring the ways “nature” is being remade to serve social projects, and in demonstrating that the

¹³ In this ethnography I use the general term “biologists” to refer to the people working inside the laboratory. Some of them have backgrounds in biochemistry or embryology, but in the local setting of the embryology lab they are all called “biólogos”—biologists. Neither is a hierarchical discrimination made within the laboratory of “technicians” or “assistants”—the only one used, which I retain, is to identify the “chief” or “head” of the laboratory.

laboratory and clinic are places where reality is negotiated daily (Hess 1997; Latour 1988; Latour and Woolgar 1986; Pickering 1992; Rabinow 1996; Traweek 1988). Furthermore, studies of medical professionals and the “work” of medicine reveal the implicit social hierarchies involved in the daily practices of biomedicine (Atkinson 1995; Berg 1997; Freidson 1970; Sandelowski 2000). With respect to this analysis, these works are particularly helpful in terms of their theoretical contributions. To analyze assisted reproductive technologies as culturally, historically and politically contingent, requires the recognition that medical and scientific knowledge and practices are not unvarying, culturally-neutral phenomena. Rather, medical and scientific procedures are cultural practices, and paying attention to this materiality of culture means examining how “conceptual schemes are embedded in techniques and technologies, in buildings, gestures, and insurance regulations” (Berg and Mol 1998: 5).

To better understand the political and highly variable dimensions of assisted reproduction as a medical and scientific practice, I find it helpful to invoke feminist science historian and cultural critic Donna Haraway, who proclaims: “My goal is to help put the boundary between the technical and the political back into permanent question as part of the obligation of building situated knowledges inside the materialized narrative fields of technoscience” (Haraway 1997:89). In refusing to separate science from politics and nature from society, Haraway creates a space for challenging the traditional dichotomies and dualisms of “Western analytical traditions” such as nature versus culture, animal versus human, sex versus gender. Haraway’s concept of “technoscience” is central to her non-binary project. Haraway explains that technoscience signifies the interdependent complex of science and technology which currently configures ways of

life: “[it designates] dense nodes of human and nonhuman actors that are brought into alliance by the material, social and semiotic technologies through which what will count as nature and as matters of fact get constituted for—and by—many millions of people” (Haraway 1997:50). Technoscience is a dominant mode of life, as well as a practice of knowledge production and means of producing new entities. Among the objects constructed by technoscience are narratives about nature and society, which are dispensed and apprehended under the rubric of “scientific truth.” Furthermore, technoscience is productive of not only discourse, but also of bodies—in the example of assisted reproduction, this is the literal creation of new human life. Haraway also emphasizes the metamorphic quality of categories in technoscience, and asserts that there are no absolute divisions between “social” and “technical,” but neither is a dimension ever destroyed and replaced entirely by another. Rather, these categories exist simultaneously in different patterns at given moments in history.

Haraway’s concept of “cyborg” is also central to the project of challenging dualisms of nature and culture as separate entities, as the distinction between who makes and is made becomes blurry when the technical and organic meet in situated circumstances (Haraway 1985:97). Haraway defines cyborgs as: “a fusion of the organic and the technical forged in particular, historical, cultural practices”(1997:51). In her most recent work, Haraway asserts that cyborgs are creating chaos within the kinship order in technoscience, with cyborgs like OncoMouse unpredictably running through the house and creating a “mess” of the family. Cyborgs are the prolific rabbits of technoscience: from genetically engineered crops such as the FlavrSavr tomato, to the Darwin Molecular Company which mimics natural selection to produce drugs, Haraway argues that cyborgs

are everywhere (Haraway 1997:56,59). Recent scholarship on cyborgs within the realm of reproduction lends support to Haraway's assertion. That reproductive technologies provide fertile grounds for "cyborg" investigations has been recognized by scholars within anthropology as well as science and technology studies. Several recent collections address this proliferation of human-machine meldings, or "cyborg conceptions" (see Davis-Floyd and Dumit 1998; Downey and Dumit 1997; Gray, Figueroa-Sarriera and Mentor 1995). In the introduction to *Cyborg Babies* (1998), editors Joseph Dumit and Robbie Davis-Floyd ask, "what are the ethics, the moralities, and the environmental realities that will govern us as we continue to cyborgify ourselves and our world?" (1998:14).

Unfortunately, like anthropological studies of reproductive technologies, this scholarship primarily focuses on "First World" contexts. Few studies examine the topography of technoscience for local variations. Thus far hybrids and cyborgs in particular have been analyzed in terms of their transgressions of certain "Western" values and dualities. I argue that where different systems of dualities and values are in place, the products of ART will also be different. Because ART is both a scientific and *medical* practice, I view it as a relative of technoscience that might better be termed "technomedicine." By focusing on assisted reproduction practices in Argentina as a type of technomedicine, I examine how people are making sense of and experiencing these cyborg realities of high-tech medical care as part of their daily lives. With this aim, I propose that all the facets of assisted reproduction—social, material, political, physical—need to be examined as together constituting a multilayered reality. I focus in particular on assisted reproduction in Argentina as an example of technomedicine metaphorically

and literally embodied, in which practitioners and patients together live and produce particular ideals of “scientific progress and rationality.” Throughout this ethnography I demonstrate that the forms the technical apparatus of assisted reproduction takes depends upon the available ingredients of practice. As I discuss in chapter two, within the reproductive medicine community in Buenos Aires, these elements include: conservative family ideals; out-dated constitutional law; Roman Catholic morality; inequities in wealth and social services; post-colonial consciousness; and a full spectrum of motivations and desires.

Historicizing Modernity and Development.

A third relevant body of literature includes Latin American studies on state and church policy, questions of development and modernity, and “the making” of the “Third World” (Escobar 1995). These scholars problematize the pervasive ideology that modernity and development—e.g., in the form of high-tech medicine—are products of the “Euro-American North” which can be imported and replicated, but do not originate in the “South” (Canclini 1995; Stepan 1991). For instance, Jorge Larrain argues that rather than an “external” force, modernization has been a reciprocal and continual component of processes of identity construction throughout Latin America’s history (Larrain 2000).

Throughout history Latin America as a region has been considered subordinate to the “North” and the “West.” Part of this subordination entails an international development discourse that characterizes Latin America as “underdeveloped.” As a country, Argentina holds a unique position within Latin America as more “developed” and cosmopolitan than its regional neighbors. The mix of indigenous and colonial

European ancestry that characterizes much of Latin America does not apply to Argentina where the indigenous tribes were almost completely decimated during colonial rule. Waves of subsequent Western-European migration, particularly from Spain and Italy, provided the roots of today's population. The capital city of Buenos Aires is recognized as a focal point for international medical and scientific research within Argentina, and Latin America in general.

However this “modern sensibility” is a tentative one, highly subject to the country's economic and political stability and international relations. Indeed, Argentina's claim to “modernity” has been a difficult struggle throughout the twentieth century, one that is far from resolution (Shumway 1991). Ranked as the eighth richest nation in the world after World War II, Argentina in the November spring of 2002 when I arrived to do fieldwork suffered a devalued peso, high rates of unemployment and political uncertainty. With the uncoupling of the Argentine peso and the US dollar in December 2001, one of Argentina's primary symbols of “sophistication” was also destabilized. Economic upset is not a new circumstance for Argentines, as this most recent devaluation of the peso follows more than 10 years of recession. However, the international response, including the International Monetary Fund's displeasure with Argentina's loan defaults, may have lasting material and symbolic consequences. Though two years after the crisis the economy (relatively) stabilized under democratic rule, the horrors of the economic and political crises of 2001 are not quickly forgotten by Argentines or onlookers. How does this translate into on the ground self-perceptions of being “modern” in Argentina? One psychologist at a clinic in Buenos Aires referred to North American dismissal of the clinical research that comes out of Argentina, saying “They think we live like Indians

[Native Americans] here.” She went on to say later that, “Northern countries always think that the South is ‘second class.’” A director of a prominent reproduction clinic in Buenos Aires, himself Argentine, characterized Argentines as “*hablan bien, hacen mal.*” These words refer to what he regards as the idiosyncrasy of Argentines to say one thing and do another—and the many levels of corruption to which this standard contributes. This view of Argentina as a contradiction in terms solidly fits with the daily street scenes of young children begging on the subway and politicians’ poster-promises to remake Argentina into a “serious” country. Yet within the arena of private infertility medicine in Buenos Aires this negative characterization was actively contested, and at the same time tacitly accepted by the professionals themselves.



Figure 3. Typical "street scene" in Buenos Aires: child performer in Recoleta neighborhood. Photo by Kelly Raspberry, May 2003.

This ethnography examines these tensions and the extent to which professionals strive to be thought of as “modern” within a global network of assisted reproduction, and what it means to be practicing high-tech medicine in an area of the world conventionally

deemed as “developing.” To begin with, I follow Lock and Kaufert (1998) in their assertion that there is no standardized form of modernity implicit in the practice of a medical technology:

When the flow of ideas and technology is perceived as being from ‘advanced’ societies to the ‘developing’ world, then an assumption is often made that recipient societies undergo a process of secularization and rationalization, an integral part of modernization. It is abundantly clear, however, that no simple trajectory occurs, and that reversals and other unanticipated outcomes are common, in both ‘developed’ and ‘developing’ societies (Lock and Kaufert 1998:23).

In chapter one I describe the unique trajectory of the establishment of ART in Argentina, to begin to understand why ART primarily travels North to South, though not always in expected ways. In chapter two I look more closely at the local modifications made to this modern technology in practice.

In terms of reproductive medicine, the central sites of this worldwide circuit of clinics, professionals, equipment, drugs, knowledges and patients, are located in the “North,” particularly in the US and Western Europe. This institutional hierarchy positions medical professionals in Argentina as on the periphery, they are far from the center of innovation and research. Professionals in Argentina strive to meet international criteria of what counts as a “reputable” center with high “success rates.” Though this hierarchy of quality is based in part on the range of procedures a given clinic performs, the ultimate criterion of “success” that all professionals try to achieve is a high rate of delivered pregnancies, termed “live births” in the clinic lingo. For the most part clinics in North America and Europe set the standards of what counts as a “high” rate of success. Held against these Northern standards, ART in Latin America (overall numbers for Argentina are not available) is not so distant from the modernity of US medicine: the overall

pregnancy success rates for Latin America are 29.8% for IVF and 30.7% for ICSI (Zegers-Hochschild and Galdames 2004: 3). In comparison, the CDC reports an overall 33.7% percent pregnancy rate for combined ART cycles (CDC 2006:19). As I discuss in chapter two, based on these pregnancy success rates, the practitioners in Buenos Aires' principal assisted reproduction clinics pride themselves on running "the best clinics" in all of Latin America, and clearly think of themselves as part of this competitive international network. While these specialists acknowledge the current difficulties facing Argentina, they clearly distinguish Argentina as unlike "the rest of Latin America" and emphasize the European legacy of specialist medicine here. The image of Argentina that many of these professionals present is that of a technologically and medically advanced country. Besides making claims to professional prestige, these high-tech experts also strive to distance themselves from a characterization of Argentina (and Argentines) as corrupt by actively engaging in an affirmation of their medical legitimacy, for instance through international approval. Recent work on modernity in dialogue with theories of globalization provides a theoretical basis for this possibility of not one European-based trajectory of modernity, but of multiple, ubiquitous, and incomplete "alternative modernities" (Appadurai 1996; Gupta 1998). Analyzing the processes of alternative modernities can reveal unexpected cross-overs and hybrid combinations: "everywhere, at every national/cultural site, modernity is not one but many; modernity is not new but old and familiar; modernity is incomplete and necessarily so" (Gaonkar 2001: 23).

My reading of assisted reproduction in Argentina as a "modern" practice draws also from Bruno Latour's (1993) theoretical concepts of "purification" and "hybridity." According to Latour, modernity works through both processes. Purification is the attempt

to carve an absolute divide between science and society, nature and culture, things and humans. In particular, Latour associates purification processes with a view of the world as partitioned into separate, contained and controllable categories of politics, society, economics and science. However, like Haraway's critique of the permeable boundaries of technoscience, Latour also suggests that the very work of purification itself produces inseparable hybrid networks of these categories.¹⁴ Like Haraway's cyborgs, Latour's hybrids (reminiscent of the Victorians in Foucault's (1978) repressive hypothesis) are proliferating like rabbits and inverting the principles of modernity: "The more we forbid ourselves to conceive of hybrids, the more possible their interbreeding becomes" (Latour 1993:12). Latour calls this productive inversion the "modern paradox," as modernity's true believers are producing that which they are struggling to prevent. Although Latour grounds his argument within a "Western" secular modernity, I propose that this work of purification, and the generation of hybrid networks and cyborgs, also takes place—but in modified form—in the "subordinated West" of Latin America.

To provide the necessary historical contexts for understanding these practices and positionings of modernity, I also turn to specific studies of state-making and nationalism in Argentina. Of particular relevance for this ethnography, are works that address the sociology of the recent military dictatorship and legacies of motherhood and family-making in Argentina (Bouvard 1994; Feitlowitz 1998; Giberti 1987; Taylor 1997; Shumway 1991). This literature reveals that Argentina's twentieth-century political history is a highly militarized one, and includes several periods of intensive state

¹⁴ In proposing these hybrid networks Latour does not deny the existence of reality, nor does he attribute networks to a realm of discursive illusion or social construction, but rather he emphasizes that "...the networks are *simultaneously real, like nature, narrated, like discourse, and collective, like society*" (Latour 1993:6).

intervention in reproductive health practices. In the 1920s and 1930s a pervasive neo-Lamarckian eugenics movement took hold in Argentina, which served the interests of building and protecting national identity through the use of state-regulated “identity cards” and reproduction restrictions to monitor the “color” of the nation (Rodriguez 2006; Stepan 1991). More recently, during the dictatorship in the late 1970s, infants and children of the “disappeared” were illegally adopted by military families and their sympathizers (Arditti 1999; Feitlowitz 1998). In chapters two, three and four I look at how this history of state involvement in family and reproductive health interacts with current and potential economic liberalization, policies of adoption, and scientific embryonic practices. One example of such economic liberalization is that egg donation services at private clinics in Buenos Aires give the attending doctor, and not the recipient, the responsibility of matching gamete donor to recipient.

This literature provides theoretical and historical frameworks essential for grounding this project within Argentina’s specificities. However, most of these studies do not focus specifically on health technologies and medicine as a global phenomenon that is nonetheless advanced through particular social relationships. There are particularly few social histories of medicine in Argentina to draw from, and the works that have been published in English tend to focus on health care reform policies (Armus 2003; Guerrino 2001; Lloyd-Sherlock 2000; Teixeira, Belmartino and Baris 2000; William 2000). There is no published history—social or otherwise—that details the origins of ART in Argentina, nor in Latin America. In addition, works that address the forms that science and technology are taking in Argentina today, focus on information technologies

(Aranovich, Pardo and Noblia 2000; Sebastián 1993).¹⁵ This ethnography is therefore also a story about the high stakes of modernity involved in producing ART in Argentina, and the economic and political constraints in doing so.

Working from this background literature, I have several important aims in the following chapters. First, to examine assisted reproductive technologies outside of what is conventionally known as the “First World” in order to better understand local variations in the practice of medical biotechnology as a “modernizing” force. Second, to interrogate the motivations and understandings about family, health, medicine, modernity and religion produced by Argentine health professionals in dialogue with their patients. Third, to ethnographically investigate daily negotiations of the local production and reception of the global apparatus of assisted reproduction. I am particularly invested in exploring the multiple ways in which experts in Buenos Aires personally and professionally experience, understand, and thereby transform these new forms of scientific knowledge and high-tech medical care; and secondly, how biological understandings of reproduction, conception and gene inheritance in turn shape social practices and ideologies beyond the clinic and the laboratory. In the last instance, this analysis will be revealing not only of assisted reproduction in Argentina, but circulate back to “inform” the phenomena of assisted reproduction as a global apparatus as well.

¹⁵ See Brown’s “Test Tube Envy” for an analysis of scientific narrative in Argentine literature (Brown 2005). See also Sommer 1994, 1998 for a perspective on reproductive and genetic technologies in Latin America.



Figure 4. Plaza San Martín: downtown Buenos Aires. Photo by Kelly Raspberry, February 2003.

Methods of Research

This ethnography is based on three years of dissertation fieldwork conducted primarily in Buenos Aires, Argentina. From November 2002 until August 2005, I focused my anthropological gaze on the professional reproductive medicine community in Buenos Aires. During this time, my principal research methods included participant observation, formal and informal interviews, and archival collection. I observed daily in the patient consultation sessions, operating rooms, embryology laboratories, and ethics committee meetings of four out of five of the most influential and largest private infertility centers in the country.¹⁶ My observations also included visits to: a public hospital in Buenos Aires, a small ART center in greater Buenos Aires, four satellite clinics in the provinces of Argentina, and several private clinics in Chile. I also attended

¹⁶ Unfortunately I was not able to observe at one of the five principal clinics in Buenos Aires (through passive evasion rather than outright prohibition), though I did do an interview with one of the staff doctors there.

several international conferences on assisted reproductive technology held in Uruguay and Argentina during this time period.

I laid the groundwork for this project during two preliminary research visits in June-July 2000 and 2001, when I met with and interviewed several clinic directors in Buenos Aires, Argentina and in Santiago, Chile. However, when I arrived in November 2002, Argentina as a nation was still jittery from the economic and political destabilization of December 2001, and I encountered a different setting than the one I had based my proposal on. Given that my research focused on a group of high-tech medical professionals in the private sector, I was concerned by how the country's economic problems would be affecting their work, and in turn my own. I soon realized that the unresolved economic crisis had affected the upper-middle and upper classes in less visible ways than the lower classes. Overall, the widespread economic difficulties weren't deterring many people from finding ways to pay for expensive fertility treatments, and so the large centers were operating almost-as usual by the time I arrived (I discuss the effects of the crisis in more detail in chapter one). As a result, the majority of my fieldwork requests were met with permission and cooperative interest by these research participants, particularly by the professionals in Buenos Aires.¹⁷ I enjoyed

¹⁷ I did meet with some fieldwork difficulties, some of which seem intrinsic to the nature of this project. For instance, while observation in the different work areas of the infertility clinic was essential for this project, dividing my time up this way seemed also to distance me from the patient experience and made it more difficult to track the same patient through a complete treatment cycle (about 2-3 months long). At the main center I observed in, many patients pass through the clinic in one day, and I was not always able to find out an observed patient's dates of return. Many of these practices occur at the same time—usually in the morning—so I had to choose between attending one patient's ultrasound, observing a different patient's in vitro fertilization in the lab, and yet another's embryo transfer. Although this research always primarily focused on professionals, I had hoped to have more of a patient-component than was possible in the course of this fieldwork.

In addition, I was invited to spend 3 weeks observing at the principal infertility clinic in Santiago, Chile as a comparison to the work I had been doing in Argentina. Several of the doctors at that center are the original founders of the RED organization. Unfortunately however, the clinic's strict rules, and the director's idiosyncratic reasoning, prevented me access to the laboratory, the surgery room, and doctor

access to more clinic areas than I originally expected, and found most everyone tolerant of my presence and receptive to my questions about their practices.¹⁸

There are several different spaces in which assisted reproduction work takes place, and I spent the majority of my observations in one infertility clinic in Buenos Aires, learning what these are and how they vary. My observations were therefore divided up into three main work sites: 1) clinical visits (patient consultations, surgeries, ultrasound monitoring); 2) the embryology laboratory; 3) staff and committee meetings, colloquia, and international conferences.

Medical Consultations and Procedures

More than any other space inside the infertility center, clinical visits involve the cooperation of a medley of actors, including receptionists, doctors, nurses, psychologists, medical residents and of course patients and their family members. I sat in on clinician and psychologist patient consultations which included both first-time and returning infertility patients. During a clinical consultation, my presence was always explained to the patient by the attending clinician, and made optional. These sessions, which lasted from half an hour to an hour, allowed me to observe different phases of the treatment process. In the surgery room I watched different gynecologists and andrologists perform oocyte aspirations, embryo transfers, laparoscopies and testicular biopsies—in a given

consultations. In the end, I was only able to attend doctor meetings, observe in the waiting room and conduct interviews with professionals—much less participation than in Argentina. The difficulty that I experienced in Chile is revealing of the local particularities of assisted reproduction practices: in Chilean society, which is more socially conservative and Catholic than Argentine society, assisted reproduction has a more secretive and taboo status.

¹⁸ I attribute the relative ease that I had in doing this project (aside from what I outline above) in many ways to my status as a researcher from the US. The possibility of name-recognition or prestige that my very presence promised to bring to the given center or professionals that I worked with was most likely a prime motivating factor. Also, I was working mainly with a group of people who share a value of research. My field of expertise (anthropology) was not well understood, but it was not threatening either.

day, four to five different procedures often take place. My presence in the surgery room was also announced to the patient, though in these cases I was one of about seven professionals and I blended in with the others. The center that I primarily observed at also functions as a training center and has rotating residents for most of the year, this smoothed my access into these clinical areas of practice. In all of these professional-patient encounters I witnessed the difficulties of reconciling medical knowledge and doctors' professional aims with the unpredictability of patients' bodies and patients' fears and hopes for the treatment process itself.



Figure 5. Surgery area in ART center in Buenos Aires. Photo by Kelly Raspberry, January 2003.

The Embryology Lab

The clinical laboratory, where all the processing and manipulation of human gametes takes place, is also a key site of the production process, though one physically removed from most of the other actors. The crucial position of the lab in determining the success of a given assisted reproduction treatment was an important aspect of this research, one that I originally underestimated. As a result, early-on I changed my research plan to devote more time to laboratory observations. This provided me with not only a deeper understanding of the science and technique of lab procedures, but also more

opportunities to engage in ongoing, informal conversations with the biologists about their views on the meaning of their work. In addition, I was able to observe in different centers' laboratories in Argentina, and saw first-hand how techniques and protocols are specific to each center.

During a typical day in the lab, fresh human sperm samples are processed and analyzed, eggs are matured in incubators and fertilized via in vitro inseminations or by micromanipulation injection of sperm, and embryos are evaluated for intra-uterine transfer and cryopreservation. While in the lab I was most immersed in the specificities of the protocols of assisted reproduction work, and at the same time distanced from the actual patients undergoing treatment. Human sperm and eggs saved in vials and biological medium are at the same time rendered more useful for fertilization purposes, as well as abstracted from their origins in particular histories of desires and fears. In the lab, conception is reduced to a series of standardized procedures that have nothing to do with how much a couple wants to have children, or how long they have been trying to do so, but instead depends on the skill of the biologist, the conditions of the lab and the quality of the medium being used. Learning to move between these two main work sites—the clinic areas centered on patients, and the lab invariably focused on bodily materials—was central to understanding the varied components that come together to produce an assisted reproduction treatment.



Figure 6. Embryology lab and scopes in Buenos Aires. Photo courtesy of Sabrina de Vincentiis, 2006.

Meeting Sites

My other primary site of observation were the meetings, colloquia, workshops and conferences that the assisted reproduction professionals in Buenos Aires conduct and attend. At the clinic, these reunions included “case rounds” lunchtime meetings during which the doctors and biologists discuss the current patients’ cases, weekly research presentations on current reproductive medicine topics (with invited international presenters), monthly ethics committee meetings, and patient information sessions open to the public. I also spent time observing in clinic waiting rooms, giving me the opportunity to talk with patients about their treatments and also to observe the general flow of activity and people in the given clinic.

I also attended several international assisted reproduction conferences that took place in Uruguay and Argentina. These included the VII Latin American Federation of Fertility and Sterility Societies (FLASEF) Conference which was held in Montevideo, Uruguay in November 2002; the VI RED workshop in Punta del Este, Uruguay in March 2003; and the International Symposium on Advances and Controversies in Reproductive Medicine hosted by FLASEF, the American Society for Reproductive Medicine (ASRM) and the Argentine Society for Reproductive Medicine (SAMeR) in September 2003 in

Buenos Aires.¹⁹ All of these scientific meetings were attended by Latin American professionals—clinicians, biologists and researchers—as well as a handful of their international colleagues from Western Europe and the United States, so I had the opportunity to observe international professional relationships and positionings. As these meetings also invariably had a social component, I also participated in (and observed) valuable informal conversations.



Figure 7. Embryos as visual decoration at the FLASEF 2002 meetings in Punta del Este. Photo by Kelly Raspberry, November 2002.

Interviews

To compliment my observations and informal conversations, I also carried out a total of 72 formal taped interviews. I conducted 68 semi-structured interviews in Spanish with gynecologists, biologists, embryologists, psychologists, lawyers and scientists engaged in assisted reproduction practices in Latin America. In addition, I did 12 interviews in Spanish with current and previous patients (some of whom were also professionals) who shared with me their experiences of infertility treatments in Buenos Aires. Specifically, the group of 56 professionals interviewed included a) 47 reproductive

¹⁹ The spanish names of the conferences are: *VII Congreso de la Federación Latinoamericana de Sociedades de Esterilidad y Fertilidad*; *VI Taller de REDLARA*; *Simposio Internacional de Avances y Controversias en Medicina Reproductiva*.

medicine specialists (clinicians, biologists) representing 17 different centers in Argentina (13), Chile (2), Brazil (1) and Peru (1); b) 9 non-medical professionals (lawyers, researchers, assistants) in Buenos Aires involved in assisted reproduction. I had the opportunity to formally interview some of the professionals more than once. Most interviews with professionals were conducted in the office of the given professional during work hours. I interviewed patients either in a private room at the clinic, or in their home. Interviews lasted from 50 minutes to 2 hours, with 75 minutes as the average. Everyone interviewed signed a written IRB-approved consent form, which provided the option of allowing for their actual name to be used.

Archives and texts

Archival research was also important for this ethnography. I collected and analyzed a variety of historical and contemporary written materials from the clinics, the Internet, the library, and public newsstands. These materials include clinic informational literature on treatment protocols; popular media discussions of infertility, assisted reproductive technologies, and motherhood; and national legal documents on human rights.

Chapters Preview

In the chapters that follow, I seek to uncover the predominant ideologies and practices that constitute and are produced by the “local culture” of assisted reproduction in Argentina, from the viewpoints of its practitioners. In chapter one, I give a contextual history of how ART began in Argentina, identifying the major players and centers that

continue to wield influence today. Through telling this history I begin to deconstruct the notion that technology transfer is a neutral process, examining how it is actually a “translation” of sorts. In chapter two, I examine further the specificities of local production of ART in Buenos Aires and the complexities of doing ART day to day. I explain that the production of in vitro fertilization in Argentina rests on a series of moral positions about the family, motherhood, and the role of the Church in medical practice. It also requires a creative maneuvering around local social and material constraints. In chapter three I examine again the pronatalist privileging of biological parenthood, and the preference of in vitro fertilization using gamete donation over infant adoption in Argentina. The practice of gamete donation also clearly exposes the market and commodification aspects of ART. Using the examples of positions on paid egg donation and surrogacy, I discuss clinic directors’ attempts at separating out their medical practices from the undesirable chaos of the market. In chapter four, I focus on the creation of the hybrid entity of the morally and legally ambiguous embryo in ART work, and the various ways professionals propose to “resolve” this ambiguity. I examine two techniques in particular, embryo cryopreservation and preimplantation genetic diagnosis (PGD) to illustrate how medical technology responds to a cultural human rights discourse. I conclude this ethnography with a suggestion of how ART will continue to influence everyday Argentine life. I also begin to engage in a broader anthropological discussion of what this specific cultural account of ART in Argentina reveals about the production of biomedicine and biotechnology around the world.

INTERLUDE I

Living and Working with Assisted Reproductive Technology

“*Buscar un bebé*” : ‘Searching’ for a Baby and Finding Infertility

I married very young, I married in 1990 and I was finishing my studies and I didn't want anything to do with having children at that time. [...] It was around 1997 that we thought “okay.” That's it. I had already received, I had achieved quite a lot in my career and you know, everything has its time in life, and so we began trying to have a baby, and it wasn't coming, it wasn't coming. And well, then enough time had passed so I talked with Emilio [gynecologist] because I always had the impression that it was me. I had never had anything done to me and so they began to do all the testing, and meanwhile they sent Alejandro [husband] to do the tests, the spermogram, the routine tests, like they do with any patient. And then well, they began to do all the routine exams on me and they gave me an “everything okay.”

And Alejandro's spermogram comes and it's azoospermic. That was a shock. It was a huge blow. Because first, I had always thought that it was me, and in addition to that the fact of being azoospermic indicates, that's it. Even though he could do the biopsy, it was...it was a huge blow for him and for me. And then Alejandro came to see [andrologist], and we planned the biopsy. He has non-obstructive azoospermia [testes do not produce sperm], in other words he had a 60% chance that we wouldn't find anything. So we talked and we decided that if he didn't have any sperm we were going to adopt.

Laura is a practicing Catholic, an embryologist who works in the laboratory of a prominent assisted reproduction center in Buenos Aires, and a woman who has personally lived the trials and successes of assisted reproductive techniques. I tell Laura's story because it begins to lay bare the complexity of desires, motivations, choices, constraints and conflicts involved in producing and consuming assisted reproductive technologies (ART) in Argentina. This Argentine woman's narrative of her experiences with infertility—both as a patient and as a specialist—provides us an analytical window into the historical and political, dynamic and embodied ideologies and practices that make up a “local culture of assisted reproduction.” Laura and her husband Alejandro are from upper-middle class, close-knit Catholic families. Alejandro is an engineer. Laura has two sisters, her husband has 13 siblings, and they both want to make a family “of their own.” In the following pages I follow her narrative of disappointments, celebrations, doubts and certainties as a way to begin to understand the motivations and choices that drive this local culture.

By the time Alejandro has the testicular biopsy surgery done it is 1999, about a year and a half after they first found out about his sterility. Laura describes to me that it wasn't difficult for them to decide to do the testicular biopsy, only that it took time to fit the surgery into their busy work schedules, particularly Alejandro's. The embryology lab director does the biopsy and Laura insists on being in the laboratory that day to process the sample and look for sperm. It turns out that Alejandro is lucky—there are mobile sperm in his testes, so Laura separates the sperm from the tissue and freezes everything

for later use. I ask her if it was difficult to make the initial decision to try an ART treatment and she tells me that it wasn't because they were very clear about the limits of what they wanted to do. They agreed to try ICSI, but only using their own gametes. They were both clear that the use of a sperm donor would not be acceptable.

Apparently Laura and Alejandro did not experience any tension between their Roman Catholic beliefs and deciding to do ART, because in trying to make a family they were upholding a traditional value of motherhood and family. For the same reasons, Laura herself does not feel conflicted in her work in the embryology lab. She explains, "Alejandro has two brothers who are priests, so I talked with a lot of people [in the Church]. The reality is that they tell you that they can't come out and say 'yes, we are in agreement' because the Pope and the Church have a different opinion, but the truth is that they tell you, all the priests that I talked to, that a woman is born to be a mother and everything that she can do, within what is normal, in order to achieve that...is a blessing from the Lord, definitively it tells me that He who is going to decide if you are pregnant or not, is God. And the work that you are doing, you are an instrument of [God]..."

When Laura's gynecologist, Emilio—who is also a colleague—returns to Argentina from an international conference in Europe, they begin to plan the treatment cycle, paying attention to Laura's work schedule. She tells me that it was in August, several months after the biopsy, that they did the first attempt. She remembers that 19 or 20 eggs were aspirated from her follicles. Out of these they were able to inject 18 or so because the others were immature. The injected eggs fertilized normally. She remembers that she wanted to do the ICSI herself, and actually came into the lab directly from the surgery room after the aspiration. The lab director tried to talk her out of it. When the

moment came to do an injection she became so nervous that she decided that she couldn't do it. The lab director then asked her to leave the laboratory while he did the ICSI, because it was too much pressure to have her standing there watching over his shoulder. He later called her and told her how many eggs they injected, and the following day they checked fertilization together. Laura recalls "they showed me the embryos, I never had very nice [looking] embryos."

Laura doesn't remember now how many embryos were transferred to her uterus that first time, but she thinks three were. She clarifies in her retelling that at that time the clinic was cryopreserving at the pronucleus stage (Day One), not as embryos. (I come back to this differentiation of embryonic development stages in chapter four). The three embryos to transfer were selected at Day Two—when the cells have had 48 hours to demonstrate their dividing power and differentiate themselves—and the rest were put into frozen storage. According to Laura, the three that were reserved for transfer weren't very good quality. Laura asked to be anesthetized for the transfer—though this is not common practice—because she was scared and because her cervix is 'difficult.'

She explains her hope and expectations in the days following the transfer, "They did the transfer, I went home and I rested. After 12 days the test came back negative. That was also a shock because I thought, 'if there are sperm, that's it.' You know. 'I am going to get pregnant.' You know, I was convinced that I was pregnant. Convinced. [...] So the shock it gave me was terrible. The andrologist and gynecologist called me to Emilio's consultation office and they told me that the test was negative. 'Okay, it's okay,' I told them. 'It's okay, We will try again,' and I left and then I realized everything. So I left the

center. I felt like I wanted the world to swallow me up, I wanted to disappear from the planet. It was terrible.”

Despite her inside-knowledge of the relatively low implantation rates with ART, Laura was sure that she would be one of the successful ones on the first try. This hope is part of what drives the industry of in vitro fertilization. Women and their partners first try ART as “an option” that they need to “rule out.” Often they come back again and again, despite low odds, hoping that “this time” it will work.

If at first you don't succeed...

After that first failed attempt Laura describes that she tried again, “After that I picked myself up. I transferred the frozen ones [pre-embryos] and I didn't get pregnant. At the end of the year we tried again and I didn't get pregnant. [Kelly: another attempt?] Yes, another ICSI attempt. It was more or less similar in terms of the quantity of eggs. But I didn't get pregnant.” When I comment that it must have been difficult to try again she agrees but tells me that she already knew what it was like, and didn't have as high expectations the second time,” It's like I already knew what it was like. I wasn't as convinced that it was going to work out. Even so the blow is hard, but it was less. By May or so of the following year the frozen pre-embryos from the second attempt were transferred and again I didn't get pregnant. So Emilio told me that he would like to look at my uterus because as I wasn't getting pregnant and they were transferring embryos, supposedly...He told me, ‘I am going to do a hysteroscopy on you.’ Based on what he told me, I said ‘put me to sleep and do a laparoscopy on me. Do everything and look at everything.’ So I went under and they did a laparoscopy and a hysteroscopy and I had

endometriosis.” I ask why the previous studies that Laura did, in the beginning, didn’t show the endometriosis. “It didn’t show up because the endometriosis wasn’t in the ovary. It was in the Pouch of Douglas and there was very little. But the ovary didn’t have any, when they took the eggs out, you know during the aspiration, the follicles looked perfect so...”

The time it takes for the doctors to realize that there is more going on with Laura and Alejandro than just male infertility—in this case endometriosis as well—highlights the pervasive unknowns that characterize the field of reproductive medicine and infertility treatments. The biology of human reproduction is not well-understood nor easily dealt with. The commonly-cited infertility pie graph attributes a 30% to both female and male infertility problems, and another 30% are known as “combined infertility” cases. “Combined infertility” means that the difficulty in conceiving or gestating a pregnancy stems from a combination of problems from both sides—the female and the male. The remaining 10% of cases that practitioners see are left to the realm of unknowable—“infertility without apparent cause.” The rapid diagnosis of Alejandro’s azoospermia reflects a major shift in the field to pay more attention to the male partner. Traditionally in this field there was a bias to first examine the woman and to test the male partner only as a last step. Assisted reproductive techniques were originally conceived to help with female infertility problems, for instance in vitro fertilization was developed as a means to overcome problems with blocked fallopian tubes. Andrology however was a slower field to develop, particularly in Argentina.

Laura describes the process of treating the endometriosis and deciding to try yet another ART cycle: “I began with the treatment for endometriosis. So I began with

Lupron [a synthetic hormone], I was menopausal for 5 months...and after that, Emilio told me, 'okay, let's try again.' And I wanted to go somewhere, I didn't want to do it here because for me it was a lot of pressure, from the security person to, in other words absolutely everyone knew that I was in treatment, that I had done a transfer, when I had done the beta test [pregnancy test], how the beta test came back. For me it was a lot of pressure. So I said, 'I'm leaving.' I'm not going to go to another center, 'the biologist from [...] that goes to [...].' No way. So I said I'm going to Cornell."

To avoid public speculation and scrutiny, Laura decided to leave Argentina and try doing ICSI at a center in the United States that she judged as reputable. However, as can happen, world events changed her plans. It was September 2001 by then, and Laura was 34 years old, her husband was 38 years old. They had already tried ICSI twice, as well as two transfers of cryopreserved pre-embryos.

Global events, local treatments

Laura remembers clearly the plans for her third ICSI treatment: "So well, we are going to Cornell or we are going to Cornell. We did all the paperwork and everything. Emilio was going to stimulate me here. And Emilio was going to accompany me, even though he can't work in the US, he was going to accompany me. We had everything planned, I began with the Lupron to inhibit the ovulation...and the twin towers fell." Laura states this calmly, like checking off a list of conditions and it takes me a few seconds to realize what she means. She repeats to make sure I understand. "The accident with the twin towers, the 11th of September." I realize what she is talking about. She continues, "I needed to travel to New York at the end of September. It was chaos. I would

have had to bring with me the frozen biopsy [testicular biopsy with the sperm]. Imagine traveling with a tank of liquid nitrogen, ‘what do you have here, what is this...So Emilio tells me, ‘do it here.’ ‘No, no, I am not going to do it here.’ ‘Come on, but do one here, there’s nothing to lose, you have already bought the medicine, you began the inhibition...in other words the chances [of pregnancy] from not doing anything is zero, from doing something is something.’ ‘No but the pressure, but I don’t know, but I don’t know how much.’ Allright. You know, when you have already decided. And my husband also, ‘come on, come on, come on. There’s nothing to lose, come on, come on.’ You know when you do it, saying, ‘okay, it’s okay.’ So we did it at the center again. [...] We did the attempt, I don’t remember if it was the 27th or the 26th of September...and they transferred three embryos, we froze *embryos* this time. So I still have frozen embryos in storage. They did fragment reduction and [assisted] hatching on the embryos.”

By this third ICSI attempt, three years after the first try, Laura’s—and the center’s— position on the acceptable treatment of an embryo has changed. Whereas before she did not even cryopreserve beyond Day Two of embryonic development, now she is doing highly-manipulative techniques on the embryo (fragment removal and assisted hatching), as well as freezing at Day Three. I come back to these changes in laboratory practice and embryo manipulation in chapter four.

Laura continues her narration of the third try and her certainty that the treatment failed yet again, “I left that day to rest, and I stayed at home two days. The transfer was a Saturday so I think I returned to work Tuesday. Monday I stayed home and Tuesday I started work. Tuesday afternoon I arrive at home and I have spotting.” Laura was so worried that she calls the center and comes back in to see her gynecologist. “Emilio tells

me ‘it’s not possible that you have already started to menstruate because the implantation is recent, it’s impossible.’ So he says, ‘okay, let’s see, get on the exam table and we are going to give you more progesterone. So they started giving me injectable progesterone [a shot].” Laura explains that the spotting stopped to her surprise. “I didn’t feel, I didn’t feel anything strange, nothing different from the other times that I didn’t get pregnant. And the thing about the stimulation, it makes you have, or at least it does to me, menstrual pains during that time, above all when you are getting closer to the date, you have menstrual pains. So I was saying that I was already beginning to menstruate. The day before doing the beta test [beta hCG blood test]²⁰ we had a dinner at [colleague’s] house. So we went to dinner and diagnostic lab director was there. He tells me, ‘I hope tomorrow I can give you good news.’ Well, that was just one more thing along with everything else. I came home and I gave myself an Evatest [a home pregnancy test], that came back negative and I said to myself, that’s it. And I had those menstrual pains. When I got up, I hadn’t thrown away the Evatest, I had left it there, and in the morning when I get up I see two lines, I say, ‘hmm, what’s this?’ So when I get here [to the center] I ask [a gynecologist], and she tells me, ‘no, when that much time passes this oxidizes’ and she gives me the explanation like telling me that it isn’t that the test is positive. I had terrible menstrual pains. So I said to myself, ‘bye, that’s it.’ But they took my blood anyway.

We were doing a laboratory course, in other words there were a ton of biologists inside the laboratory that day. Around 10 in the morning, 10:30, the secretary tells me it’s urgent, it’s the diagnostic lab director. I answer and he tells me, ‘Laura it came back

²⁰ The “beta” test is also known as the beta hCG blood test for pregnancy. In an ART treatment cycle, the hormone levels of hCG in the blood are measured in a lab 12 days after the embryo transfer. Because hCG is produced during a pregnancy, the levels of the hormone should double every 48-72 hours. An initial level above 30 IU/ml is considered a positive indication of pregnancy.

140!’ So the first thing that occurred to me was to tell him that maybe he was confused. ‘No, no I’m not mistaken.’ So I hung up and I continued talking to the biologists that I was giving a class to, explaining to them, and one of the lab biologists was looking at me, like saying, ‘tell me something!’ and suddenly it hit me and I came close to her and I told her, ‘it was 140’ and she hugged me and I left the laboratory, I had to go because I couldn’t with the doctors there, I had to tell my husband, I had to go. I couldn’t, I had to...so I left the laboratory, I called my husband. He couldn’t believe it either and I left to look for Emilio. Emilio hadn’t arrived yet.

It was [the lab director’s] birthday that day. [...] So I entered his office, and I remember that he was on the computer, very...so I tell him ‘I have a gift for you.’ He asks me ‘what did you bring me,’ and I tell him, ‘no, the beta was positive.’ We hugged and we all started to cry and then we heard Emilio, he was coming up the stairs, and we called Emilio to the office and we told him and we hugged and we all cried, and that was...I couldn’t return to work in the laboratory obviously. I was sitting here and...I don’t know if you do this in the United States, but here, when fiancées get married, after they leave the Church there is what is called ‘the atrium’ which is like a patio that the Church has, and they say, the bride and groom will be greeted in the atrium. So the bride and groom are there and everyone comes to greet them. Well, I seemed like the fiancée because I was here and everyone at the center came to greet me, to visit me, to hug me. [...] And I was immensely happy, but Emilio told me to lower my excitement because it was a high beta positive but only a positive beta, and so to calm down.”

“The best time of my life”

Laura, ecstatic that she was pregnant, did not want to listen to her gynecologist’s caution that this was only a biochemical pregnancy at this point. She would have to wait two more weeks to do the ultrasound. “So Emilio told me, ‘stop.’ And I was saying, ‘but I never lived this moment before, let me live this moment even if it’s not, I never had a positive beta, so let me live this moment.’ And two days later we did the beta again and it again went up, it doubled. And then we did an ultrasound, and there were two. There was a sack [embryonic sack] that was showing up perfectly, and another sack that showed up very small. So...well, obviously there were two and one stayed. Afterwards we began to do the ultrasounds and to see the heartbeat and to see that the other one was totally receding. So Emilio told me, ‘look, if you have spotting, it will definitely be this one.’ Fortunately Emilio told me that Nicolas was well positioned above and this one was lower, in other words if it detaches, it isn’t at all going to complicate the other one that is higher. And in truth I didn’t have spotting, I didn’t have anything. I had a fantastic pregnancy. I didn’t have any pain, I didn’t have vomiting, I wasn’t dizzy, I came to work up to two days before having him...It was great.

It was the best time of my life. Great. Great, great. Well, I was very scared, every week I made Susana do an ultrasound on me. I have a collection of videos and photos of...because once you already have a belly and you feel the baby moving, it is moving...but until then I didn’t know, so, ‘Was it taking hold? Will it take hold? Will it continue?’ Because I didn’t have any symptoms and as I was feeling so good, nothing felt different, so Juliana did ultrasounds on me every week.” Laura remembers that the pregnancy, which she had waited so long for, was a wonderful experience. But because it

was so desired, she was terrified that she would lose the fetus. Without signs from her body that the pregnancy was going well—referred to here as “symptoms” of the pregnancy, Laura turned to technological assurance that the pregnancy was progressing well.

In a demonstration of the normalization of medical technology, Laura’s reliance upon monitoring doesn’t end with her ultrasounds, but extend to the birth itself, “They did an ultrasound every week. Jorge Ramiro was in charge and told me that the baby was going to come out saying “cheese!” like with the camera. Then in December they did an ultrasound and they told me that it was a boy, I was convinced that it was a girl but no, a boy. And so, there was Nicolas. In 2002. He was born after 38 weeks, actually that was also...Emilio wanted it to be a natural delivery and I asked him for a cesarean, because I was scared. I fought so much to have her that any risk, I was afraid that he would come out with the cord twisted around him, that the ultrasound showed that, it made me scared. So, actually I had the date for the 20th of June...and two weeks earlier we did the cesarean.”

Next Steps

Since the ICSI treatment finally worked on the third try, Laura and her husband are not content to stop with just one child. Nicolas is now one year old, and they have cryopreserved embryos that are waiting for them to use, pulling on their sense of Catholic responsibility. Laura is vague about how many there are in storage, but not about the need to transfer the waiting cryopreserved embryos. She tells me, “I don’t remember if there are four or five. I think five. Not very good quality...well, they are frozen. I think

before the end of the year I am going to transfer them. And well, if it doesn't work, next year we will try again, already knowing that it's the last ICSI try because...Because they don't have much more of the sample.”

Laura is sure she wants to do another full ICSI attempt because they want to try until Alejandro's frozen sperm sample is used up. “Yes, I would like Nicolas to have a sibling, so that he isn't an only child. And if not, we will have Nicolas.” However this desire to give her son a sibling doesn't extend to an immediate consideration of adoption, like most people who turn to ART, Laura tells me they prefer to exhaust their reproductive options first. Laura explains, “Maybe to adopt later, it isn't that I closed the theme of adoption, not at all. But it is... now it's like...well, great, I have little Nicolas, I have frozen embryos. I have other options, but not to discard the option of adoption, not at all. But for further ahead.”

Laura also emphasizes that for her husband, giving their stored and frozen embryos a chance at life is very important. To freeze embryos in the first place was a gradual decision that Alejandro came to accept with time and increased biological understanding of embryonic development. Laura explains that over these three years of ART attempts, Alejandro's Catholic beliefs of conception and personhood have gradually expanded to include a more scientific perspective on in vitro embryos: “Of course, from not understanding, from coming from a Catholic family, for him, for example, to freeze an embryo, he believed that it is a baby frozen, so it seemed horrible to him. From that time, as I began to explain to him how it was, he began to internalize more the biology, the process of embryo formation. [...] It is like the fact of having frozen embryos still gives him a certain fear, a fear that...not fear because he thinks that it is a baby in a flask,

but he is afraid... Valeria my friend who is the mother of this baby girl [motions to a photograph], after [doing IVF] she got pregnant on her own and last year her husband died from a heart attack, and they have frozen embryos. So, what happens to those embryos? Valeria is going to donate them. The fact is that... you are donating embryos from a person who had a baby with myelomeningocele²¹, who is going to want them? It's like, it's hard. That is what my husband fears, today what we are afraid of is that something might happen to us, and then what will happen to those frozen embryos? That is what he is afraid of, it makes him think that we have to transfer them as soon as possible.”

According to Laura, her husband is worried about the fate of these frozen embryos that they have stored in nitrogen tanks at the clinic. Though he no longer thinks of them as frozen babies per se, they still represent human life that he is responsible for. His solution is therefore to “take care of them”—by attempting a transfer cycle—as soon as possible. When I comment that all five cannot be transferred at once, because of the potential for a multiple pregnancy, Laura agrees. “No, but they are frozen in different tubes and they aren't good quality. So I think that they [the biologists] will thaw three of them, and maybe one will not... in other words they need to thaw three and we will see what quality those three frozen ones have after the thawing, and then we will see for a second frozen transfer opportunity or if we should thaw the rest.”

²¹ Myelomeningocele is a type of spina bifida where the spinal cord is exposed through an opening in the spine.

Post-script

In November 2003, four months after our interview, Laura was ready to transfer her remaining cryopreserved embryos. She decided to thaw all five of them at once as they were all poor quality before being frozen. The process of cryopreservation and thawing is taxing on an embryo, and many times a poor quality one will not be viable after thawing. All five of the embryos were still viable after thawing, but her gynecologist only wanted to transfer three to avoid the risk of a multiple pregnancy. In what appears a means of “ethical” disposal of the problematic other two viable embryos, the lab then began to “refreeze” the two that were left. However mid-way through the cryo-process they turned black and degenerated, and so were discarded. According to another biologist, to thaw and refreeze is akin to direct disposal as embryos do not survive such extreme processes. In fact, this is the first time I have heard of a case where “refreezing” was attempted. It seems that giving the embryos a chance at being thawed and then refrozen was a conscience-appeasing manner of “taking care” of two poor-quality embryos. This frozen transfer did not result in pregnancy. The last time that I talked to her, Laura had decided to try ICSI one last time—which will make four times total—with the remaining amount of Alejandro’s frozen sample.

Collaborative Choreography

As Laura’s experience demonstrates, most high-technology procedures involve multiple stages, each contingent on results from the one before. If a particular procedure doesn’t work—as is often the case—the whole process must begin again. For instance, the process of non-donor IVF includes a sequence of clinical procedures: 1) infertility

diagnosis (through tests, possibly surgery), referral, and selection of IVF program; 2) preparation for first cycle, including new clinic tests to update previous ones; 3) ovulation induction (2-3 weeks of daily hormone injections, regular clinic visits for urine and blood tests); 4) in-clinic egg aspiration procedure (hormone injections before hand and ultrasound-guided removal of eggs); 5) procurement of sperm sample (via masturbation or a sperm bank) and sperm “washing” (to improve motility); 6) in vitro insemination or sperm injection of aspired eggs (48-72 hours incubation for cell division); 7) embryo transfer (after successful fertilization and division in laboratory); 8) pregnancy testing (via blood sample after 12 days); 9) prenatal monitoring (if pregnancy has begun); 11) birth of one or more babies. Other procedures follow a similar pattern of progressive decisions and techniques to first achieve pregnancy, and then a live birth.

The elaborate contingency of these processes clearly necessitate a whole-hearted investment from all parties involved. In the following chapters I examine the experiences, motivations, and understandings of assisted reproduction from the perspective of reproductive medicine professionals in Argentina. In the next chapter I look specifically at how doing an ICSI treatment in Buenos Aires was made possible for Laura, and others like her, by tracing today’s production of ART in Argentina back to its early beginnings in the mid-1980s.

CHAPTER ONE

THE GESTATION AND BIRTH OF ART IN ARGENTINA

The Tucumán Twins Turn 18 years Old



Figure 8. *Clarín* article: "The First Babies Created by Fertilization in the Country Turn 18 Years Old." February 7, 2004.

On February 7, 2004, headlines in Argentina's national newspapers celebrated the 18th birthday of twins Eliana and Pablo Delaporte, the first babies born from in vitro fertilization procedures in Argentina. The daily newspaper *Clarín* emphasizes the importance of this event by publishing two related articles on the novelty of the Delaporte family's experience that began in the winter of 1985, complete with photographs of the

18-year old twins, their parents and two siblings (Iglesias 2004). In what reads as a tale of pioneering scientific modernity, the first article describes the techniques themselves, and the improvements that have been made over two decades of their production in Argentina:

The news surprised all Argentines in 1986: Eliana and Pablo Delaporte were the first babies born from in vitro fertilization in the country. Today, the twins from Tucumán are blowing out 18 candles and such births aren't surprising anymore. This is because from 1986 to today, fertilization techniques have become very sophisticated and genetics has also advanced.

"The joy was tremendous. We were in the laboratory looking at human embryos, we couldn't believe it" Santiago Brugo Olmedo emotionally remembers. He is the director of Center for Studies on Gynecology and Reproduction (CEGyR) and one of the professionals that did the treatment in the winter of 1985.

The specialist recounts that they inseminated the eggs with sperm, that six embryos formed and that they immediately did the intra- uterine transfer, with success.

The group included the doctors Roberto Nicholson, Roberto Coco and Nicolas Neuspiller. Since then hundreds of thousands of babies in the world have been born thanks to fertilization techniques.

"In that time everything was home-made. The culture media were variable, they took a long time to make and their efficacy was low. Every attempt had a 10% chance of success, today we have 40%" Brugo Olmedo says.

To obtain eggs, women had to submit to a surgery (laparoscopy) that lasted more than an hour. Today eggs are aspired in 15 minutes using a transvaginal ultrasound. The

catheters for inserting the embryos today are more delicate: they don't damage the uterus, which produces a higher number of pregnancies.

The hormone treatment for women has also changed: "The drugs that they used were urinary gonadotrophins, now they are recombinant hormones, produced through genetic engineering. They are more pure and they have fewer secondary effects."

One improvement is that it's no longer necessary to use multiple embryos: two in women under 38 years old and three for women over this age. Another development occurred in 1993, when the first ICSI (injection of sperm into an egg) was performed. With respect to the future, this specialist says that research points to the selection of a single embryo for implantation into the uterus, achieved through the development of preimplantation genetic diagnosis: "It will increase the probabilities of pregnancy and will avoid the multiple pregnancy."

The risk of having multiples is used by health insurance companies as an argument for not covering fertility treatments. In Argentina couples with fertility problems who don't have enough money aren't able to have children. And it's estimated that 15% of couples of reproductive age have such problems in becoming parents. (Iglesias 2004).²²

With its emphasis on technological developments and increased knowledge in the field, this piece glowingly presents assisted reproductive technology (ART) today as modern medicine that has become "sophisticated" with time, and optimistically promises further developments.²³ As this article indicates, the birth of these twins in a Buenos

²² All newspaper and interview translations are mine.

²³ Though techniques and materials used in ART have improved over the years, I judge this retelling as overly-simplistic in its appraisal. For instance, a 40% success rate depends on many variables, such as age

Aires clinic in the summer of 1986 marked the beginning of a new era of reproductive medicine in Argentina. This is an era in which such alien Spanish acronyms as FIV, ICSI, GIFT, ZIFT, DO, and IIU have become common banter in the waiting areas and consulting rooms of private medical centers across the country, and at the same time, the act of “making a family” remains under the purview of the Catholic Church but suddenly need not involve heterosexual procreation.²⁴ Looking closely with an anthropological lens at this era reveals a tale of scientific modernity and hybridity, of desire and choice, morality and hypocrisy, individualism and collaboration, protocols and creativity, constraints and progress. In this chapter I follow the historical trajectory of the first IVF in Argentina from England, Australia, and the US down to Buenos Aires in a series of interconnected—and in many cases serendipitous—pathways of knowledge, technological expertise, economic resources, and ideological investments. While assisted reproductive technologies were first developed in England almost thirty years ago, they are now practiced around the world in varying forms. In this chapter I begin to examine the local specificities in Argentina that enabled the first travel of this biotechnology to Buenos Aires, and its local transformation in practice.

Much of the early anthropological scholarship looking at reproductive technologies focused on Western Europe and North America and as a result, perpetuated a notion that the technology apparatus of in vitro fertilization itself is standardized and homogeneous (Becker 2000; Cussins 1998a; Franklin 1997; Franklin and Ragoné 1998;

of the woman and type of infertility; aspirations can often take longer than 15 minutes; and multiple embryos are transferred in higher numbers than reported here. Furthermore, it is unlikely that in the future PGD will be used routinely for IVF as a means to avoid the risk of multiple births, a point I will come back to in chapter four.

²⁴ These are the Spanish acronyms for in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), gamete intrafallopian tube transfer (GIFT), zygote intrafallopian tube transfer (ZIFT), oocyte donation (OD), and intrauterine insemination (IUI).

Strathern 1992). For example, Sarah Franklin's (1997) early work on IVF in England contends that the "hope technologies" of assisted reproduction tacitly coerce the lasting cooperation of infertile couples through an unvarying logic of "science as progress." In this manner, these studies lend to the conclusion that biotechnologies are culturally neutral and bring a standard form of scientific modernity to any setting in which they appear. Throughout this ethnography, I suggest that the reproductive technologies themselves are value-laden and transformed according to their place of practice. I propose that the term "technology transfer" is too static and unresponsive. These technologies are not just "transferred" to one place, they are actively selected, engaged-with, practiced, and therefore transformed. I argue that this process is a form of "translation," in which protocols and techniques are *translated* into local idioms through practice.

In doing so, I am building on recent work in anthropology that has responded to what has become a "global spread" of reproductive technologies outside of the "First World," including an examination of ART practices in Egypt, India, Israel, China and Ecuador (Bharadwaj 2002, 2003; Handwerker 2002; Inhorn 2002, 2003; Kahn 2000; Roberts 2006).²⁵ The majority of these ethnographies, while insisting on a local cultural analysis of these technologies, do so by examining patients' experiences. For instance, Marcia Inhorn's work on the expansion of reproductive technologies in Egypt contributes

²⁵ I am also of course in dialogue with work on the circulation of biomedical technologies in general around the world. Unfortunately there are few nuanced ethnographic analyses of the localization of different medical technologies. Most commonly, medical technology movement is explained by a model of "diffusion" or "transfer." For instance, the innovative entrance of CT scanners from Europe into US medical practice in the 1970s was described primarily in terms of a "diffusion" model, based on economic cost and clinical efficacy (Baker 1979; Banta 1980; Trajtenberg 1990). Furthermore, most of these recent ethnographies that look at ART outside of the "First World" continue to frame the global spread of this medical technology as technology "transfer." One striking exception to the "transfer" notion is Margaret Lock's (2002) compelling analysis of how resuscitation techniques used in cases of brain death depend upon local constructions of life and death.

one of the first in-depth ethnographic analyses of ART not located in a “First World” setting (Inhorn 2002, 2003). In *Local Babies, Global Science* Inhorn (2003) calls for further examination of the “varying religious moralities and ‘local moral worlds’” that arise from the practice of these technologies around the world, and reveals the particularities of patient experiences of infertility and “test tube baby-making” in the Muslim Middle East (Inhorn 2003: 19-21). In dialogue with this literature, I argue that in addition to studying ART production outside of the First World, the experience and understanding of the professionals engaged in producing ART also needs examination. I suggest that a close analysis of professionals will aid in understanding the local “translations” of the global apparatus of ART. I further I argue that the notion of reproductive technology “transfer” that much of this work calls upon is too passive. “Transfer” predicts that technologies are picked up and set down in a different place unchanged. In contrast, in this ethnography I contend that there are regimes of training and protocols of practice that are modified according to the local needs and desires of Argentina’s reproductive medicine community (Berg 1997; Latour 1987, 1988).

In this chapter I begin to address the question, “What roles do Argentina’s political and cultural histories, as well as current social values of family, science and modernity, play in the present accessibility and demand for these practices? To answer this, I begin with a social history of how these procedures first began in Argentina in the mid-1980s, and what factors have enabled and constrained their expanded production over the last twenty years. In looking at the international factors involved in Argentina’s local culture of assisted reproduction, I follow Sarah Franklin and Helena Ragoné in their assertion that, “it is essential to recognize not only the local, regional or national

dimensions that impinge upon a particular case study or field setting, but increasingly *also* to appreciate the international and global formations that exercise a distinctive and distinctively *cultural* influence” (Franklin and Ragoné 1998:5). With this in mind, through this local history I seek to show how ART in Argentina is both ‘local’ and ‘global.’

The story that I tell here focuses primarily on life histories of several individuals, as the predominant method of technology “transfer” in this instance is through certain *people*. At moments this chapter may read as a medical history text, full of names and events, experiments and discoveries. However, in focusing on local experts situated within an international network, I seek to demonstrate that this is an embodied practice, performed by individuals engaged in social worlds of production. As I discuss, these practices and innovations are grounded in particular historical, political, economic and social circumstances.

Pioneers in the South

The original team at CEGyR who worked together in the early 1980’s to produce Argentina’s first IVF birth was made up of eight men trained in the interrelated fields of embryology, gynecology, andrology, biochemistry and genetics. By 2002 when I arrived to begin fieldwork, all of these specialists but one had left CEGyR, and several were directors of their own fertility clinics.²⁶ Talking with me in 2003, one of the original

²⁶ In November 2005, CEGyR underwent yet another internal political and structural shift. The second-to-last remaining member (a director) also left the center along with one of the biologists, and opened his own private center in Buenos Aires in August 2006. This left just one person at CEGyR who was part of the original 1985 IVF group. Since these events occurred “post-fieldwork” they are beyond the speculative scope of this ethnography. At this point I do not know the specific reasons for these events, but I do suggest that they reflect the political and personal elements of producing ART within a given center.

members of the 1985 IVF team at CEGyR aptly summarizes both their early innovation efforts and subsequent expansion of the market over the years, as each professional opened their own center:

I am a firm believer that Roberto Nicholson was a true pioneer of his time, and when he created CEGyR, which was the first center there was in this country, it was a true explosion of activity. He worked a lot and he made pretty good money. Then with the passing of the years...things changed a little. Why? If you count all the directors in the other centers of Buenos Aires today, everyone came from CEGyR. All those people left to set up their own center, and CEGyR began to lose a little force, not only because the people that made it up separated, but also because the pie had to be portioned out into many little pieces. There were more centers and people were going from one place to another...and so the activity wasn't as it had been in the beginning, in the years '84, '85, '87 it was overwhelming, and there wasn't anyone to compete with because there was only CEGyR.

As this professional says, the pulse of ART practices in Argentina has grown stronger over time, with the opening of additional clinics and the training of doctors and scientists in the field every year. Though he views this dispersion of clinic directors as cutting the reproductive medicine market into ever smaller pie pieces, I argue that the proliferation of infertility centers actually has had the effect of creating demand for assisted reproduction practices and expanding the market. The near-simultaneous opening and expansion of several assisted reproductive centers in Buenos Aires in the early 1990s put assisted reproductive practices within the grasp of possibility for middle class couples, due to competitive prices and increased public awareness. With a range of private clinics offering ART services in Buenos Aires today, the demand for and acceptance of such practices as a valid family-making option has increased since the first IVF birth in Argentina.

On the other hand, as I discuss throughout this ethnography, the production of ART in Argentina is not unproblematic. The local culture of assisted reproduction in

Argentina continues to be marked by ideological controversy and periodic fluctuation of specialists and clinics, characteristics which mirror (and draw from) the country's volatile political and economic life. Later in this chapter I detail the efforts of a few of these Latin American pioneering individuals, the context within which they work, and their roles in creating this new era of technological baby-making in Argentina. First, to understand present-day performances of ART in Argentina—which I take up in chapter two—we travel back in time to IVF's international debut in 1978. In giving this history, I use this medical technology's travel routes through Europe and the United States in the 1970s and 1980s to examine how the primary agents of influence in the North connect to those in Latin America.

Year	Event and Place
1976	Military coup in Argentina; Dictatorship and “Dirty War” from 1976-1983
1978	First IVF birth in world: Louise Brown in Oldham, England (Drs. Edwards & Steptoe)
1980	First IVF birth in Australia (2 nd in world)
1981	First IVF birth in US (Norfolk, VA: Jones Institute) 3 rd in world
1983	Democratic elections in Argentina CEGyR center founded in Buenos Aires First birth using donor egg (Melbourne, Australia)
1984	First IVF birth in Latin America—Chile First birth from cryopreserved embryo (Australia)
1985	First GIFT birth in Latin America—Chile; Second IVF birth in Latin America—Colombia
1985	Foundation of IFER center in Buenos Aires Foundation of LER center in Buenos Aires
1986	February 7: First IVF birth in Argentina (CEGyR); 3 rd IVF birth in Latin America
1987	Halitus center founded in Buenos Aires CER Medical Institute founded in Buenos Aires
1988	IMAGEM center founded in Buenos Aires
1989	Menem elected president in Argentina Fecunditas center founded in Buenos Aires
1990	First birth after using PGD in the world (England) First Latin American Registry of ART published (Chile)
1992	First ICSI birth in the world (Belgium)
1993	Modern CEGyR forms (Nicholson Sr. sells to Brugo Olmedo and Chillik)
1994	ICSI first performed in Argentina (CEGyR) ICSI first performed in Chile
1995	RED network of Latin American ART centers founded <i>Consenso</i> published by RED
1997	San Isidro Infertility Unit founded in Buenos Aires
1999	PGD first performed clinically in Argentina Procrearte center founded in Buenos Aires
2001	December: political and economic crisis in Argentina President De La Rúa resigns
2002	January: Duhalde takes over as president Peso devalued
2003	May: Kirchner elected and assumes presidency, peso begins to stabilize
2004	November: Lawyer Rabinovich appointed legal guardian of all cryopreserved embryos in Buenos Aires
2006	April: Rabinovich resigns as legal guardian of cryopreserved embryos July: Hospital de Clínicas opens first public ART program in Argentina December: Argentine ART centers agree to a census of stored frozen embryos

Table 1. Chronology of significant political and ART-related events for a contextual history of ART in Argentina

International Recipes

“The emergence of in vitro fertilization really revolutionized the sub-specialty [reproductive endocrinology] and began to totally dominate our activity because, obviously, a more complete field was opening in terms of the understanding that one could have of the human reproductive process and how to control it. I know that there was a generation of doctors that...that it called to us, those between 30 and 35 years old, and that almost all were affected by the development of this technique.” gynecologist at Santiago Center of Reproduction in Santiago, Chile, Nov 2003

The birth of the first “test tube” baby in the world, Louise Brown, in Oldham, England on July 25, 1978, captivated public imagination and fueled the aspirations of scientists around the world. Following this first in vitro fertilization (IVF) conceived birth, a handful of groups around the world worked at replicating and perfecting the procedure, as one Chilean gynecologist told me, “trying to repeat the cooking recipe.” Without precise instructions and ingredients, this was a difficult recipe to make. Over the next few years, the recipe often changed depending on what country it was being recreated in, and many of these early procedures were more akin to experiments than accurate scientific methods. Indeed, though Louise Brown was already eight years old by the time the IVF twins in Argentina were born, the techniques used for IVF continued to be experimental and variable for several years after Argentina’s entry into the world of ART.

The success of human in vitro fertilization in England was not a matter of overnight spontaneous discovery. Scientific research on human fertility and reproduction was in progress for approximately a century before in vitro fertilization and live birth were achieved in humans. While the first recorded scientific experimentation with in vitro fertilization of mammalian eggs was in 1880, this procedure wasn’t performed successfully until the 1950s, despite many efforts with rabbits and other laboratory

animals in the intervening years (Jones 1995). Results from experiments with rabbits published in 1934 claimed to prove fertilization in vitro, but were actually what is today known as gamete intrafallopian tube transfer (GIFT), in which the collected egg and sperm are immediately transferred to the fallopian tubes where fertilization then occurs (Pincus and Enzmann 1934). The mastery of laboratory fertilization of mammalian eggs in 1959 at Harvard led to further experimentation with embryo development in vitro (Chang 1959). In the 1960s, *human* eggs were successfully fertilized in the laboratory, though it took another 10 years of experimentation for the transfer of the fertilized human egg to the uterus that resulted in a live birth.

By the 1970s, there were several groups working concurrently on IVF around the world. One was the now infamous Robert Edwards and Patrick Steptoe team in Oldham, England which became the first in the world to succeed at IVF. Two other groups were working on human fertilization and embryo development in Melbourne, Australia at the time. In the US, a group in Norfolk, VA joined in later, after the English success.²⁷ According to published accounts, there were many visits and scientific exchanges between these groups in England and Australia, and between England and the US in the 1970s and early 1980s. There were also several near-successes before Louise Brown's birth in 1978. In 1973, one of the teams in Australia registered two chemical pregnancies after an in vitro fertilization embryo transfer, but the pregnancies did not progress (Leeton 2004). In 1975, Edwards and Steptoe registered a pregnancy following the

²⁷ There was another researcher in the US working on human in vitro fertilization in the 1960s and 1970s, Landrum Shettles, at Colombian Presbyterian Hospital in New York. By the 1970s, Shettles worked alone in a borrowed laboratory without institutional support, and his research has since been discredited. However he claimed to have successfully fertilized and transplanted the first human embryo as early as 1962, though he did not publish anything at the time and did not announce these results until 11 years later. In 1973 Shettles attempted to perform the first embryo transfer following an in vitro fertilization in the US for the Del-Zio couple, but the procedure was prematurely discontinued by hospital administrators. See Henig 2004 for a more detailed account of Shettles' research and the Del-Zio trial filed in 1974.

transfer of a fertilized egg, however it was ectopic (implanted outside the uterus) and had to be removed. After several more years of in vitro fertilizations and embryo transfers, the first successful IVF procedure in the world finally took place in England, under the direction of the geneticist Edwards and the gynecologist Steptoe (Steptoe and Edwards 1978).

Further advances in the techniques and performance of in vitro fertilization procedures were claimed most notably by groups in Australia, the US and France, as well as the original team in England, though scientists around the world were engaged in experimentation in the 1980s. At this time there were still many unknowns in the biology of human reproduction, and some misconceptions as well. The success of the technique in creating Louise Brown was in part a matter of luck, demonstrated by the slow progression of further successful procedures. It took several more tries even for Edwards and Steptoe to again produce a birth from IVF, which they did in 1979.²⁸ The third successful IVF birth in the world was in Melbourne, Australia in 1980, and the US followed a year later, in December 1981, in Norfolk, Virginia. The process of IVF was a difficult one at the time, as the only method for retrieval of the human egg was through a particular type of surgery, called laparoscopy (invented by Patrick Steptoe). In the early years of IVF, egg retrieval rates were less than 50% per mature follicle, and rates of laboratory fertilization of those collected eggs were only 10-15% (Leeton 2004: 496).

Unknowingly Edwards and Steptoe propagated certain misunderstandings and protocols about how to do IVF based on their first successful performance of the

²⁸ Two years after this second IVF birth (a boy), Edwards and Steptoe created the now well-known (in the field of reproductive medicine) private IVF center Bourn Hall in England which continues to operate as a private center for ART. Several professionals in Argentina have since trained at Bourn Hall, as I discuss later in the chapter.

procedure. First, because the originally-successful IVF in England was with a “natural” cycle of ovulation, in which hormone stimulation was not used, Edwards and Steptoe continued to advocate and experiment with the natural cycle for several years. When hormone stimulation is not used, the chance of pregnancy is lower, as only a single egg is retrieved from the ovarian follicle using laparoscopy, fertilized in the lab, and transferred to the uterus. Across the Atlantic from Edwards and Steptoe, the US group at the Jones Institute (in Norfolk) pursued hormone stimulated ovulation cycles, which allowed the doctor greater control over the timing of ovulation, and multiple maturing follicles to retrieve eggs from. This proved successful and the first IVF birth in the US in 1981 was from a stimulated ovulation cycle.

Hormone stimulation was not the only ingredient in Edward and Steptoes’ original recipe that was found problematic. Indeed in his account of experimenting with IVF in the US, the gynecologist Howard Jones details his team’s realization of some of the inaccuracies unwittingly spread by Edwards and Steptoe (Jones 1995). These corrections to the original misunderstandings are now very basic requirements in an average IVF program, such as the size of needle to use for the egg retrieval, and the time needed between fertilization of the egg and its transfer to the uterus. The early accounts reveal the extent of the unknowns of the field at the time, and the incredible luck involved when the techniques were successful. Assisted reproduction clearly began as an embodied practice, dependent on individualistic performances in which the “secret” of the magic of conception was not a standardized potion that could easily be reproduced. Over time this knowledge has become relatively standardized and disseminated, however there remains an embodied-practice element which continues to depend on individual

finesse and performance. In Latin America, this “magic” materialized into an IVF-created embryo six years after England’s first birth.

“Alchemy” Made Science in Latin America

In the early 1980s in Latin America, reproductive specialists in Chile, Colombia, Argentina and Brazil were all working to reproduce England’s renowned success. Their triumphs occurred close together in time, indicating the scientific fervor of that prevailed [and the ripeness of the technology]. Reconstructing this Latin American creation story is not clear-cut historiography. Unless personally relevant, such historical details are hazy in the minds of today’s reproductive specialists in Latin America unlike the heavily-publicized histories of England and the US, and the events are not well-documented in public media. I found most specialists focused on the present and future of reproductive medicine, leaving me, the anthropologist, to try to make sense of what has already happened in the field. Furthermore, when historical recollections were brought to light, distinctions were given to the centers and specialists in Latin America that are currently and consistently successful with assisted reproduction techniques. The account that I give here is based on the histories told to me during interviews with reproductive medicine professionals in Argentina and Chile, and is therefore largely speculative and self-consciously partial.

At the outset, there is a disputed claim over where the first Latin American IVF birth took place. The website for the Colombian Center of Fertility and Sterility (*Centro Colombia de Fertilidad y Esterilidad*), run by Elkin Lucena proudly claims to have produced the first “*bebé de probeta*,” (test tube baby) in Bogotá, Colombia in 1985, as

well as the first baby born from a cryopreserved embryo in 1986.²⁹ However, the most corroborated story seems to be that the first birth from in vitro fertilization in Latin American occurred in Santiago de Chile, the capital, a year earlier in 1984.³⁰ After Chile, Colombia came in second in 1985, and Argentina followed in February 1986 as the third country in Latin America to accomplish IVF.³¹ Here I follow this chronology and begin with Chile before describing events in Argentina.

Chilean Magic at the Military Hospital

In Santiago, Chile, two groups were experimenting with in vitro fertilization in the early 1980s: one group led by Alberto Costoya at the Military Hospital (*Hospital Militar*); the other at Las Condes Clinic (*Clínica Las Condes*) with Fernando Zegers-Hochschild. In Argentina the power of the military dictatorship was ebbing by the early 1980s, but in Chile the dictatorship endured for a full 17 years, from 1973 until 1990. The military dictatorship in Chile was a strong underlying influence during the early years of assisted reproduction in Chile. As the following summary makes clear, the Military

²⁹According to the center's website, the list of "firsts in Latin America" for this clinic also include first birth after using preimplantation genetic diagnosis in 1995, and first egg cryobank in 2004 (using technique of vitrification developed by Japanese doctor). (see <http://www.cecolfes.com>)

³⁰ In a dramatic contrast of technological development, by the time of Latin America's first IVF birth in 1984, assisted reproduction techniques had multiplied throughout Australia. Though the first birth in Australia was not until 1980, scientists there had been experimenting for about 10 years and techniques quickly advanced after their initial success. In a unique national accomplishment, by 1984, there were seven IVF units throughout the country, with similar results throughout, and a total of 365 babies born from IVF techniques in those four years of practice (Leeton 2004: 499). Furthermore, Australia lays claim to a series of "IVF firsts in the world" in terms of birth using a donor egg (1983); birth following embryo cryopreservation (1984); multiples (twins in 1981; triplets in 1982; quadruplets in 1984) (Leeton 2004). Most other countries in the world were nowhere near as advanced in assisted reproduction techniques at this time.

³¹ Notably, most of the reproductive medicine specialists in Argentina, even those who were part of the first team to do IVF, do not remember where the first IVF in Latin America took place. Some think it may have been Argentina, but also suggest Colombia, Chile or Brazil. In contrast, they all remember Louise Brown, and also the US's success as occurring prior to Argentina's. The details of Latin America's history have not been recorded in their memories, either because of its irrelevance to them or out of indifference.

Hospital was the site of the first IVF baby in Chile and in Latin America, in 1984.

However for political reasons the group at the Military Hospital disbanded after several years and although the hospital continues to operate, it no longer provides any assisted reproduction services. The reproductive medicine unit at Las Condes Clinic, founded one year before the dictatorship ended, is today the most prestigious ART center in Chile, and the birthplace of the Latin American network of assisted reproduction (*Red Latinoamericana de Reproducción Asistida*), or RED. I come back to the significance of this network in chapter two.

The story of the first in vitro fertilization in Chile, like that of Argentina, follows today's leading experts and clinic directors back in time and to various places around the world. Alberto Costoya, who is currently a gynecologist and formerly the director of a reproductive medicine unit at a small private clinic in Santiago, was the head of the group at the Military Hospital in the 1980s. Costoya received his medical degree the year that the military dictatorship took over power, in 1973, from the University of Chile, in Santiago. He then earned a fellowship to specialize in obstetrics and gynecology at the Catholic University in Santiago, graduating in 1976. He started work at the Military Hospital in 1977—one year before the announced success in England—and in 1981 went to Canada for further training.

The year that the first IVF baby was born in the United States, Costoya traveled to the University of British Columbia to work under Professor Victor Gomel, who he describes as “not *one* of the people but *the* person who made for the world all the history of gynecological microsurgery and laparoscopy.” Today Gomel is recognized internationally for his work in microsurgery, and for founding the UBC Fertility

Endocrine Clinic where the first IVF baby in Canada was born in December 1983 (after Costoya had already returned to Chile). With Gomel, Costoya did extensive microsurgery on ovarian tubes, which was to be an important skill for future work in assisted fertilization.

Early in vitro fertilization began as a solution to female infertility caused by problems with the ovarian tubes. Unfortunately, with microsurgery alone only 25-30% of women with tubal problems were able to get pregnant. In a comment indicative of the assumptions about family formation that many Latin American specialists continue to uphold, Costoya remembers that “we had to tell 60-70% of the patients that we had, ‘Bye, adopt a kid, there is no other solution.’” I come back to an analysis of this notion that the “only” way to make a family is through a medical intervention in chapters two and three. Here this comment serves to demonstrate the motivation that Costoya felt for developing in vitro fertilization techniques to aid in such cases of female infertility.

In the early 1980s, only a small handful of scientists were privy to detailed information on in vitro fertilization protocols.³² Costoya remembers that even by 1982 little was published on the “how-to” ingredients of in vitro fertilization. Without this first-hand knowledge, there were many unknowns in the biology of reproduction and success with IVF was elusive. In Costoya’s mind, it was still a mysterious pot of magic, or at best alchemy:

...there was very limited literature in 1982. In fact, Steptoe and Edwards didn’t publish for a long time after Louise Brown, their, the details of the laboratory. It was like magic, all these “broths” and these things. They came from these alchemists that were throwing things (into the pot)...

³² Indeed, the first international meeting on IVF was held at Bourn Hall in August of 1981, by invitation only. It is unlikely that any Latin American specialists were in attendance.

The Latin American specialists, with little access to scientific journals, relied primarily upon their personal relations with experts in Europe and the US to increase their knowledge of IVF.

In 1982, Costoya and another Chilean doctor, Jose Miguel Schmidt, presented a proposal to the Military Hospital—the hospital with the most resources at the time—to begin clinical in vitro fertilization procedures. As preparation, the two of them then went to an international workshop on in vitro fertilization held at the Jones Institute in Norfolk Virginia. They stayed for six weeks in Norfolk where Costoya dedicated himself to perfecting the clinical aspects of in vitro fertilization: ovulation induction and aspiration through laparoscopy. Schmidt learned the laboratory aspects of the technique. According to Costoya, the two didn't arrive in Norfolk with “zero” knowledge, they were already versed in the practices of enabling and recuperating the egg and sperm before they went to Norfolk. However what they learned at the Jones Institute was essential: “the magic of the biological culture media.” In order for in vitro fertilization to succeed, the biological culture media has to be adequate to enable fertilization and subsequent cell division “in the dish” of the laboratory. In the early 1980s, little was understood about the pH requirements for biological media, and so it fell in the realm of “magic” to concoct successful culture media.

Armed with this “magical” insight developed at the Jones Institute, Costoya and Schmidt returned to Chile in 1983 and formed a group at the Military Hospital to begin the techniques of in vitro fertilization with patients. Because this was during the military dictatorship, the group needed authorization from the army to do IVF, which was initially granted. In 1984 their efforts were rewarded with the birth of a baby boy, the first IVF

birth in Chile and Latin America. According to Costoya, the account of this birth was never published, nor was the one in Colombia. Despite this early success, the Military Hospital's IVF program was short-lived, as it was subject to the whims of the military government and their appeasement of the Catholic Church. In 1987 when the Vatican made public the Catholic Church's disapproval of assisted fertilization, the director of the Hospital discontinued the IVF program. As a result Costoya left the Military Hospital and joined two other doctors (one from the Military Hospital team) in creating a reproductive medicine unit at Las Nieves Clinic, which opened in 1992, and where he continues to practice today.³³

Meanwhile, the researchers at Las Condes Clinic—which according to Fernando Zegers- Hochschild were himself and Emilio Fernandez— were not having any success with their attempts at IVF. The two gynecologists had started working on IVF together in 1984, a year after this general medicine clinic opened in the wealthy foothills neighborhood of *Las Condes*. After repeated failures with IVF, Zegers- Hochschild and Fernandez decided to enlist the help of a fellow Chilean who was working in San Antonio, Texas at the time, Jose Balmaceda. Balmaceda in collaboration with an Argentine gynecologist, Ricardo Asch, had just developed the technique gamete intrafallopian transfer (GIFT) in the United States (published in *Lancet*, Asch et al. 1984).³⁴ Fernandez knew Balmaceda from his time in San Antonio, when he did a

³³ Las Nieves Clinic does between 150-160 ART procedures a year, placing it in the mid-range of case-loads of centers in Latin America.

³⁴ One of the most notorious scandals in the United States from the early period of IVF involves Balmaceda, Asch and a third Latin American doctor, Sergio Stone (Chilean). The three were working together at the Center for Reproductive Health, run by the University of California, Irvine. In 1995, they were accused of donating patients' eggs without consent, insurance fraud, and general misappropriations of funds. Though Asch and Balmaceda developed GIFT, their names in US circles today are more readily associated with this scandal than with their scientific achievements. Stone is the only of these three who

fellowship at the University of Texas Health Center. With Balmaceda's help, Zegers-Hochschild and Fernandez began experimenting with GIFT and achieved the first pregnancy in Latin America from GIFT in 1985. From then on, Las Condes Clinic continued to make improvements in efficiency and reproducibility. The reproductive medicine unit of Las Condes Clinic was established in 1989, and has since become the most prestigious and reputable center in Chile, with the highest case load in the country.

Argentine Connections and Diffusions

As mentioned earlier, the story of ART's beginnings in Argentina is also the history of the foundation of a particular center that continues today, and the dispersion of an original group of reproductive specialists. Because the beginning of this story is also closely connected to events at the Jones Institute, in Norfolk, VA in the United States, I travel between the two countries in this narration.

The first building in Buenos Aires, Argentina, where IVF was successfully performed is now a hotel located a few blocks from the clinic that today continues to carry the original center's name. This laboratory and surgery room were housed in a private general medicine clinic, called "*Clínica del Sol*," or Clinic of the Sun. A few blocks away, in a separate building, the doctors had their consultation offices. Like the building, the directors and medical staff have changed over the last 20 years, as have the procedures. But the original purpose remains the same: to provide efficient in vitro fertilization treatment. In this predominantly Catholic country the principal controversy

eventually stood trial and was convicted on criminal charges, though the other two were also indicted in that trial. I spoke with Balmaceda at Las Condes Clinic where he has been working since 1996, he is considered a fugitive of the US justice system (and was arrested for this in Buenos Aires in 2001 but fled back to Chile where the US law cannot reach him). Apparently Asch is now working in reproductive medicine in Mexico. See Dodge and Geis 2003 for more details.

has also changed little: the ambiguous biological, moral and social status of the in vitro embryo.

To trace back, I begin with Aníbal Acosta, an Argentine gynecologist who has acted as the scientific director at CEGyR for the last 10 years, and who has lived and worked in Norfolk, Virginia for the last 30 years. Aníbal Acosta is in his mid-70s, a tall man with a paunch, who always wears a suit and tie during his semi-annual month-long visits to the clinic. He speaks English fluently and is very friendly during my interactions with him. He is a Professor Emeritus at the Jones Institute for Reproductive Medicine at the East Virginia Medical School, and was part of the team that produced the first IVF baby in the US in 1981 at that center. This was the third IVF birth in the world, after those in England and Australia. Acosta was born in Argentina, studied medicine at the University of Cordoba and graduated in 1952, then trained in surgery and oncology in Buenos Aires. Acosta trained in gynecology at Johns Hopkins for about 6 months.³⁵ At this time Georgeanna Jones (who becomes an important figure later in this history), opened a new department on infertility and reproductive endocrinology at Johns Hopkins and Acosta was accepted as a fellow with her for a year and a half. Acosta then came back to Argentina to establish a new gynecological training program similar to the one he had experienced at Johns Hopkins. He taught this in Cordoba for the next 12 years.

Acosta remembers this period in Argentina as the “dark ages” which culminated in the dictatorship period of 1976-1983, but its roots were evident in a widespread decline in the 1960s. He describes it as such:

³⁵ In yet another example of the circulation of people and the serendipity of personal connections, Acosta says he was accepted at Johns Hopkins partly because of a personal connection at the University and the presence of departmental chief who liked Latin Americans.

And without recognizing that part of the history, you are never ever going to be able to correct the country. So I saw that, you know, academia in this country was going down the drain. The University was working in such a way that it looked like secondary schools, high schools, whatever. The level of research was almost zero. The society, the scientific societies were not scientific societies...

Acosta characterizes this as a slow process of deterioration that no one noticed day to day. He tells me that the populist governments of the times were promising people everything they wanted, and that the government and civilian population were not paying attention to the decline.

By the mid-1970s, Acosta was in his early 40s and decided he needed to leave the country. He tells me that he realized he couldn't be "useful" anymore, and so he wrote letters to his contacts in the US, including to Howard Jones (Georgeanna Jones' husband and colleague). The year was 1976, and a new medical school in Norfolk, Virginia, called the Eastern Virginia Medical School, was being established. At the same time, in Argentina the military took control of the government through a coup on March 24, 1976. Acosta saw the potential for influence and growth at this new university in Virginia, and accepted a faculty position in the division of Reproductive Endocrinology, and moved his family there. What I find striking about Acosta's account to me of accepting this US faculty position, is that he did not mention the concurrent military takeover in Argentina, nor its influence on his decision (though surely it must have). As part of an international network of professionals, Acosta was able to leave the politically-charged situation of a dictatorship-ruled Argentina and continue work in a calmer environment of a small city in the US. I take this as one instance, of many, in which the majority of professionals prefer not to frame their medical work in social (economic, political and cultural) terms.

Interval: “*El Proceso*,” “The National Reorganization Process”

Here I pause Acosta’s professional narrative for a moment to clarify that more than half of the original IVF team in Argentina were younger than Acosta, and therefore were finishing medical school during and at the end of the six-year dictatorship, today commonly referred to as Argentina’s “Dirty War.”³⁶ This dictatorship period is recorded as officially beginning with the military coup of March 1976, under the leadership of Jorge Rafael Videla, and ending in 1983 with the democratic election of Raúl Alfonsín. However, as Acosta mentioned, political chaos and guerilla attacks began in the 1960s. The country was under the leadership of military governments throughout the 1960s, with the first general elections held after 10 long years in 1973. Stability was not fully regained with the election in 1973, due to continued violence between Peronist and anti-Peronist factions. The following three years saw continued chaos, violence, and economic downfall with the election of Juan Domingo Perón as President once again in September 1973, his unexpected death in July 1974, and the disastrous assumption of power by his third wife Isabel. These events led to a military coup on March 24, 1976 that promised to “restore order” through a government program known as “*El Proceso*”—the National Reorganization Process. Indeed, some describe the military coup as initially welcomed by the majority of Argentina’s population, as order was at last restored (Feitlowitz 1998; Taylor 1997). However this “order” quickly turned Argentina into a country of silence and fear, full of ghosts of “*los desaparecidos*,” “the disappeared,” as the military government kidnapped, tortured, and murdered those considered “subversives” and

³⁶ Argentina’s political history in the 20th century is marked by periodic cycles of dictatorship and military rule, with nine civilian-supported military coups between 1930 and 1976 (Shumway 1991; Rock 1987; Romero 2002).

terrorists. The total number of people disappeared during this reign of terror is disputed, but human rights groups estimate the number to be 30,000 people, most of whom left-leaning students and intellectuals in the middle class.³⁷ Though most of the doctors that today are directors of ART centers were in Buenos Aires—the epicenter of the violence— completing their medical degrees throughout the dictatorship period, it is rarely a topic that they raise for discussion.

One exception is Ester Polak de Fried who, in the male-dominated field of reproductive medicine in Argentina, was the first woman to open her own infertility center in Buenos Aires.³⁸ During an interview, Polak de Fried makes an oblique mention to the dictatorship, when she tells me that the best medical education for years in Argentina was through the University of Buenos Aires, even through the 1980s:

...Unfortunately in Argentina, historically, the government has never invested enough money into education and health. This situation was difficult for...fundamentally for the patients and of course also for the doctors, the doctors and the researchers. Because we had a lot of intellectual curiosity, we were very well trained. In that era, the medical training... You graduated from the national university very well trained. The UBA [University of Buenos Aires] was the best. (Kelly: You mean in the '70s and '80s?). Without a doubt. Incredible. In the decades of the '60s, the '70s, and the '80s, in spite of all the terrible history of the repression. Well, personal formation was very important and the doctors in Argentina, as different from other countries, we were very used to adapting to situations of scarcity [of resources].

In Polak de Fried's memory of this time, the strengths of the medical tradition in Argentina are emphasized, even while acknowledging the downsides of training in a country where the government does not invest in education and health, and indeed

³⁷ A disproportionate number of the disappeared were Jewish: 10% of the total missing, though the general population in Argentina was only 2% Jewish (Feitlowitz 1998).

³⁸In 2001 Polak de Fried was also elected President of the Argentine Society of Reproductive Medicine (SAMeR, formerly known as SAEF). She is the only woman who has served as President since the society was founded in 1947. I will come back to a discussion of SAMeR in chapter 2.

tortures its own citizens. Polak de Fried emphasizes the creativity and resilience of Argentines to make the most of what little is available, characteristics that I come back to in the following chapter.

North-South Migrations

Back in Virginia, in July 1978, Howard and Georgeanna Jones, who were retiring from Johns Hopkins, joined Acosta in Norfolk at the Eastern Virginia Medical School. At the same time that the Joneses were moving into Norfolk, the birth of Louise Brown in England made headlines as the first IVF baby in the world. The way that Acosta described it, the Joneses gave a local interview response to this world event, “and we told them the truth, that the technique didn’t seem to be that difficult but we didn’t have any money because there was...in the US federal money was not available for that kind of research. So therefore we didn’t have any grants to apply for.” By chance, one of Georgeanna Jones’ former patients from Hopkins read the newspaper interview, offered to fund a team to develop this technique in the US, and gave them a modest donation to begin a program.

According to Acosta, these three doctors specialized in areas necessary to IVF: Georgeanna Jones had experience with ovarian stimulation, Howard Jones with surgery and Acosta with laparoscopy (to retrieve the oocytes).³⁹ The impetus to begin an IVF program in the US was also related to the Joneses’ personal familiarity with Edwards and

³⁹ In addition, Jairo Garcia, a Colombian who had also been a Fellow in reproductive endocrinology at Johns Hopkins with Georgeanna Jones was hired on as a faculty member and became part of the team. The embryology laboratory was headed by Lucinda Veeck, who has since become a leading embryologist (and in the late 1990s trained one of the biologists at CEGyR in her current lab at Cornell University).

his work. In the summer of 1965, Robert Edwards came to Hopkins on a research visit, and worked with the Joneses on experiments with the fertilization of human eggs in vitro. Their personal relationship continued after Edwards returned to England. By 1978, the Joneses had visited Edwards' lab in Cambridge several times, and were following his research developments with interest. Information and knowledge exchange between England and the US continued over the next few years. In December 1978, Patrick Steptoe visited Norfolk to give advice to the Joneses on doing IVF, and Howard Jones attended a private scientific meeting given by the Royal College of Obstetricians and Gynecologists in London in January 1979, which he later said was full of unintentionally inaccurate advice on the techniques (Jones 1995). Edwards and Steptoe did not publish a report on the protocol they used until September 1980 in the *British Journal of Obstetrics and Gynaecology* (Edwards, Steptoe and Purdy 1980).

After some bureaucratic delay, in 1980 the Norfolk team began to implement their knowledge of IVF procedures and became the first center in the US to repeat Patrick Steptoe and Robert Edwards' success in England. Acosta describes the time as very intense, with phenomenal public interest that peaked after the first birth in December 1981, resulting in a waiting list of up to 2000 patients. Acosta says that he took trips to Latin America a few times a year to talk about the techniques. Patients also came from Latin America, as there was no successful IVF center in Latin America yet and the Jones Institute was the most well-known center in the US with the added attraction of several Spanish speakers on the medical staff. Acosta describes the first few years of the program as extremely busy, with up to ten fertilizations a day. The Jones Institute also began an informal fellows training program at this time, in order to teach US and Latin American

doctors the techniques of assisted conception. Acosta's narrative to this point reveals the international flows and exchanges of knowledge and expertise involved in the making of ART in the US. To further examine the circulation of assisted reproductive technology through key people, I look now at several central figures in Argentina.

I shift narratives now, to that of one of the fellows whose training at the Jones Institute leads in part to Argentina's first IVF success, Santiago Brugo Olmedo. When I meet him in 2002, Brugo Olmedo is a tall man in his late 50's with thick gray hair and a welcoming smile. Shortly after our introduction, I find out that like some of the reproductive medicine professionals, he is also a practicing Catholic. Here outlining Brugo Olmedo's professional history allows us to pick up the thread of the first IVF birth in Argentina.

In 1977, one year into Argentina's Dirty War, Brugo Olmedo finished his basic medical training at the University of Buenos Aires, and from there specialized in andrology, a new field at the time. Brugo Olmedo did a residency rotation at the Children's Hospital under the direction of Vergadá, an andrologist who focused on the function of the testes.⁴⁰ While Brugo Olmedo was at the Children's Hospital, he also worked with two specialists, geneticist Roberto Coco and biochemist Juan Cayetano Calamera. A few years later, the three of them once again worked together at CEGyR, and formed part of the original IVF team. Brugo Olmedo, in a fashion characteristic of the majority of Argentina's ART pioneers, left to study in Spain for one year, at the prestigious Urology and Andrology unit of the Puigvert Foundation in Barcelona.

Brugo Olmedo returned to Argentina in 1981 (when the dictatorship was already beginning to weaken) and took over as chief of the Andrology department at *Hospital de*

⁴⁰ In 2003 Vergadá was the president of the National Academy of Medicine in Buenos Aires.

Clínicas, the University of Buenos Aires teaching hospital. *Hospital de Clínicas* is the largest general public hospital in the city and is dedicated to public health care, teaching and research.⁴¹ Brugo Olmedo tells me that he had already been using what is known as the “hamster test” to analyze the fertilization-capacity of semen. With the “hamster test” the oocytes of hamsters are extracted and inseminated with human sperm to see if they fertilize. At *Hospital de Clínicas* they progressed from hamsters to working with human oocytes, which were retrieved during diagnostic laparoscopy surgery. They also began doing “swim-up” tests with sperm, which tests the sperm’s motility. Brugo Olmedo describes this time of experimentation and discovery as artisanal, they sterilized the pipettes and tools themselves, and made their own media culture. Apparently the base of media culture is ultra-pure water, which no one had experience in making and using prior to this homemade culture media.

Brugo Olmedo judged that he needed foreign training in order to perfect these techniques, and so in 1982 he wrote a letter to his fellow Argentine citizen, Acosta, at the Jones Institute. Though he knew Acosta by name only at the time, Brugo Olmedo requested permission to train in the Jones Institute’s laboratory. Acosta answered that Brugo Olmedo would be welcome at the center, but he would have to wait three years for an opening—as the most famous center in the US, there was much demand to train there.

In the meantime, in September 1983 in Argentina, gynecologist Roberto F. Nicholson Sr. decided to establish CEGyR as the first private reproductive medicine center.⁴² Prior to founding CEGyR, Nicholson was the head of a consultation unit on

⁴¹ *Hospital de Clínicas* opened its doors in the 1880s.

sterility, and the director of the Postgraduate Department at the *Hospital de Clínicas*. We can surmise that Nicholson's authority to form a private center derived from his standing as a senior physician with access to a patient population, and professional connections. Nicholson Sr. invited Santiago Brugo Olmedo, Roberto Coco, Nicolas Neuspiller, his son Roberto E. Nicholson Jr., Juan C. Calamera, Juan C. Mannara and Eduardo Gonzalez Fabbrizzi to join him in attempting assisted reproduction procedures. In 1984 they began to assemble a laboratory equipped to do IVF. Talking with me in July 2004, one of these original members remembers the early days of reproductive medicine at CEGyR in the mid-1980s:

In fact, just today a 19 year old patient came to see me today for the first time for a gynecological problem and she told me that I attended her delivery 19 years ago, in 1984. And she asked me, 'But you weren't a doctor yet,' 'Yes, yes, I was already specializing' I told her. I already had the degree. And she is the daughter of [Nicholson Sr.'s] patient who was being treated for sterility and already at this time I was operating. We were doing microsurgeries with him, laparoscopies and open surgeries, of ovarian tubes and everything.

At the time, CEGyR was the only center in Argentina attempting to address infertility problems along the lines of the Jones Institute and Edwards and Steptoe's practice in England.

In 1985, the Jones Institute finally had an opening and both Brugo Olmedo and Roberto Coco went to the Jones Institute to take notes on the laboratory, the clinic and the ultrasound methods. Brugo Olmedo stayed for three months, from January to March 1985, and trained in the laboratory, improving upon the fertilization techniques he had already been experimenting with. In the fall of April 1985, upon Brugo Olmedo's return, the eight-member group at CEGyR was assembled formally and they began to work on

⁴² Unfortunately I was not able to talk to Roberto F. Nicholson Sr. myself, as he was ill and not seeing visitors when I tried contacting him. I was given referrals from both his son and Eduardo Gonzalez Fabbrizzi (who considers Nicholson his '*padre profesional*,' his mentor).

assisted reproductive techniques in earnest. As a reflection of the importance of the Jones Institute's training—and advancements in the field—the first clinical attempt of IVF resulted in pregnancy, as did many of the following attempts. And so, in the summer of 1986, two years after the re-establishment of democracy and a time of cautious hope, the first test-tube babies—twins of parents from Tucumán—were born in Argentina. This success established CEGyR as the first ART institute in Argentina.

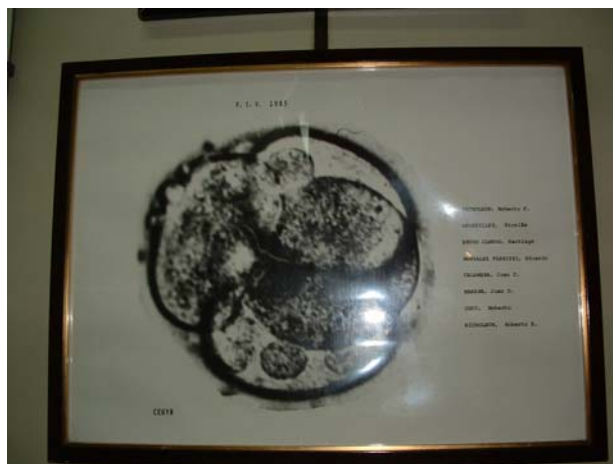


Figure 9. "IVF 1985" with names of original CEGyR team. Hanging on the wall in a laboratory area in Buenos Aires. Photograph by Kelly Raspberry, 2004.

A few months after the success with the Tucumán couple, Brugo Olmedo was invited back to the Jones Institute to work, and he accepted and left Argentina in October 1985 with his wife and children.⁴³ At the Jones Institute, Brugo Olmedo met yet another visiting Argentine, Claudio Chillik, who was training there for two years, the second as result of a Rockefeller research grant. When Brugo Olmedo decided to return to Argentina (he missed his native country too much) he asked Chillik, with Nicholson Sr.'s

⁴³During this second stint at the Jones Institute, Brugo Olmedo was part of the team on a Sunday when the Jones Institute performed the highest number of cases in one day in the history of the center, commemorated with a thank-you letter signed by the Joneses (which hangs framed in Brugo Olmedo's office).

permission, if he would like to join him at CEGyR. The two returned to CEGyR together in 1986, and later took over directorship of the center from Nicholson Sr. in 1993. As I explain in the next section, why and how CEGyR shifted in directors and staff has as much to do with the emergence of an ART market in Argentina as it does with personal desires and ideological conflicts.

Ideological Dispersions—The birth of a new market in assisted reproduction

The original team at CEGyR only endured a few years, as professional aspirations and ideological differences created irreparable divisions among this pioneering group of ambitious and expert scientists and clinicians. The team of specialists at CEGyR, when it formed, worked under the direction of Nicholson Sr., the clinic's founder. However practical and ideological differences grew stronger over the years and split this group up. One source of conflict was the practical make-up of the eight members: the group was disparate in terms of ages and training levels, with Nicholson Sr. and Calamera the oldest by 10-15 years, Coco and Neuspiller about 15 years older than Brugo Olmedo and Chillik, and the others even younger. Twenty years later, seated in his own research lab, one of these doctors tells me that in those early years at CEGyR, there was only one authority figure who made the decisions: Nicholson Sr., who was the most senior and also a practicing Catholic:

We left because Roberto Nicholson, who in reality was like our professor, was obviously older than us, and I don't want to say 'close-minded;' but it was harder for him to adapt to all those new changes that were coming. And us, being younger, we wanted to do other things and in the end it was for that reason. [...]. It's not that we fought or anything like that, it was just necessary to say 'well, maybe we have different opinions,' in other words, we wanted do more things than he did. And Roberto Nicholson, in reality he has a very Catholic formation, and it was difficult to reconcile that very Catholic position and we had to make a

total adaptation to what was the egg, what was the fertilized egg, the syngamy, or that, or the other thing, because he couldn't interpret it simply as a biological question from the beginning. Why? Because his Catholic background weighed heavily on him.

I'll give you an example. Suppose, in the IVF laboratory from the beginning one of the principle tasks was to try to verify if fertilization had occurred, if it was normal or abnormal. Simply, if an egg is penetrated by two sperm, it's an abnormal fertilization. So, as a doctor, if they are giving you this task, you have to, at least at that time, discern what was okay from what was bad [fertilized abnormally]. And in terms of what was bad, obviously the patient was informed and that was thrown out. So, for someone who has a religious position and thinks that life begins at that moment [at fertilization] and that is already a person, it is like throwing out a person. So it was already pretty difficult, it was like a series of saying, well, we see that it has three pronuclei, if we discard it before it reaches syngamy, our conscience felt better, but it's an illusion because neither does it [personhood] begin after syngamy.

As this doctor describes, in addition to the practical problems of a team oddly-matched in aspirations, age and experience, the group also differed in their perspectives on embryos and reproductive technologies. Half of the specialists, including Nicholson Sr., were practicing Catholics. This doctor however was not, and explains that Nicholson's reluctance to pursue technical advancements and biological understandings that countered the Catholic Church's doctrine became a source of conflict in the clinic. This doctor's description illustrates that Nicholson—despite having opened a private center dedicated to performing assisted reproductive techniques—had great difficulty in reconciling his religious beliefs with his scientific and medical practices. Because Nicholson's Catholic formation seeped into the laboratory, fertilizing human eggs in vitro was of serious moral consequence. Beginning in the early years of CEGyR, biological questions, such as the determination of normal fertilization, were (and continue to be) inseparable from fundamental philosophical questions of when personhood begins. For Nicholson, personhood began at conception, when the sperm fertilized the egg. The example given here of an egg penetrated by two sperm—an abnormal and non-viable

fertilization but conception nonetheless—reveals the fundamental difficulties in reconciling laboratory protocols with Catholic views of conception. This problematic, between deep-seated Catholic beliefs and desires to pursue scientific advances, is a central component of performing ART in Argentina. I will come back to this repeatedly in following chapters. For the moment, I use this as an example of differing approaches to the practice of ART, from which a market for assisted reproduction emerges in Argentina.

Coco and Neuspiller, the two next in seniority at CEGyR, were the first to leave in 1987, leading to an irreparable shift in staff and direction at the center. However before following and Neuspiller out the door of CEGyR and into the “brave new world” of ART in Buenos Aires, I will summarize the evolution of CEGyR into its present-day form. Shortly after Coco and Neuspiller freed themselves from the constraints imposed by Nicholson’s relatively-cautious approach to reproductive technologies, two other specialists also decided to leave—the gynecologist Eduardo Gonzalez Fabbrizzi (who now directs his own clinic, IMAGEM), and Juan Calamera, a biochemist (who today runs a hormone and sperm diagnostic laboratory, LER). During interviews, Fabbrizzi was vague, saying he left “for a variety of reasons,” while Calamera clearly stated that conflict between ART work and his Catholic principles was the primary factor for his departure.

Interval: *One Scientist's Means of Resolving Catholic Conflicts*

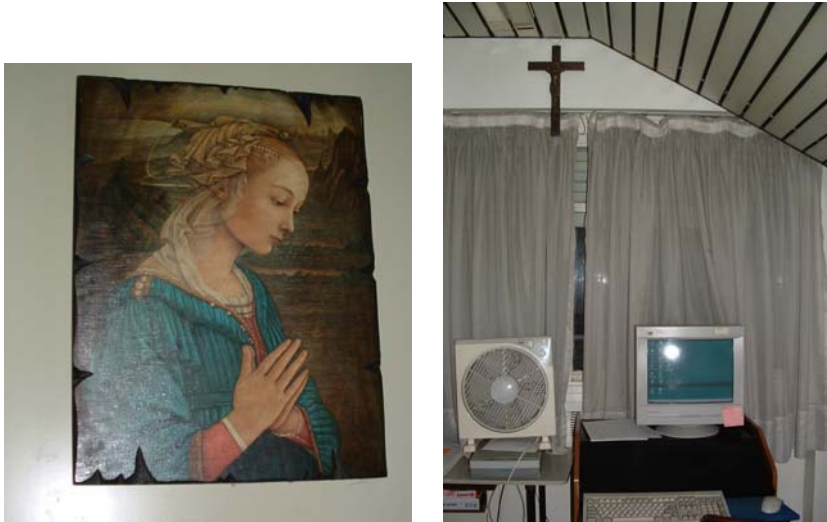


Figure 10. Painting on wall inside diagnostic reproductive medicine lab (L). Cross hanging inside director's personal office (R). Photos by Kelly Raspberry, 2004.

Before discussing the “modernization of CEGyR” and the expansion of the ART industry in Argentina, I take another short detour. Here I follow the path that Calamera took to resolve this apparent religious conflict in order to remain an engaged reproductive medicine professional. His solution is instructive as it illustrates the permutations involved in reconciling religion and science, “resolutions” that I revisit in chapters two and four. Though he was part of the first team at CEGyR to do IVF, Calamera had reservations about his future working in assisted reproduction. In an interview Calamera describes to me that when the Vatican issued a doctrine against in vitro fertilization in 1987, he knew his misgivings were founded and he could not pursue this line of work any longer. He explains his early involvement in the development of IVF in Argentina this way (looking back in 2004):

In fact, the first person that Roberto Nicholson offered the embryology laboratory to was me, but I didn't want to take on that job, because I knew that I wasn't

going to be able to develop it in the future, and in fact in a few years, in '87 Ratzinger's document came out and it prohibited in vitro fertilization...It was a period in which I had already known Santiago Brugo Olmedo. So, I recommended him to Roberto Nicholson and he began working in CEGyR, in the laboratory.

Calamera's solution, once the Catholic Church publicly disapproved of in vitro fertilization, was therefore to devote himself fully to running a diagnostic andrology lab, Laboratory of Reproductive Studies (*Laboratorio de Estudios en Reproduccion*) or LER, which he had founded twenty years earlier.⁴⁴ Calamera explains that his interests have always been in sperm analysis, and so he found a way to follow this scientific interest and stay true to his Catholic beliefs, by opening LER as an autonomous business in 1985. LER offers diagnostic andrology, hormone analysis, and some biochemical clinical analyses that are associated with reproduction. Calamera is emphatic that this laboratory work is consistent and guided by his Catholic faith: "I direct the andrology [lab] within the margins that the principles of the Catholic religion allow me to." Calamera's interpretation of these margins allow him to stay involved in reproductive medicine as long as he is not directly practicing assisted reproductive technologies.

As a diagnostic center, therefore, LER does not directly perform assisted reproduction procedures, but it does provide assistance with making ART possible at other centers. Clinics that provide IVF and ICSI, like CEGyR, send semen and blood samples over to LER for analysis, and based on those tests make decisions about how to

⁴⁴ The roots of Calamera's diagnostic laboratory go back to 1966, when he and four other specialists, an andrologist, a urologist, an endocrinologist, a gynecologist and himself, a biochemist, decided to join together and open a center for reproduction. They bought what is today the bottom floor of LER, almost 20 years before Nicholson successfully opened CEGyR as an integrated center for gynecology and reproduction. Calamera tells me regretfully that the center failed because of personal reasons—the amount of dedication to the business varied by person, and teamwork was in short supply, "Each person maintained his own consultations and had his own 'quintita' [little plot of land]." One by one, the other four professionals sold their share in the center until only Calamera was left, a process that lasted about 20 years and included Calamera's expansion into the first floor level of the building. Calamera today directs LER as a diagnostic center, not a center for reproduction.

treat the couple's infertility problems. Sometimes patients are sent directly to LER to complete a series of baseline tests before treatment begins. LER may also receive blood samples following an embryo transfer, to test if the woman is pregnant following an IVF or ICSI procedure. The equipment that LER has makes it also technologically capable of "enhancing" a given semen sample to make it more "potent," using procedures that concentrate and filter out the speedier, more fertile sperm for use in an insemination or an in vitro fertilization procedure.⁴⁵ However Calamera is emphatic that LER is a *diagnostic* laboratory, and does not provide such services. That type of semen processing is done at the given ART laboratory.

In what could become shady territory if not closely monitored, Calamera has constructed boundaries that allow him a clear conscience about his work in reproductive medicine. For Calamera, restricting his involvement to the diagnostic stage of a treatment plan exempts him from actual engagement in ART:

I do the preliminary study of the patients. [...] But afterwards, I don't know what is going to happen with that patient, nor do I ask. I don't know if he is going to continue on, if he is not going to continue, if he is going to change, if because of my test result he is going to enter in one [treatment] plan or another. That I don't know. They come here, and I help everyone that comes to do an analysis but I don't ask what they are going to do with it, because I think that I don't need to know...not that I don't need, I don't have the right to know.

He reasons that his role is only to provide information, with which the patient can make a decision to use assisted reproductive techniques or not. Not following up on the patient's decisions for treatment means that Calamera can retain a comfortable "unknowing" as to how his work in many cases leads to in vitro fertilization and ICSI procedures.

Calamera does not see his work as incongruous with the Church's position on in vitro fertilization. He also judges ART practices along a scale of acceptability that in part

⁴⁵ See Schmidt and Moore 1998 for a humorous analysis of "technosemen" production in the ART lab.

follows the degree of technological intervention: low-complexity ART, such as hormone stimulation and sperm inseminations are fine, he has no problems with couples doing that. As for high-complexity techniques, he refers back to the Church's position, and tells me that GIFT (the sperm fertilizes the egg inside the woman's body), is acceptable. He adds that in some cases IVF (the sperm fertilizes the egg in the lab) could be acceptable, but he's not sure about that. This is a more permissive stance than the Catholic Church officially takes. In his estimation ICSI (the sperm is injected into the egg in the lab) is very problematic, as it crosses a line that should be respected between "nature" and "science." However, Calamera adds that it's not his problem now to decide the limits of acceptability, since he has dedicated himself to other work. Though he's part of the whole process of ART, he claims a "hands off" position. It is important to note that LER's most steady referral center over the years, and still today, is CEGyR, one of the most important ART centers in Argentina.

In the next section I return to the chronology of ART in Argentina and examine two aspects of the market that contribute to what I call the "modernization" of CEGyR. The modern form of CEGyR that I encounter in 2002 developed out of two changes during the 1990s: first, a younger team with fewer Catholic-based scruples replaced the older generation as directors of the center, and reconfigured the clinic. Second, the overall industry of ART in Buenos Aires exploded as neo-liberalism and economic entrepreneurial behavior took over, giving CEGyR much competition that continues today.

Making CEGyR Modern, Part One

In 1993, Brugo Olmedo and Chillik, the two most senior professionals remaining after Nicholson Sr. himself, asked to become partners. Nicholson Sr. instead decided to leave the center and sold the clinic to Brugo Olmedo and Chillik. Nicholson's son left at the same time, and set up his own gynecology consultation office. Thus at CEGyR, Brugo Olmedo and Chillik took over as directors, and opened investment-shares to other doctors who wanted to be part of the new CEGyR team, as a means to finance the purchase of the clinic. The four who bought in are a diverse group of practitioners, selected according to who can afford to invest. Some had already been part of CEGyR, while others were new. The two partners—one a Catholic embryologist and andrologist, the other a Jewish gynecologist—were (and are) the most well-known of this new(er) generation and remain CEGyR's directors for the next 12 years. The other four new investors—an embryologist, a laproscopic microsurgeon, and two gynecologists, also continue at CEGyR and make names for themselves in the community. In an interview ten years after buying CEGyR, Brugo Olmedo imagines with hindsight that if Nicholson Sr. had stayed on at CEGyR, he would have continued to grow with them and today would enjoy an honorary status at the center and in the field of ART. Brugo Olmedo tells me conversely, that Nicholson Sr. is alone, has not worked for years, and is not much appreciated by those running ART centers in Argentina today.

In the 1990s, a regional form of “technology transfer” through people and networks of clinics also began, and continues on today in the form of fellow residency programs, satellite clinics and workshops. This circulation of training is often multi-directional, though it usually follows the route of metropolitan area to small city. People

in the provinces of Argentina, or from other countries in Latin America with a less-established ART industry, come to Buenos Aires to learn techniques and expertise then take them back to their provincial cities. Brugo Olmedo remembers that during the early years of CEGyR, many Brazilian specialists came to learn the techniques, in a form of regional technology movement from south to north, “Everyone, those in Sao Paolo, those in Porto Alegre, everyone. All who today are the most important, they were in CEGyR at one time learning. That’s why we have many friends in Brazil.” He says the Brazilians would come for a week or so, to learn what they needed and then leave. Olmedo emphasizes that none went for a year to the US or Australia to “really learn things well,” like the Argentines did. He characterizes this type of quick training from the nearest source as very Latin American (and so by extension makes a claim that Argentines do not share this Latin American trait since most of the first generation of ART specialists trained in the US or Western Europe). He also tells me that he and Chillik also went to Brazil to help with the first cycles of IVF for one of the most important Brazilian groups today.⁴⁶

In the mid-1990s, after taking over CEGyR from Nicholson Sr., directors Brugo Olmedo and Chillik wanted to further “modernize” CEGyR, and make it a center similar to that found in the US. They repeatedly asked Acosta—who was still working at the Jones Institute—to act as the center’s scientific director. They wanted Acosta’s experience with working in the US as input in their project to reconfigure CEGyR. Looking back, Acosta admits he was reluctant to return to Argentina where you can “work like an ox and not accomplish anything,” but he finally agreed and took a leave of

⁴⁶ One of the most well-known doctors in Brazil today, however, Roger Abdelmassih in Sao Paolo did not come to CEGyR to train, most likely he did not train in Latin America.

absence from Eastern Virginia for three years, from 1996-1999. After this initial three-year period of on-site assistance, Acosta agreed to continue to make consultation visits twice every year. Under Acosta's guidance, CEGyR incorporated the components that Acosta considers essential to running a top clinical institution, regardless of its location in the world: an ethics committee, an institutional review board, and a research committee. The center also has a research fellowship training program, a clinical fellowship residency program, yearly workshops on special topics in the embryology lab, and is affiliated with two Argentine universities: University of Buenos Aires and Maimónides University.

Neo-Liberalism and Reproduction in Buenos Aires

The 1990s, also known as the "Menem era" after the President during that decade, was a profitable one for assisted reproductive centers in Argentina. During his ten-year (two-term) presidency, Carlos Menem instituted many neo-liberal policies, privatized much of the nation's economy, and in 1991 pegged the national currency, the peso, one to one with the US dollar. During this time, ART centers expanded in services, including the four that today with CEGyR make up Argentina's five principle clinics: Fecunditas, Institute of Gynecology and Fertility (*Instituto de Ginecología y Fertilidad*) or IFER, Halitus, and Procreate. Looking back, a center director in June 2003 describes the expansion of the ART market and the positive effects of the national economy during the 1990s:

What happened is that beginning in '83 and '84, democracy in Argentina was being established again, after our dictatorship. And there were a lot of expectations. However the first years, from '80 to '83 were very hard, because in spite of a democratic government, the Alfonsín era, which was before Menem,

was difficult because there was incredible inflation. Afterwards, with the Menem government, the panorama changed because he took us to the ideal position of “one to one” with respect to the dollar and so it was an interesting time, like for the equipment for the institute. People talk a lot about the Menem era, when many businesses closed, many factories, many offices. But it’s also true that there was the opportunity, for example for us, there was the opportunity to grow structurally [in equipment and buildings] and technologically because what we were earning was equal to what you in the United States were earning, so it was possible to buy the latest equipment. With respect to today, the panorama is completely different. Now we have to multiply by three, so the panorama is more complicated, since these last two years. I don’t know how things will continue, I would tell you that practically from ’89 to 2000, it went well. But I don’t know what will happen now.

This director’s memory of the 1990s is very much influenced by where he stands at the time of the interview—in a private clinic suffering from the economic and political crisis of late 2001. In contrast to the uncertainty of the present, this director positively remembers the 1990s as a time of growth and advancement. Though Menem’s privatization policies were in the long term disastrous for the country, some sectors of the economy, like the newly-emerging assisted reproductive technologies market, benefited from the initial influx of dollars and economic growth, and were able to buy costly equipment and expand services.⁴⁷ It is not surprising then that this was a time when assisted reproduction began to flourish in the country—the majority of the 22 clinics in Argentina today were established during the 1990s, geographically concentrated in Buenos Aires.

⁴⁷ As I discuss in chapter two, Menem’s government was also close with the Catholic Church, and almost allowed the passage of a restrictive ART law. In what can be described as an unsurprising hypocritical reversal, in 2003 Menem and his new wife, Cecilia Bolocco (a former Miss Universe), used ICSI to have a child together at Las Condes Clinic in Santiago—though the assistance of ART was not well-publicized. Instead, the fact that Menem was having another child, and therefore his demonstrated “virility” at 72 was used as part of his campaign for presidency against Kirchner in 2003.

After leaving CEGyR, Coco and Neuspiller opened their own center for assisted reproduction, Fecunditas, in 1989—the year that Menem took office.⁴⁸ Located near the University of Buenos Aires’ medical school—about 15 blocks from CEGyR—Fecunditas continues today under the directorship of Coco, Neuspiller and a third doctor, Gismondi. Coco claims that this was the first center in Argentina to be “fully integrated”—the model that is the norm today— in which all clinic components are housed under one roof: the consultation offices, the ultrasound area, the surgery area and the ART laboratory and a research laboratory. Fecunditas accomplishes this through the use of all three floors of an office building dating from the mid-1970s. Though Coco claims that Fecunditas was the second ART center in Argentina, at least in planning, chronologically by the time Fecunditas opened its doors, another clinic IFER was also offering assisted reproduction services to the public.

The clinic IFER occupies four floors of a tall (10-floor) medical office building a few blocks from the *Hospital de Clínicas* and is within a 10-minute walking distance from Fecunditas. According to its website, IFER was founded in 1985 by four doctors, none of whom worked at CEGyR. Two of the founding directors were working at *Hospital de Clínicas* when fertilization in vitro was developed. Deciding that it would be impossible to expand assisted reproductive techniques at the public hospital, they opened

⁴⁸ I was told by another gynecologist, Carlos Carrere, one of the founders of the clinic Procreate, that Mannara also left CEGyR at the same time as Coco and Neuspiller. According to Carrere, he and Mannara joined Coco and Neuspiller in founding Fecunditas in 1989. However, Coco made no mention of Mannara nor of Carrere, nor does Fecunditas’ website document the clinic’s original founders. Carrere recalls that in 1998 Fecunditas was doing badly economically and there was a crisis among the associates of the clinic, at this time he and Mannara left Fecunditas and started Procreate. I was not able to interview Mannara to confirm these events. Coco’s neglect of this detail could be linked to the general syndrome in Argentina of ignoring past events and remaking history through active-forgetting. Or perhaps Coco deemed these details irrelevant to the story at hand, or left them out merely as an oversight.

a private center instead.⁴⁹ Today IFER, with approximately 25 gynecologists, has perhaps the highest case load of assisted reproduction in Argentina, and is the only of the five largest centers in Buenos Aires that is not a member of RED (apparently for personal/political reasons).⁵⁰

In the late 1980s, several more clinics opened, almost simultaneously. In 1987 Halitus was founded, with Sergio Pasqualini as the director. Halitus today is one of the five largest centers in Argentina, and the one with the most aggressive marketing department.⁵¹ Halitus offers the widest spectrum of services of the principal ART centers, from basic OB-GYN to esoteric mesotherapy (treatment for cellulite). Halitus is located in a restored three-level French building on the same street as IFER, about four blocks and the Hospital de Clínicas separate the two clinics.⁵² At this time, smaller centers are also founded, taking advantage of the country's economic opportunities. One example is CER Medical Institute, established in 1987 by Ester Polak de Fried, the first woman to open an assisted reproductive center. CER Medical Institute remains one of only two centers directed by women today in Buenos Aires (a third is a small center in the Corrientes province), and is mid-sized in terms of cases and services offered. In 1988, after leaving CEGyR, Gonzalez Fabbrizzi, opens a small center of his own, Institute of

⁴⁹ According to Coco, IFER's claim of doing IVF in 1985 is not entirely true, as it is based on IFER sending a patient to the Jones Institute to do the actual IVF treatment. The patient then returned to Argentina to give birth in 1985. I was not able to validate this assertion.

⁵⁰ I was never given a direct answer to this decision, but I was obliquely told that the directors at IFER do not agree with the principles behind RED, nor the direction of the network.

⁵¹ This marketing effort includes a weekly cable television program that the director designed and co-hosts, called "*Sentir y Pensar*"—"Feel and Think" which claims to bring topics in science and health together. For example, a show airing in mid-November 2006 has an invited guest (a female doctor who works at Halitus) to discuss "female health after 40 years" and then a side-topic of how to talk about sexual education with your children.

⁵² IFER and Halitus are the two centers that Nicholson Jr. refers his patients to after leaving CEGyR—those needing IVF or GIFT are sent to IFER, those doing ICSI are sent to Halitus.

Fertility and Reproduction or IMAGEM, dedicated to the theme of infertility, from basic studies to IVF (the clinic does about 50 cases a year). Several other mid-sized clinics in Buenos Aires were founded in this decade of prosperity.

From these private, stand-alone centers, the desire to do ART extended into the hospital-realm, beginning with a reproductive endocrinology team at the municipal-run Hospital Durand in Buenos Aires.⁵³ However there was no funding for advanced techniques, so the program transformed into what it is today: basic low-complexity infertility services (hormone stimulation and insemination) and referral to the private sector for more high-tech needs. Several private hospitals then follow, attempting to establish ART units, but most of them also outsource the actual assisted reproductive techniques to a separate center's lab.⁵⁴ Once established in the capital city, during the 1990s ART traveled out to the provinces, first to the closest big cities, like Rosario and Córdoba, and then to smaller or further away places—Bahia Blanca, Pergamino, Tucumán, Mendoza, Salta—through satellite clinics operated by the larger institutions in Buenos Aires.

Procreate, the fifth principal clinic today in Argentina, arrived in 1999, relatively late to the ART scene. Competition between the four largest centers—CEGyR, Fecunditas, IFER and Halitus— was already well-established when Procreate opened its doors. However Procreate has managed to find a niche in the market, even at the end of the boom years of the '90s. Unlike the other centers, Procreate has a horizontal structure

⁵³ This endocrinology team began at the public Hospital Álvarez in 1978 then moved to Hospital Durand in 1986 in order to expand services. However they have never reached the level of providing IVF/ICSI.

⁵⁴ Given the history of assisted reproduction as a private, individual-based effort in Argentina, the model was set and continues to be that of an out-patient stand-alone center dedicated to assisted reproduction. In contrast, in Chile, assisted reproduction teams are housed in a reproductive medicine unit that is part of a larger clinical institution. There are only a handful of these in Argentina, including Hospital Italiano, the San Isidro Fertility Unit, and some of the provincial satellite clinics.

overseen by its six medical founders, which means that it provides a centralized staffed laboratory and surgery room for an affiliated group of gynecologists to use periodically for their assisted reproduction cases. Affiliation is open to all gynecologists who wish to participate, making the potential network of medical members extensive. The number of affiliates—and therefore the number of cases performed at the center—grows every year. Within 5 years of opening in Buenos Aires, Procreate expanded to include three satellite centers in the provinces (La Plata, Neuquen and Bariloche). Notably, other clinic directors in Argentina told me that Procreate’s reputation is not on par with their own conventionally-structured fertility centers. This refusal on the part of some of Argentina’s reproductive medicine community to accept Procreate as a “reputable” center is puzzling since Procreate’s case load and success rates suggest that it is equal to the other centers.

In 2003, looking back on the first 15 years of ART in Argentina, one center director identifies a market that grew quickly and without forethought, and now has to face the consequences:

...it seems to me that a group of gynecologists without knowing anything about reproduction believed that this was a good business, to make money from. And it seems to me that it’s not so much like that. Assisted reproduction and high-complexity reproduction is expensive, for the investment and the personal aptitude that is necessary to do it. So, for example in Argentina, in Buenos Aires, if one looks, it is crazy, how there are Halitus, CEGyR, IFER, CER, Fecunditas, five centers with the same hierarchy. It [assisted reproduction] was invested in five times over and we have to split up the same patients, because Argentina has this population and that’s it. But that was because each one wanted to have his own center, it was important.

It seems to me that it was a mistake, each one could have had his center and there would have been a laboratory for everyone to share. Understand? Each one could have seen their patients, but then all used the same laboratory. So, the situation is that now there are less patients for the centers because we have to divide them between the five, and on the other hand, the investments that these procedures require, still nothing is made in Argentina because we are past the Menem era when we were buying everything. It was cheaper to buy quality outside of the country and not here.

As this director describes, the economic setting of the 1990s allowed many centers to open and flourish, creating a market that by 2003 feels cramped and not as profitable as it once was. The industry that has developed is one based on individual egos, all looking to differentiate themselves from the doctor next door. On the other hand, for the consumer this competition provides a variety of options. A gynecologist at another center thinks the market accommodates these small centers in the Buenos Aires area because consumers aren't well-informed about the best place to go:

Many people don't understand. So they go wherever. Maybe it's close to their house, or a friend or relative sends them there or... You see? Or simply that a doctor works at that clinic, 'no, come here where we work well, it's good'. And it isn't like that most of the time. So they do two, three treatments in small clinics and then they go to the four or five large centers.

Rather than seeing these small centers as providing consumers with more options—the ability to “shop around”—this gynecologist views them as consumer “errors” in judgment. In his mind, the only centers of significance are the large ones. Other professionals, like the center director quoted above are more cautious about the field's rapid expansions.

I would suggest that evaluated in terms of the available population figures, 16 clinics to serve the greater Buenos Aires area of over 11 million people (out of a country population of 36 million) is not so inundated after all (INDEC 2001).⁵⁵ For comparison, in all of Brazil there are 48 official (RED) clinics for a total population of 182 million; Israel has the highest per capita number of clinics in the world which in the mid-1990s translated to 24 centers for 5.5 million people (Kahn 2000). In addition, as the cultural

⁵⁵The most recent population figures for Argentina are from the census in 2001. INDEC (Instituto Nacional de Estadística y Censos de la República Argentina), Censo Nacional de Población, Hogares y Viviendas 2001. Insitituto Geográfico Militar (IGM).

and economic epicenter of Argentina, Buenos Aires draws in people from the interior of the country. Half of the patients at CEGyR for example, come from provinces in the interior because Buenos Aires has a reputation for the best medical care in the country:

It's not like in the United States where each city is lively, independent. Here everyone from the interior comes to the Capital to do a treatment, to see the doctor when there is a serious problem, they come 1000 km, to be assisted here. These things don't happen in the US in general.[...] Everyone doesn't go to New York to do it. [...]Every city has good clinics. But here it's not like that, so everyone comes to Buenos Aires.

Though professionals recognize the need to open more centers in the interior, it is seen as expensive and not easy to do so, given the investment and training involved. In the meantime, the infertility market and its experts in Buenos Aires are well-established, meaning that any future clinics in the nation's capital may need to change their business model to one of cooperative mergers rather than individual enterprises. Procreate, with its inclusive network, centralization of investment costs, and satellite clinics in the provinces, may be the future model for ART in Argentina.⁵⁶

⁵⁶ In the last few years Halitus has expanded into the interior of the country with a “network of representatives” of doctors in Bahía Blanca, Cipolletti, Junín, Tandil, Tucumán. These satellite clinics apparently work under the “scientific counsel” of the director of Halitus.

A Country in Crisis



Figure 11. Bank Boston in the downtown area of Buenos Aires, Photo by Kelly Raspberry, November 2002.

“Stop thinking you are the best in the world until you can demonstrate that you really are the best of the world. We are living an illusion here. In a bubble. We don’t look at the reality of the country. And even when we are in the worst situation, we still believe we are better...It’s not enough to tell you that we were the best European country in Latin America back in 1930.” (July 2003) gynecologist Facundo Martín

In 2001, enormous defaults on world debt, in part the result of the economic mistakes of the 1990s, reached a critical boiling point. The president elected in 1999 to replace Menem, Fernando de la Rúa, proved incapable of assuaging skyrocketing unemployment and inflation across the nation. Dire economic conditions across the country made it obvious that maintaining the peso one-to-one with the dollar was straining the local economy. Political protests and riots attested to the fragility of the

nation's stability and the impending economic collapse. By the middle of 2001, people across the nation were suffering from the government's apparent neglect of the poor and unemployed and public assistance programs were canceled. Then at the end of November the *corralito* (a freeze of bank deposits) wreaked havoc: under orders from the federal government, the private banks issued severe limits on the amount of cash available for daily withdrawal.⁵⁷ Public rallies against the government continued, including protests by the middle classes against the *corralito*. Demonstrations reached a peak on December 20, 2001, when protesters from across the nation congregated at the *Plaza de Mayo*, the public square in front of the *Casa Rosada* (the federal government building in Buenos Aires). Faced with demands he could not resolve, de la Rúa resigned and flew away in a helicopter that night.⁵⁸ Over the next two weeks, a series of five politicians stepped up as President, each resigning within days of taking office. Finally Duhalde took over on January 2, 2002 and stayed for the next year and a half, until national elections were held in 2003. In 2002, the peso was officially devalued and released from its imposed equivalence to the US dollar. Immediately the peso's value spiraled downward, fluctuating between three and four pesos per dollar over the next two years before stabilizing somewhat at 2.80 at the end of 2003.⁵⁹ This devaluation was devastating for those who had savings and checking accounts in the banks: overnight these accounts became worth one-third their previous value; with one federal decision, the money that used to be 1:1 with the US dollar was converted into a devalued peso amount.

⁵⁷ The term "*corralito*" can be likened to animals (in this case money) not let out of the corral.

⁵⁸ At least a dozen people (protestors) were killed during the December 20, 2001 protest though official counts are disputed.

⁵⁹ Inflation again accompanies this relative stability, by mid-2005 the peso hovers at 3.1 per USD, and still remains there at the time of this writing (December 2006).



Figure 12. Tanks and Armed Police in front of the Casa Rosada in Buenos Aires. First anniversary of 2001 protest: December 20, 2002. Photo by Kelly Raspberry, 2002.



Figure 13. Red Cross volunteers. First anniversary of 2001 protest: December 20, 2002. Photo by Kelly Raspberry, 2002.

When I arrived to Buenos Aires in November 2002 (after brief stays in July 2000 and July 2001) nearly a year had passed since the apex of the crisis, but the consequences of the calamity were still fresh. The city that I met at the end of 2002 was not the glamorous metropolis known as the “Paris of the South,” but her struggling Latin American cousin who was riddled with debt, corruption, unemployment, and most of all, instability. The main offices of the national banks in the downtown area had their windows and doors boarded shut for security reasons. These barriers to keep out a protesting public were covered in graffiti that accused the foreign banks of being “thieves” for stealing their clients’ money. Six months after my arrival, Nestor Kirchner was elected as President. He ran a campaign—against Menem—built on the promise to make “*un pais en serio*”—to return Argentina to being a “serious” country again, both as viewed by its population and by the international spotlight. However recovery was slow; it took until March 2005 to reach an agreement for debt repayment with the IMF.



Figure 14. Las Madres de la Plaza de Mayo protesting payment of the external debt. Photo by Kelly Raspberry, June 17, 2004.

The crisis also affected the reproductive centers, though not as severely as it might have. The main effect was an overall reduction in available resources for clinic operations, thus non-essential costs were cut including: new equipment, research, international conferences, and international publications. In addition, since the country's currency had changed, the cost of the services charged the public also changed to a value in pesos. One clinic director explains the effects of the crisis to me in 2003, giving a contextual view of the field over the years:

The centers are going to continue because, you know, not one, now that they have everything set up, is going to shut down unless they go bankrupt. That is going to be one thing. I am telling you, if you were asking me...I think that from the year 1985 until now, assisted reproduction was increasing. Why? Because more is known, more is published, patients know more, so someone who is trying for one year, two years to get pregnant and doesn't, knows very well that she can go to any center and be taken care of. The flow of patients increased. In spite of there being five centers, there are more people who are turning to assisted fertilization. Now, until 2000, for us to do the procedure here was cheaper than in the northern hemisphere. But it was cheaper because it cost around \$4000 US dollars. But I repeat, why did it cost \$4000 US dollars, because the culture media, the disposable supplies, the aspiration needles, the uterine transfer catheters, they were all imported supplies.

Now, when the convertibility was cut, we had to continue working. So, it's not that we said 'it cost \$4000 US dollars, times it by three, makes 12,000 pesos per procedure.' It's not like that, [now] we charge around 5000 pesos. If we divide it by three, it gives us about 1500 pesos, \$2000 US dollars. That basically serves to buy the supplies. In reality, there are no doctor fees with respect to high-complexity assisted reproduction. For example, for us it is much more convenient: the act of offering this service serves to attract patients. So the patient that doesn't need assisted reproduction, for us it's more advantageous because we don't have to invest, we don't have to spend, and in that case, yes we charge doctor fees, for a consultation, a surgery, a treatment program.

But in reality, today high complexity assisted reproduction is like a luxury that we are trying to maintain until we see how our future economy will be. But that is the reality. If today we would say look, this costs 12000 pesos, there is no patient who could do it. Because if in Argentina half the country is poor, 40% of the population is unemployed, it is impossible. The health insurance plans (*obras sociales*) don't cover it and they don't cover it because there is no legislation yet. There is no legislation. So, in the meantime while there is no legislation, the

health insurance plans or medical insurance companies (*obras sociales o medicinas prepagas*) don't want to hear any talk about the issue.⁶⁰

Though this director exaggerates the number of unemployed in the country, his point rings true that if the post-crisis cost of assisted reproduction techniques were still priced at their pre-crisis value, they would be far out of the financial reach of almost all Argentines. Even in the peso-denomination, the services are “a luxury” for the richest sectors of Argentina, a point I return to in chapter two.

At another center, a gynecologist also explains that having fewer patients, and charging lower prices (while paying the same price for imported supplies) has meant cutting costs at the center:

The quantity of work went down, a little. And well, that meant that we had to close certain areas. Research was reduced, the library shrank, staff was cut. In other words, we had to cut down a little, not a lot, but we had to downsize. When you cut down, you don't grow, you see? The crisis means that people don't have money to do treatments, so if people aren't doing treatments, instead of having everything on a large scale, you have to reduce everything.

Like any business in an economic downturn, the market of ART in Argentina is vulnerable to the pinch of fewer resources circulating. Coping with the economic crisis also involved a certain amount of ingenuity to stay afloat, as this biologist explains with respect to the embryology laboratory:

With the devaluation we had to do some juggling in order to figure out how we were going to continue without lowering the quality. How to lower the costs a little bit, in terms of the culture media that we were using because that it was all priced in dollars. We could buy the media from here but the quality control of the media here is very bad, so there is no way we would trust the media made in Argentina, we buy it from the United States or from Europe. But we had to think

⁶⁰ Here I'm translating “obras sociales” as health insurance plans and “medicinas prepagas” as medical insurance companies—there are no direct translations for these words as they are unique to the system of health care in Argentina, in which public health care plans are provided through employment (originally based on unions), and private medical insurance plans are also provided through employment or can be paid for directly out of pocket. There is also free access to nationally-run public hospitals where type (or proof) of health insurance is irrelevant.

wisely to see how to lower the quantity of media we used without jeopardizing the results because we didn't want to do that. So we said, okay, instead of using a large dish, which you know is not necessary, we will use a smaller one and so we use less than half [of the media]. So that's how we thought about everything and we corrected ourselves.

In a sense, the economic crisis forced this center at least to become more efficient with their supplies in order to maintain the quality of work they were accustomed to producing. This creative way of “cutting corners” is common in Argentina where resources are often in short supply.

The overall sentiment in the reproductive medicine of Buenos Aires when I entered the field was proud and slightly nostalgic about the progress made in 20 years, but with reservations about the future of ART work. As I discuss in chapter three, these worries were short-lived—within two years (by 2004) the ART market is growing once again, particularly with respect to an increased demand for egg donation. By 2005, centers are again introducing new advanced techniques, such as preimplantation genetic diagnosis, which I discuss in chapter four. On the other hand, the impact of the crisis was so great that concerns for the country's economic future linger and never completely fade. In February 2004, two years after the devaluation of the peso, I ask one of the clinic directors what the most important issues are for Argentina in the next 5 years. He returns again to the economy, saying it still needs a lot of work. He characterizes the creditors that Argentina owes as “vulture capitalists” that for ten years have been taking money out of the country. However, like most Argentines, this reproductive medicine professional has pride for his country and hope for the future, “I am convinced that if there were...if there were no corruption and there were laws in this country, this would be a paradise. This country would be a paradise.”



Figure 15. "We are all Argentines." Government ad for a public celebration of 25th of May (the national revolution day) at the Plaza de Mayo. Photo by Kelly Raspberry, May 25, 2004.

Conclusion

The production of ART in Argentina involves global interconnections of people, knowledge, skills and materials.⁶¹ As I discuss in this chapter, assisted reproductive techniques have circulated—on a global scale—in large part through key individual experts, who teach their skills to others through demonstrations and performances. In the early years of concocting assisted fertilization procedures, groups were isolated from each other and it was harder to share innovations and experiences. Today, technology transfer is much faster and accessible and has a greater reach, as one gynecologist summarizes:

What happens is that technology transfer can't be done the same way in the present as how it was in the past. It's not acceptable for example, today for a center that is just starting, for it to start with the level of understanding that we had back in 1984. And with the isolation that there was. Because today...if you think that between the year 1979 [sic], when the birth of Louise Brown was declared, to the year 1984, when the first baby in Latin America was born, there

⁶¹ I discuss the materials of ART (the culture media, lab equipment, etc) in chapter two.

are 5 years...ICSI was declared for the first time in the year 1992, and in '94, at the end of '93, it was already in Latin America. In other words, *the velocity of technology transfer is different*. That is the first concept. The second, is that the *introduction of technology and the level of people with knowledge and capable of doing the technology transfer is so great today* that it doesn't seem acceptable to me to offer patients the results from the start of the program if it doesn't have technological support and the people to do it. This is an example that we have developed in Latin America, of technology transfer through people. That is how we began ICSI here. We brought a biologist from the US for a year and a half. In 1994." (emphasis mine).

The system of moving technology through *people* is now a common one in Latin America. When a new technique is developed, experts in that technique are brought directly to the local lab to train and add the service to a clinic's repertoire. This is how centers in Buenos Aires and Santiago incorporated ICSI techniques in 1994, just two years after they were first developed in Belgium. As I discuss in chapter four, this form of "technology transfer" is also how CREAR began the latest of these techniques, preimplantation genetic diagnosis—by bringing an Italian expert to the center to give on-site training.

The history of ART production in Argentina that I give in this chapter also reveals that private infertility centers in Argentina participate in an international reproductive medicine network from a peripheral position of influence. Today there is a global circuit of clinics, professionals, knowledges, techniques and patients, which is structured by a North American-European hierarchy of scientific standards and quality. Within this system, the central sites of biomedicine are located in the West and North of the globe, particularly in the United States and Western Europe. However, within Latin America, these private centers in Buenos Aires compete to be recognized as the "best" in the region, the closest to conform to the Northern model. As I discuss further in the following chapter, in this context, being the "best" is often also connected to being the "first" in the

area to begin a given technique with desirable results. In this modern world of “discovery and results,” professionals’ genealogy of training is also a significant factor in status positioning. As this history reveals, many of the reproductive medicine specialists that are now clinic directors did specialized training abroad, most often in the United States or Western Europe. Personal connections to internationally recognized programs and experts—usually from research or clinical centers in the US and Europe— are therefore emphasized in the telling.

Producing ART in Argentina is a local story with global connections, and examining the history of this medical technology begins to reveal the messiness and multitude of factors in play in producing ART in Argentina today. As places where these practices were first developed and implemented, the United States and Western Europe continue to be the model sites for scientific and clinical training. However, I argue that what appears to be a “replication” or “transfer” is actually a *translation* of sorts, in which technical procedures and guidelines are transformed to meet local conditions of demand. In chapter two I discuss more closely how and why the technical apparatus of ART is translated in practice in Argentina by examining more closely the processes by which these Argentine professionals tinker with these imported practices to accommodate traditional social values, Roman Catholic beliefs, and economic and political tensions particular to Argentina.

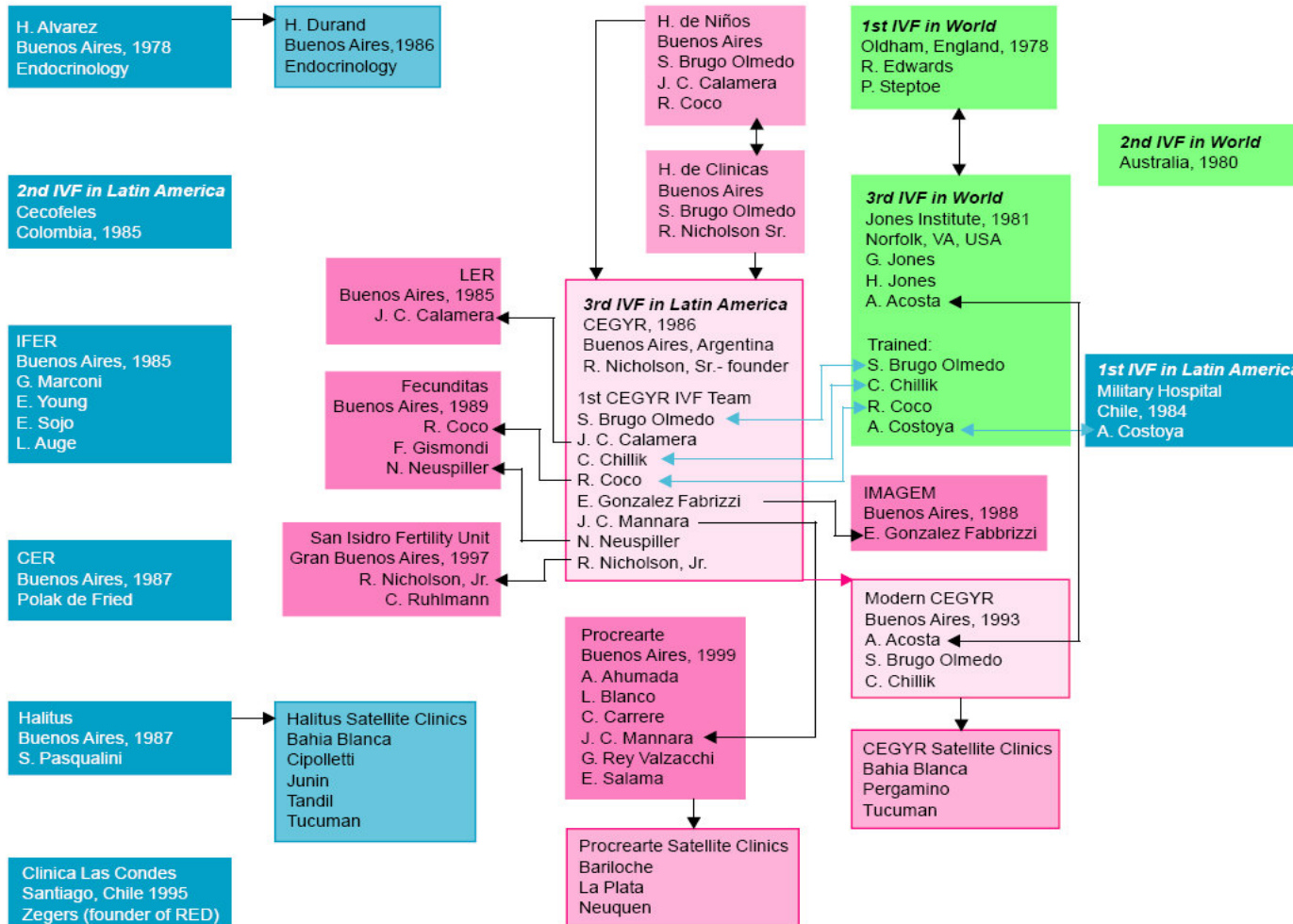


Figure 16. Chart of International Relationships and Formation of ART clinics in Argentina

INTERLUDE II

“High Complexity” Aspirations and Transferences: The In Vitro Meeting of Egg and Sperm in a Buenos Aires Infertility Clinic⁶²



Figure 17. Surgery area—where aspirations and transferences are performed—in an infertility clinic in Buenos Aires. Photo by Kelly Raspberry, 2003.

It is 8:50 am on a Sunday at the end of March (in 2005), in the post-operation recovery area of an assisted reproductive technology center in Buenos Aires. In Argentina, doctors usually go to lengths to avoid scheduling a surgical procedure such as

⁶² The following is an ethnographic description that details the work of an ICSI procedure, both in the operating room and in the embryology lab. I gleaned most of this information of the process from months of observing and asking questions while in these two clinical settings. The very specific laboratory details are taken from informal conversations (during which I took extensive notes) that I had with laboratory biologists at times when they were not in the middle of the procedure itself. My “knowledge” of the biology and medical components that I present here are therefore local to what I witnessed and was taught by these Argentine experts, rather than taken from a textbook.

a follicular aspiration on the weekend, particularly on a Sunday, the day of rest. Sometimes the hormone stimulation protocol is manipulated for this convenience of the calendar. In this case the protocol was not readjusted, perhaps because this is a “repeat patient.” Everyone is here, the lab and operating room staff, the attending gynecologist, the patient herself, who now rests in the white bed with her husband at her side, and me, the resident anthropologist. Like other couples here during the week, this woman and her partner are awaiting the visit by the gynecologist that will tell them how many mature eggs were retrieved from her ovaries, and what steps are to follow. Because of past experience, she knows very well how high the risks for failure are, and will be, over the next few days as her eggs are fertilized and perhaps develop into embryos in the laboratory. This is the fourth ICSI (intracytoplasmic sperm injection) treatment she has pursued over the last six years, with only the last of the previous three procedures leading to the birth of her first child, a little girl now 3 years old. Over the course of the following two weeks, many actors will come together in a precise choreography of clinic and laboratory, sperm and egg, values and desires.⁶³ Following this dance of expertise and desire reveals the many contingencies crucial to the successful creation of an embryo, a pregnancy and the birth of a baby.

Upstairs in the immaculately clean laboratory with its white tile walls and grey marble counters, there are 16 human eggs sitting in a clear plastic dish of nutritious pink biological media, inside an incubator kept at the internal human body temperature of 37 degrees Celsius. The eggs have been tallied up and evaluated based on their degree of maturity: twelve are metaphase two (MII); three are metaphase one (MI); one egg is completely immature, prophase one (ODS—oocyte disassociation syndrome). In this

⁶³ See also Thompson 2005 for a brilliant analysis of the “choreography” of the IVF clinic.

world of laboratory-assisted fertilization, metaphase two is the desired stage of maturation. A ripe egg, one that under other circumstances would be ovulated from the ovaries, thus having reached a point of readiness for fertilization, is metaphase two. With luck, after a few hours in the incubator, the three metaphase I eggs will mature into metaphase II.

The arrival of these eggs to this laboratory's incubator is part of a process initiated two months prior, when Augustina began taking hormone stimulation drugs. The drug protocol used for assisted reproductive treatments suppresses the body's typical hormonal fluctuations and imposes one carefully designed to aid in high-tech fertilization. On Day 21 of her menstrual cycle in late February, Augustina began taking Lupron—a drug that suppresses ovulation. Lupron is injected every day into the subcutaneous flesh of the stomach area, until the gynecologist is sure that ovulation will not occur—usually a time period of two to three weeks. After menstruation, a new cycle begins and Augustina's levels of estradiol are checked with a blood test between Days 2 and 5. When estradiol levels are below 30-35 international units per milliliter (IU/ml), this indicates that indeed ovulation has been suspended. Once suppression is established, Augustina can continue to inject Lupron as convenient for planning, until the doctor and she agree on a date to begin the stimulation-treatment hormones.

As per protocol, the day in March that Augustina begins the stimulation hormones is designated Day 3 of her cycle in the medical charts. With the use of synthetic gonadotrophin releasing hormones (GnRH), gynecologists can incite multiple follicles in the ovaries to collectively “grow” their eggs at the same time. (In a non-stimulated hormonal cycle usually only one egg matures and is released). These hormones, which

cause the pituitary to secrete luteinizing hormone (LH) and follicle stimulating hormone (FSH), are administered every day, usually in the form of an injection also into the stomach flesh. Patients at CREAR are taught by the nurse how to inject the daily shot. For an IVF or ICSI procedure, the dose of GnRH depends on whether the woman is expected to be a “normal” responder to the hormones, a dose of 300 IU/ml per day; or a low responder (takes more hormones to stimulate the ovaries) with a dose of 450 IU/ml per day; or a high responder (needs less hormones) with a dose of 150-225 IU/ml per day. (Hormone stimulation is also used often for artificial insemination, but the dose is much lower—around 75 IU/ml per day, calculated to stimulate only 3 follicles at once). Augustina has an average response to the hormones, and so takes 300 IU/ml of Gonal F (a common brand of gonadotrophin in Argentina) every day. As the follicles grow in size, they expand and exert pressure on the bladder and stomach. The last few days of stimulation treatment can be physically uncomfortable and are described by some women as feeling like their ovaries are the “size of grapefruit.” Other side-effects can include headaches, nausea, dizziness, inflammation of the injected area, rashes and low blood pressure.

This phase of corporeal maturation is controlled and monitored with hormone doses, ultrasound checks and computerized measuring devices over a period of ten to thirteen days. The first check is done on Day 6 of the treatment schedule, and Augustina must present herself to the gynecologist and nurse in the morning. First an ultrasound on the ovaries and uterus is performed in order to measure the size of the follicles, the thickness of the endometrium, and to check the shape of the uterus. Then the nurse takes a blood test to measure the level of estradiol in the blood. These tests continue either

every day or every other day, depending on the growth progress of the follicles. The assumption is that the follicles will grow 2 micrometers every day. If they are slower or quicker than that, the frequency of the tests are adjusted accordingly. When a computer diagram generated through an ultrasound of the ovaries indicates that three to four of the follicles are 17-18 micromillimeters (mm) or larger, and the endometrium is a thickness of at least 7mm, the eggs are deemed ready for their final preparatory injection. For Augustina, this occurs on Day 11 when eight follicles are found to be at least 17mm in size. Since the eggs mature at different rates, not all the growing eggs will be of adequate size and maturity—some are still metaphase one— but the status majority has to be respected. If the doctor waits too long, the frontrunner egg will induce a spontaneous ovulation, incite luteinization and the rest of the eggs will die in the follicles, forever “lost.” A final hormonal shot, this time of human chorionic gonadotrophin (hCG), is administered at this point to facilitate the remaining hours of corporeal maturation of the eggs.

The surgical procedure to remove the mature eggs from the woman’s body, called an oocyte aspiration or “egg pick-up” is scheduled for 34 to 36 hours after the hCG shot, and always in the early morning. The term is quite adequate, as the “aspirations” of all involved—the woman (and her partner), the gynecologists, the embryologists—are to retrieve as many mature eggs as possible. For Augustina, the scheduled hour is 8 am on a Sunday. On this day of aspiration, Augustina and her husband arrive at the clinic fifteen minutes before the procedure is to start. She disrobes and puts on the pink disposable gown provided and shuffles into the operating room wearing the standard CREAR slippers that are too big—white with the clinic logo in pink. Her husband waits in the

recovery room for her, having already provided a sperm sample during a testicular biopsy six years prior. He has obstructive azoospermia (his testes produce sperm but he does not ejaculate them) and so can not provide a fresh sperm sample. A portion of his frozen tissue sample will be retrieved from a nitrogen tank by the lab staff later in the morning. Because the sperm were obtained through testicular surgery, they do not meet the mobility and concentration requirements for an in vitro fertilization procedure, in which a measured quantity of sperm (300,000/ml of motile Grade 3) are placed into a dish with media alongside the eggs and left in the incubator overnight to fertilize on their own. Instead, the condition of azoospermia calls for the newer technique of intracytoplasmic sperm injection (ICSI), in which the attending biologist manually selects and injects one sperm into each egg using an inverted microscope with micromanipulation system (with magnification level up to 400x).

At CREAR, aspirations are done under general anesthesia, and so there is a cardiologist and anesthesiologist on hand, as well as the gynecologist, the nurse, and a resident fellow in the operating room. As the non-essential person in the room, I'm standing to the side of the room, out of everyone's way, but with a good view of what is happening. I have my notebook out and furiously scribble away as the procedure unfolds. For aspiration procedures, other centers in Argentina use only a mild sedative for relaxation and a local anesthetic—applied to the inside of the vagina—which avoids the need for an anesthesiologist and allows the woman to recover from the procedure more quickly. CREAR's policy is perhaps a left-over of the way that things "have always been done."

The anesthesiologist and cardiologist begin their work, and soon Augustina's eyes close and she appears to be sleeping. She is lying on her back, with a thin gown and disposable sheet covering her. The resident fellow, a woman, quickly pulls back the gown and sheet, exposing Augustina's lower body, and arranges Augustina's limp legs into stirrups. With the sleep of anesthesia, Augustina has become a malleable body that needs to be monitored and prepared for operation. The resident sterilizes Augustina's pubic area with sterile water while the gynecologist scrubs his hands and arms up to the elbows with yellow soap and water. Because of the general anesthesia, she has heart monitors attached to her chest and a plastic tube down her throat. The resident inserts a metal speculum into Augustina's vagina to ensure an open passage, and a sterile glove is pulled over the phallic-shaped ultrasound device to which a small needle is attached inside a plastic guide. The harvesting is done using this very thin ultrasound-guided needle that enters the woman's body through the vagina and accesses the follicles by puncturing the lining of the ovaries. The ultrasound's images appear on a small black and white monitor next to the surgical bed. The nurse stands by with a manual syringe attached to the aspiration needle, which provides the necessary force for sucking the eggs out of the ovaries. The overhead lights are turned off and the heart monitor beeps away. On the monitor, the follicles appear as black spots in a fuzzy grey background, and the guide containing the needle as a thin gray line. When punctured and emptied of fluid, the blackness evaporates, and follicle's outline blends into the grayness of the rest of the screen. The gynecologist uses this fuzzy image on the monitor to find and puncture the follicles.

Several minutes later, the eggs floating in follicular fluid inside Augustina's ovaries are gently carried along a sudden current, sucked into a needle that has been

flushed with biological media, down a narrow tube and come to rest in a vial. When full, the vial of fluid, eggs and blood, all mixed together, is immediately sent from the surgery room to the laboratory. A mechanized dumbwaiter tunnel connects the two areas, the laboratory is upstairs and so the vial travels upwards, stopping when it reaches the cargo-door to the lab. A beep signals that it is there. The laboratory is ready, having been alerted through an intercom system that these precious orbs are on their way.

Under the scope the tiny egg, a small nugget of DNA, is searched for within the river of red viscous fluid that fills the vial. More vials are sent up, some are found lacking an oocyte, others have more than one. There are many vials and they accumulate at the sterile workstation, waiting their turn for analysis. The biologist quickly reaches for a vial, pops the plastic top off, and pours the fire-engine red fluid into a shallow circular dish. The dish is set underneath the scope's lens (with a maximum magnification of 10x), on a thermal warming plate set to 37 degrees Celsius. The empty vial is quickly examined under the scope, to make sure that no egg has stayed behind in the tube, and then discarded. The scope's gaze now focuses on the liquid spread across the dish, and a micropipette waits eagerly for the spotting of an egg. The biologist moves the dish in a circle, slightly jostling the contents to have a better look. Finally an egg is identified and scooped up into the pipette, out of the mixture of blood and cells, and dropped into a waiting dish of specially prepared media that sits on a thermal plate nearby. The remaining extracted follicular fluid is poured into another yet another dish, where it joins the discarded remains of the other vials. This fluid will be checked one more time at the end, for any overlooked eggs, before finally being discarded.

The biologist must work quickly, as human eggs are environmentally-sensitive and the laboratory is not an optimal milieu. Each second that the eggs are sitting out in the room—even under controlled conditions—wears away their viability. Direct sunlight and fluorescent lighting are particularly damaging to an egg (the radiation affects the structure of the egg chromosomes), so the overhead lights have been turned down and the blinds are partially closed.⁶⁴ The scope shines a direct beam on its point of focus. Potential air pollutants are also damaging to the egg, hence the need for a laboratory positive-pressure air purifier (which constantly forces filtered air into the laboratory to prevent contaminated air from coming in each time the door is opened to the outside) and the performance of this work at a special work chamber with its own air filter (called a horizontal laminar flow cabinet). The CO₂ level in the incubator is also measured every day and maintained at 5%, along with a 100% humidity level, and the requisite 37 degrees Celsius. The biological media bathing the eggs while they are outside the incubator, called HEPES human tubal fluid, was prepared the day before and kept in the incubator until now to ensure proper temperature, CO₂ and humidity levels. Though long exposure to HEPES can be harmful to the eggs, this media protects the eggs from environmental changes for the short periods of time that the eggs are outside the incubator. A dish of non-HEPES media, also prepared the previous day, await the eggs in the incubator. All media and lab liquids are imported from a lab in California (Irvine Scientific). The culture media provide a stable pH balance of 7.2 to 7.3 (that of human cells), and all surfaces that the eggs are placed on (including when they travel up the dumbwaiter) are heated to an approximate 37 degrees Celsius. Early on in my

⁶⁴ Unlike previously thought however, biologists need not attempt to work in the dark and “replicate” the conditions inside the female body. The type of light used in the scope, and a soft light from the workstation are not thought to be harmful.

observations of the embryology lab, I learned that human presence in the laboratory is also contained: everyone in the lab wears a set of scrubs, disposable booties over their shoes, a hairnet, and a face mask that covers their mouth and nose. We wash our hands upon entering the lab, and after procedures, to reduce contaminants introduced to the lab environment.

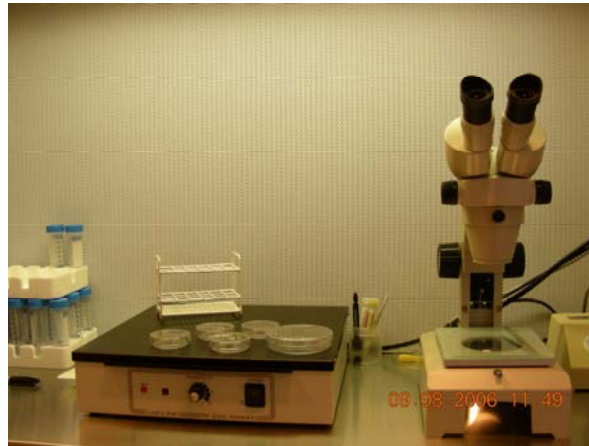


Figure 18. Scope and Thermal Plate in Workchamber. Photo courtesy of Sabrina de Vincentiis, 2006.

The biologist sitting at the work chamber scope has finished examining all the vial contents, now it is time to begin preparing the eggs for the impending injection. Mature eggs have an outer fluffy layer called the “cumulus ooforus” surrounding them, followed by a more condensed and compacted layer, the “corona radiata,” with the zona pellucida as the inner layer before the cytoplasm. The cumulous and corona act as barriers that the (normal) sperm must cross in order to reach the penetration zone—the zona pellucida. Sluggish and weak sperm will fail to complete this journey, but the more virile ones will compete to be the first to reach the zona pellucida. However, for an ICSI procedure, the cumulus and corona layers must be removed so that the egg can be quickly and easily injected mechanically with a sperm. Therefore at this point the 15 MII and MI

eggs are submerged in an acidic substance given the nickname “hydase” (hyaluronidase) for thirty seconds, which loosens the cumulus cells from the egg. Prolonged exposure to hydase is harmful for the eggs, referred to as “stressing” the eggs—this is avoided in the lab by carefully timing the egg’s submersion in the hydase baths, and rinsing the enzyme off afterwards with a HEPES solution. Following this rapid immersion, and one to two hours of incubated rest, the remaining egg layers will be suitably loose, ready for a final mechanical stripping.

Using a micropipette, the “stressed” and washed eggs are now transferred to a non-HEPES media dish which goes into the incubator. Within the dish—which has Augustina’s last name written on the underside— there are several distinct drops of media, all covered by a layer of protective oil. The three metaphase one eggs have been placed into their own drop, separated from their more mature cohort as a method of distinction. The maturation classifications and time of day (8:50 am) are recorded on a chart, and the eggs are left to “rest” in the warm humidity of the incubator. At this point the HEPES media dish for the ICSI is prepared, as it needs four to five hours in the incubator to stabilize and achieve adequate environmental conditions. Using disposable pipettes, six drops of media are placed in the circular dish and covered with oil. Two of the media drops are replaced with a substance called PVP (polyvinylpyrrolidone) which is slippery and will slide if not placed over the space held first by the media drops. At the time of injection, the eggs will be placed in the media, the sperm in the PVP.

Downstairs in the operation room, the surgery is completed and the lights are back on. Before taking the speculum out, the gynecologist practiced the embryo transfer by inserting a plastic catheter through the vaginal canal and to the uterus. This check alerts

the gynecologist to particularly narrow cervix passageways that are difficult to navigate with the thin and flexible catheter. Augustina is no longer under anesthesia, the tube has been taken out of Augustina's throat, the IV removed from her arm, her legs are taken out of the stirrups and her gown pulled down to cover her. A few minutes later she comes to consciousness and asks how many eggs were found—upon hearing “16” she comments that she is a “hen” to have all those eggs and the doctor laughs and says “hopefully with golden eggs” as in the fable. The nurse and resident transfer Augustina to a stretcher and she is wheeled back to the recovery room where her husband waits. Because of the heavy sedation, her experience of the aspiration resides in her subconscious—a cloudy memory of abdominal pain and loud voices—it most likely will not rise to the surface. Some women cry out and moan during the procedure, despite the anesthesia their bodies register the violent intrusion of sharp metal objects and extraction of bodily materials. For the following day, Augustina's abdominal area and vagina will feel tender and sore, but after an hour at the clinic she is free to go home and rest.

At 10:17 am, one hour and twenty-seven minutes after being placed into the incubator, the eggs are taken out and looked at once more under the workstation scope. The 15 MII and MI eggs will now be mechanically stripped to further peel away the unwanted cell layers. Cumulus cells that did not come off with the hydase alone are pulled away with the use of a very narrow pipette—the egg is sucked up and down the pipette several times, the narrow diameter cuts away the cumulus and attached cells that do not fit into the tube. Following the rule of least-invasion, the biologist begins with a pipette with a diameter of 150 μm , if the cells are strongly attached and resist the stripping, a pipette of 135 μm in diameter is then used. Any cells that remain stuck to the

egg after this combination of enzymatic and mechanical peeling are left there, since to further pry them away would be to risk damaging the egg itself. The peeled eggs are now perfect orbs under the microscope, ready for injection. They return to the incubator and a nutritious dish of media to wait yet again. Before the actual injection, the eggs need four to six hours to stabilize and recuperate from the morning's manipulations.⁶⁵

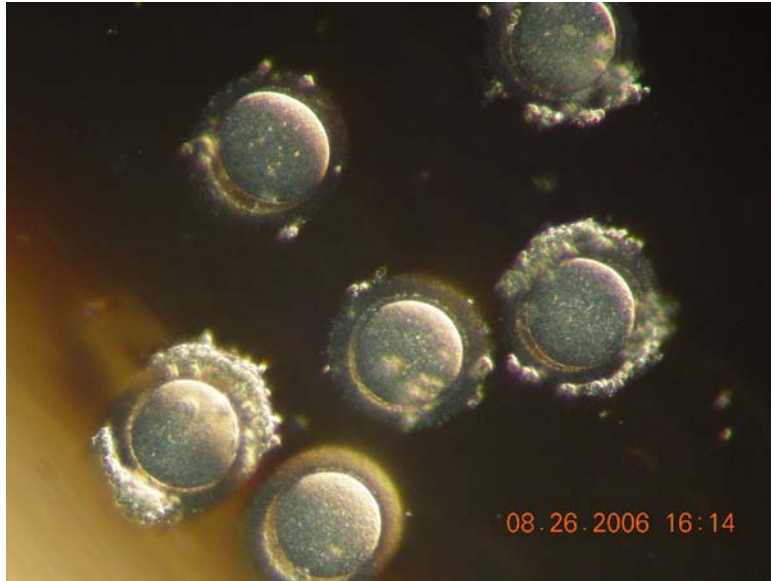


Figure 19. Eggs Ready for ICSI injection, after hyaluronidase wash and stripping of the cumulus cells. Photo courtesy of Sabrina de Vincentiis, 2006.

After the eggs are peeled, the biologist retrieves a small frozen vial, half the size of chapstick tube, from a large nitrogen tank. The vial contains three light pink luminescent “pearls” of concentrated and frozen tissue obtained from the testicular biopsy performed six years earlier. One last vial of this sample, also containing three pills

⁶⁵ The minimum amount of time between aspiration and sperm introduction—whether through IVF or ICSI—is four hours, a time that is necessary to allow the retrieved eggs to stabilize after they have been prepared for the given procedure. Therefore it is most common to do both IVF and ICSI four to six hours after the aspiration. The in vitro introduction of sperm to eggs must be done no longer than 8 hours after the eggs have been collected. With IVF, the sperm are placed in the same dish as the eggs, and left on their own in the incubator to seek out the egg, penetrate, and fertilize. The sperm therefore need time to do what is done in ICSI by the biologist in the lab—to pass through the cumulus and cell layers to penetrate the egg. Conversely, with ICSI, the injection of sperm into egg can be done up to 12 hours after the aspiration since the biologist has already done much of the “work” of penetration and fertilization.

of tissue, remains in the tank for future use. The pink color of the frozen sample comes from a cryoprotectant that protects the sperm during the freezing process.

Before being frozen into drops, this tissue sample underwent a selection process in the laboratory. There are two common sperm selection processes, one is called a “swim up” test which is reserved for mobile, healthy sperm, and the other is the use of a centrifuge.⁶⁶ Testicular biopsy sperm—such as Federico’s—are immature and therefore immobile, so they do not qualify for the “swim up” test. Instead, a portion of the tissue sample is combined with media in a tube, and subjected to five minutes of gentle centrifugal force (300g), during which time the sperm clusters together and forms a concentrated pellet. It is important that the sperm pellet is “clean”—that there are no white blood cells or other body cells that will impede motility. This pure pellet of sperm is then combined with culture media and diluted with one part cryoprotectant to one part media, and mixed well in a tube. The freezing process is then done in stages, beginning with submitting the tube to 20 minutes in the refrigerator. Small pill-shaped holes are then made in a block of dry ice and filled with drops of the sperm sample. The cryopreservation vials are submerged into a shallow bath of the liquid nitrogen. When the drops have cooled and hardened—after about 5 minutes in the ice—they are picked up with tweezers and distributed into the cooled cryovials. The vials are transferred directly into the liquid nitrogen tank, kept at –196 degrees Celsius, where they can remain frozen and biologically viable indefinitely.

⁶⁶ Swim up selection is used for sperm samples that already have normal concentration or motility. For a “swim up” test a portion of the ejaculate sample, which includes sperm and sperm plasma, is transferred to the bottom of a test tube, underneath a layer of pink enriched culture media. Over the next hour, the mobile and healthy sperm will separate from the sperm plasma and “swim” upwards to bathe in the upper layer of the enriched media. The very top layer of the media will therefore contain the healthiest sperm, demonstrated by their ability to go the furthest distance. The less mobile sperm will stay behind in the plasma at the bottom of the tube.

Today the biologist oversees the thawing of Federico's next-to last frozen vial of sperm. It takes only five minutes for the pink drops, still inside the cryovial, to thaw at room temperature. The liquid sperm sample is now washed with culture media to remove the cryoprotectant. A pinprick of the fluid is looked at under the microscope to check the concentration and mobility of the sample. Usually a cryopreserved sample is taken out of the cryopreservation tank at least one hour before its intended use.⁶⁷ This gives the biologist time to thaw it, wash away the cryoprotectant, add media and check the motility and concentration of the sperm.

Concentration and motility of sperm in a given sample are evaluated using a device called a Makler counting chamber and a microscope. The Makler is a circular, reusable glass and metal slide with a yellow-lined grid on the bottom and a clear viewing area. Before use, the Makler is placed on a thermal plate to heat it to body temperature, 37 degrees Celsius. If a cold Makler is used, the sperm will go into shock. The microscope platform is also heated to body temperature. A drop of the sperm is placed on the Makler grid and looked at under the microscope. There are ten rows and ten columns, the number of sperm (both moving and static) in each square of one row and one column are counted up for a total. If there are 20 sperm total in a row and 20 in a column, that is a normal concentration of 20 million per milliliter.

⁶⁷ In the case of a fresh sperm sample, the sperm needs at least 20 minutes after ejaculation before it is used in any procedure. The fresh sample is very viscous and needs time to liquefy.



Figure 20. Makler Counting Chamber (L). Sperm under Makler counting chamber (R). Photos courtesy of Sabrina de Vincentiis, 2006.

The second most important quality of sperm is its motility. Grade 3 motility are sperm that are active swimmers who swim in a straight line. Grade 2 are also active, but they may go sideways sometimes rather than straight ahead. Grade 1 are in-situ, barely shaking or not moving at all. Ideally, motility should be above 50%, made up of grade 3 and grade 2. In a sample from a testicular biopsy, the sperm is usually immature in which case they will all be immobile. This is found to be the case for Federico's frozen biopsy sample, which when looked at under the microscope are static squiggles. However the biologists have on hand a substance called pentoxifylline, which has near-magical powers to "awake" the immature sperm and induce temporary mobility in those that are viable after a half-hour of contact. In this manner, the biologist selects the viable and activated sperm from the dead and static ones. The pentoxifylline is washed away before the sperm are counted and selected, with the resulting mobility-effect usually lasting from about 10 minutes to one hour. The administration of the pentoxifylline is thus reserved until half an hour before the ICSI is scheduled.



Figure 21. Micromanipulation microscope. Photo courtesy of Sabrina de Vincentiis, 2006.

After a quick lunch break, at 3 o'clock in the afternoon, preparations for the ICSI procedure begin. The manipulator-microscope is checked, pipettes are fitted into the two manipulation "arms". Oil is flushed through the system to prevent air bubbles in the pipettes. Attached to the left arm is a "holding" micro-pipette with a flat round end which will be used to hold the egg in place during the injection. The injection micro-pipette is inserted into the right arm, distinguishable by its slanted sharp point. The injection pipette is filled with PVP—this fluid is dense and slows the sperm's movement, making the sperm easier to control. Usually a drop of the sperm sample is placed into one of the PVP drops in the dish, but because this is a testicular biopsy and the sperm are not very motile, it is put first into a drop of culture media. The eggs are carefully transferred with a pipette to two drops of media in the dish, with eight in one and seven eggs in the other. The filled dish is then placed under the micromanipulator microscope's lens. Carefully, the pipette on the right side is lowered into the sperm dish and the focus is adjusted so that the microscopic sperm can be seen. A camera attached to the microscope relays the image under the lens to a TV monitor on the wall above the microscope. Everyone in the room can see what the person actually looking into the microscope sees. With this visual technology, the meeting of the egg and sperm becomes a public spectacle, no longer

taking place strictly within the intimate confines of a woman's body, but instead viewed by whoever wants to watch (and is given access to the laboratory to do so). While fellows are usually as curious as the anthropologist to watch every step of the injection process, the trained biologists in the room are often busy with their own tasks, and only occasionally glance at the screen.

Whereas in a typical ICSI with an ejaculate sample most of the sperm will be swimming straight ahead, evidently intent on reaching some as-yet unknown destination, because this is a tissue sample the sperm are barely shaking in place. The shaking activity—induced by the pentoxifylline—is a sign of potential viability. Some sperm are hardly moving at all, others are clearly lifeless, the biologist avoids these, noting what proportion they make up of the total sample. The injection pipette with its sharp end, creeps up on one of the particularly active sperm and sucks it up into its PVP-filled tube. The active sperm are picked up several at a time and then all are pushed out of the pipette into an empty drop of PVP. The sharp end of the pipette makes a slight break through their tails, thus curtailing the sperm's ability to swim or move. Once immobile, the biologist takes a close look at each selected sperm's morphology. If any of the sperm are found to have an irregular shape, the biologist will attempt to find a more-standardized form among those still wildly swimming around in the other PVP drop. If morphology defects cannot be avoided because there are no other mobile sperm, then certain problems are chosen over others. For instance, the fertilization prognosis of a slightly-small-head is better than an irregular neck. In a testicular sample, the biologist usually has no choice over which sperm to select because there are so few—mobile or not—to pick from.

Once the sperm's morphology has been checked and the biologist is satisfied with the selected sperm, their tails are broken far below the neck. Injection of a mobile sperm into the egg will damage the egg. When the sperm penetrates the egg on its own—whether in the laboratory dish or the human body—the egg releases a chemical on first contact which immediately blocks any other sperm from entering. In addition, only the head of the sperm—which does not move on its own—fully enters the egg, the tail is not necessary for fertilization. Under the microscope, a cut on the tail immobilizes the sperm without killing it, and makes the sperm easier to manipulate. This incision also pulls gently on the head of the sperm, which mechanically activates the sperm for the impending fertilization. I know from many conversations with the biologists that what looks “easy” on the screen is actually a much-practiced technique. Finesse and skill are required here—if the force applied is too gentle, the head will not respond and the sperm will not fertilize the egg, if too strong, the force can break or disturb the mid-piece of the sperm between head and tail, thus destroying the sperm's fertilization ability completely. The sperm is then let go and sucked up through the pipette, tail first. This process is repeated several times, until there are 5 sperm all lined up inside the pipette head to tail, with space and PVP in between them. Depending on how many active sperm there are to choose from, and how many are needed, this sperm collection can take anywhere from 30 seconds to two hours or longer.



Figure 22. Micropipette and sperm selected for ICSI. Photo courtesy of Sabrina de Vincentiis, 2006.

The microscope is then adjusted for a view of the waiting eggs, which are almost 19 times larger in volume than the sperm (the head of a sperm measures 7-8 micrometers, the diameter of an egg is 120-125 micrometers). The eggs appear as large circles, with a concentric smaller circle inside and one small circle between the larger and smaller circle (the polar body). The microscope is adjusted so that one egg fills the entire view, and the holding pipette on the left hand side, with its flat end, is used to gently rotate the egg so that the polar body is at 6 o'clock and the pipette holding the egg is positioned at 9 o'clock. When the pipette pushes against the egg's outer covering, the egg looks elastic and bouncy. The right side pipette comes into view at 3 o'clock. It is time for the injection. The sharp pipette containing sperm approaches the egg, and almost bumps off the side of it. The pointed end comes in again, with more force this time, and punctures the outer layer, sliding into the middle of the egg. The pipette quickly but smoothly inhales some of egg's inner cell material, then spits it out, releasing one of the sperm,

head first. The pipette withdraws from the egg, leaving the same way it came in. Cell matter quickly rushes to fill the empty space that the pipette's pathway created, and a minute later the pipette's intrusion is barely visible. The only visible evidence of this disturbance is the unmoving sperm that is now stuck inside the middle of the egg, but the very presence of the sperm has already set into motion subtle chemical changes of fertilization.



**Figure 23. ICSI: two seconds post-injection of sperm into egg, the mark of the pipette is still visible.
Photo courtesy of Sabrina de Vincentiis, 2006.**

The microscope view switches over to the next egg, and the process is repeated until five eggs have been injected. The technician must now return to the drop of sperm to select five more sperm and repeat the entire process until all the eggs are injected. (The number of sperm collected at a time depends on the technician doing the injection. Some biologists load the pipette with only one sperm at a time, for fear of accidentally releasing more than one sperm into the egg. This obviously makes the entire injection process much slower—especially if there are 15 eggs to fertilize).

By 3:40 in the afternoon, all 15 eggs have been injected with one sperm—even the three that were still MI, just in case they fertilize despite their immaturity. These injected eggs are now transferred to a dish of non-HEPES media that was prepared that morning and has been waiting in the incubator for this moment. The HEPES media is washed off, then the eggs are put all together into a large drop of media with the three MI slightly below the others. They are left on their own for the rest of the day, in the dark warm heat of the incubator. The early stages of fertilization, the formation of two pronuclei inside the egg, occur during the night when the lab is empty of people and the only sound in the room is the quiet electric hum of the incubating machines.⁶⁸

The following morning the biologists return at 7 am, and begin the morning routine of turning on the lights, the air conditioner, checking the levels of CO₂ and temperature in the incubators, and the air pressure in the room. Three aspirations are scheduled for this morning, the first at 8am. After this first aspiration, the fertilization of Augustina's ICSI from the day before is checked under the scope—approximately 18 hours after fertilization. At 9am, nine of the 15 injected eggs show 2pn (2 pronuclei

⁶⁸ After the sperm enters the egg, two pronuclei form. One is the nucleus of the egg, containing the 23 chromosomes from the egg, and the other is the nucleus of the sperm with the sperm's 23 chromosomes.

which indicate that fertilization has occurred and cell division will soon begin). One injected egg shows 1pn, and five eggs show no pronucleus at all. The six non-fertilized eggs are selected out, put into a dish and discarded into the bio-waste garbage. The remaining nine are transferred to a new dish of non-HEPES media (prepared the day before) and returned to the incubator.

The following day, 48 hours after the egg pick up (known as “Day Two”), embryo cleavage is checked under the scope. All nine fertilized eggs have developed from the pronuclei stage into a “pre-embryo.” The two pronuclei in each egg have merged to form a nucleus of 46 chromosomes. Eight of the pre-embryos have at least 2 cells (the minimum number of cells to show that the embryo is beginning to develop) and one pre-embryo has 4 cells. On Day 3, 72 hours after the aspiration, the embryos are checked again. Good cell division is measured as having 5-8 cells at this point. The embryos are classified now based on the quantity and quality of cells that they have achieved (quality goes from high to low, with Class I being the “worst” and Class IV being the “best”): five embryos are Class I or Class II; three embryos are Class III; one embryo reaches the sterling status of Class IV because it has 7 cells and no fragmentation.



Figure 24. Nine Day Three embryos (not Augustina’s), varying in quality. Five to eight cells. Photo courtesy of Sabrina de Vincentiis, 2006.

In an attempt to reduce the rates of multiple pregnancies, CREAM imposed a new protocol in 2002 that restricts the number of embryos for transfer to two or three at a time, depending on the age of the woman, the etiology of infertility, and the quality of the embryos for each case.⁶⁹ A basic rule is that women 35 years of age or younger receive only two embryos while those over 35 are given three. Because Augustina is over 35 years old, she qualifies to have three embryos transferred to her uterus. There are nine embryos total, this means that six embryos will be cryopreserved and stored for a later date. With these additional embryos effectively “in the bank,” at a date in the future Augustina can avoid the stimulation and aspiration stages of the treatment protocol, and immediately schedule what is known as a “frozen transfer” in which at least four of the cryopreserved embryos are thawed and transferred to her hormone-primed uterus (because frozen transfers have lower success rates than fresh transfers, usually at least one additional frozen embryo is transferred).⁷⁰

Up to this point, everything has gone well—an adequate number of eggs were retrieved from Augustina’s ovaries and enough good-quality embryos formed from the fertilized eggs to require both an embryo transfer and cryopreservation for a future transfer. Having reached this stage of success, all involved dare to desire a more remote and improbable victory—that the transfer will go smoothly and at least one embryo will implant within the uterus, creating a pregnancy. At this clinic, as in others, the “magic” of ICSI for women over 35 years old is an infrequent one—only 35-38% become pregnant.

⁶⁹ I discuss the issue of multiple pregnancy at greater length in chapter two.

⁷⁰ This thinking-ahead can also result in the accumulation of unwanted, often poor-quality, cryopreserved embryos in nitrogen tanks. Such was the case in Great Britain when an estimated 3,000 frozen embryos were discarded after five years in unclaimed storage in 1996 (In 1991 the newly-created UK Human Fertilisation and Embryology Authority imposed a five year maximum on unclaimed frozen embryos). In Argentina—where no law exists— this type of accumulated frozen storage is a subject of debate, which I will discuss in more detail in chapter four.

However Augustina's odds are better now than they will be in five years, success rates for women 40 years or older are an abysmal 18% (in cases of male-factor infertility).

On Day Three, six embryos are cryopreserved—five of the Class I/II embryos and one of the Class III. Cryopreservation can be done at several different stages of development, almost always on the same day or the day following the fresh transfer. The earliest stage of viable cryopreservation is the pronuclear stage, 24 hours after fertilization, when the genetic material from the egg and the sperm have not yet been exchanged. Cryopreservation can also be done on Day Two, or 48 hours of development, or on Day Three, 72 hours post-fertilization. By Day Two the fertilized egg has developed into a pre-embryo and divided into at least four cells. A Day Three embryo should have five to eight cells. The advantage to cryopreserving on Day Three is that with an additional day of development, the quality of the embryo is more clearly differentiated, and the best ones can be selected for immediate transfer. On the other hand, waiting until Day Three also subjects the embryo to further time in the less-than-ideal conditions of the laboratory. Embryos can also be frozen on Day Five, which is the blastocyst stage (a Day Four embryo must not be disturbed—not removed from the incubator—as this is a critical and vulnerable stage). Some centers keep embryos in the incubators until Day Five in order to reduce the cryopreservation of marginally-viable embryos that most likely won't survive the freezing and thawing process. If an embryo reaches the blastocyst stage in the lab, it has proven itself as a viable quality embryo and is then cryopreserved.



Figure 25. Small Cryopreservation Machine. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 26. Cryopreservation tank. Photo courtesy of Sabrina de Vincentiis, 2006

The process of cryopreserving embryos takes longer than that of sperm as the embryos are more delicate and must be dehydrated and introduced to the cold slowly. Embryos are first dehydrated using two baths of special dehydration media known as F1

and F2 embryo freeze media. The embryos are left in the first bath of media (F1) for 10 minutes at room temperature, and in the second bath (F2) for only 30 seconds. They are then transferred with a pipette to a labeled cryovial—equal to the one used for sperm—with the cryoprotectant. Only four embryos “fit” into each tube because of the necessary proportion of embryos to cryoprotectant solution. Because Augustina has six embryos to store, they are split up into two tubes with three embryos in each one. These tubes are then inserted into a programmed cryopreservation machine filled with liquid nitrogen which will drop the temperature down to -30 degrees Celsius over the course of one hour and 45 minutes.⁷¹ Halfway through this process the biologist manually induces “seeding”—the orderly formation of ice crystals inside the tubes—by pinching one spot on the tube with cold tweezers. From the cryopreservation machine the tubes go directly to the storage tank of liquid nitrogen which is kept at a steady temperature of -196 degrees Celsius.

In Augustina’s case, the selected day for cryopreserving the embryos is the day of the embryo transfer. The transfer is most commonly done on either Day Two or Day Three of embryo development, and may depend on the quality of the embryos or the attending doctor’s preference. This procedure will move the embryos from the lab’s incubator to the uterus of the woman. Sometimes this procedure is mistakenly referred to as “implanting” the embryo. Technically speaking this is inaccurate, since successful transfer of the embryos into the uterus does not guarantee implantation into the uterine lining. The cells in the embryo will either attach to the uterus and continue to develop, or not, over the next week.

⁷¹ The temperature and freezing stages are different depending on what is being frozen (sperm, pronuclear stage, embryo, blastocyst).

To prepare for the transfer, which for scheduling reasons almost always takes place in the afternoon, a special transfer media is concocted in a dish in the lab. The “best” embryos (according to cell division and fragmentation) are selected for transfer and placed in special drop of media about an hour before the time of the transfer. The best quality embryos are selected for immediate transfer, as the patient is paying to get pregnant as soon as possible. In addition, the cryopreservation process is mildly damaging to the embryo, so it is preferable to transfer the best embryos first and cryopreserve the inferior ones.

Augustina’s embryo transfer takes place on Day Three of development, at noon on a Tuesday. As with the aspiration, Augustina enters the operating room in a pink disposable gown, and lies down on the examining table, putting her feet up into stirrups. Embryo transfer procedures are usually done without any anesthesia, so today there are fewer people in the room than during the aspiration. Occasionally the male partner also comes in, wearing scrubs, to watch the manual insertion of the embryos into the uterus. The ultrasound machine is set up and the ultrasound device is covered in plastic, rubbed with gel, and placed over Augustina’s abdomen. The lab sends down the prepared media—the same as that covering the embryos—which is used to wash the vaginal cavity and prepare the way for the catheter. The ceiling lights are turned off and a spotlight is held, pointed at the vagina. The gynecologist inserts the metal speculum into the vagina and waits.



Figure 27. Monitor in the surgery room connected to microscope in the laboratory, used to view in vitro embryos. Photo by Kelly Raspberry, 2003.

Upstairs in the laboratory a call comes over the intercom that the surgery room is ready for the transfer. The three embryos are taken out of the incubator and the dish is placed on the micromanipulator microscope. Close-up black and white images of the multi-celled embryos appear on the monitor in the lab, as well as on the monitor in the operating room where Augustina can see them. Everyone exclaims how nice-looking (“*que lindos*”) the embryos are. One is Class IV and two are Class III. Digital photos are quickly taken of each embryo as they are seen under the microscope, then the dish is whisked over to the work chamber. The biologist loads the three embryos into the catheter along with media using a syringe at the top, inserts the end of the catheter into a protective outer covering, puts the entire catheter into its original plastic packaging, closes the top with tape and sends it down the dumbwaiter to the surgery area.

Downstairs the catheter is taken out and the thin, flexible part is inserted into the vaginal cavity. It takes several minutes for the gynecologist to navigate the curves of

Augustina's cervix, but once past the cervix the gray line of the catheter comes into view on the ultrasound monitor. As the gynecologist pushes down on the end of the catheter's syringe, the monitor shows a spurting of white fluid—the media and hopefully the embryos—entering the black space of the uterus. The catheter is then sent back to the laboratory where the syringe is flushed with media and the liquid is checked under the scope to make sure the embryos have been released and weren't stuck inside the plastic tubing. Several tense minutes of waiting pass before the lab calls over the intercom “okay on the transfer” and everyone smiles. Augustina is told to stay at CREAR for the next hour or so, then to rest in bed at home for the next 24-48 hours so as not to dislodge the embryos. (Post-transfer proscriptions also include no baths, no swimming, no bicycling, and no heavy physical exertion for two days, though the clinicians openly admit to patients (and enquiring anthropologists) that these recommendations are idiosyncratic to CREAR, and not scientifically proven in the literature to improve implantation). This advice seems to be a left-over from the early years of IVF procedures when the biology of the implantation process was even less understood than it is today, and the undemonstrated benefits of bed rest continue to be debated in the field (see Amarin and Obeidat 2004; Botta and Grudzinskas 1997; Edwards, Steptoe and Purdy 1980; Sharif et al. 1998; Woolcott and Stanger 1998).

Twelve days later, the awaited moment arrives. What will be the outcome of this elaborate investment of months of clinical monitoring, of laboratory finesse and care, of anticipation and longings? That morning Augustina presents herself to the clinic nurse to take a blood sample, which will be sent to a hormone analysis center, and tested for the level of beta hCG hormone. Above 30 IU/ml will indicate biochemical pregnancy.

Augustina dares not hope too much, and spends the morning working. Incredibly, that afternoon the test results show 40 IU/ml—a biochemical pregnancy. Forty-eight hours later, a second beta test shows that the level has duplicated to 80 IU/ml. A third beta test 48 hours after the second test confirms that the levels have again duplicated to 160.

About 30 days after the transfer, an ultrasound confirms a clinical pregnancy: there is one fetal sack growing in her uterus with a technologically-registered heartbeat. The ICSI was successful, based on the most-important criteria of there being “a pregnancy.” CREAR’s involvement as a fertility center now fades into the background. Because Augustina’s gynecologist will carry on as her obstetrician, she will continue to come to the clinic for ultrasound check-ups throughout the pregnancy. The birth data will be added to the clinical and lab records.

CHAPTER TWO

IDEOLOGIES IN VITRO AND THE DAILY PERFORMANCE OF ASSISTED REPRODUCTIVE TECHNOLOGIES



Figure 28. Nativity scene in Entre Ríos province of Argentina. Photo by Kelly Raspberry, December 2004.

“Thus, IVF began a new chapter in the biology of early human reproduction. It has required participation in the discussion attempting to develop a consensus about matters which hitherto have been the domain of philosophers and moral theologians. Both the scientific and social aspects of IVF continue to evolve.” (Jones 1995: 42).

Making ART in Argentina

“In context when one looks at history one thinks that sometimes it doesn’t matter so much to be the first, but yes, it does to be the best. In Latin America, things are probably in general, less systematic, less ordered, they are based less on written and published

experience. People tend to, doctors at institutes, tend to base themselves on experience, their experience that was never tabulated, calculated and submitted to statistics to see if it truly is like that or not. So the reasons are less scientific and less technical and more based on intuition, which of course fails more often.” Tomás Navarro, a director at CREAR

Out of the 16 infertility centers in the city of Buenos Aires, five principal clinics are directed by Argentina’s most renowned gynecologists and embryologists. These five clinics combined perform more than 70% of all the ART cases in Argentina, with each one doing between approximately 400 and 900 IVF and ICSI treatments a year. A variety of reproductive technology procedures are performed at these centers, including low and high complexity fertilization techniques. The directors of these five main centers pride themselves on achieving pregnancy rates equal to those at the best clinics in the world, and indeed each one self-identifies as “the best” in the country, and often in the whole region of Latin America.⁷² Because the population of Argentines who need, want and are able to afford an infertility treatment is finite, competition among these five clinics is predictable and tangible. In this competitive environment, each center continually strives to distinguish themselves from the others by providing the latest procedure, with the best results. This competition in part drives the desire for technological advances: if one clinic begins specializing in a new technique, the others feel pressure to follow suit for fear of losing potential patients (I discuss this at greater length in chapter four with the example of preimplantation genetic diagnosis).

⁷² There are two scales used to define “the best” clinic: a stringent one for centers world-wide, and another context-dependent one for Latin America. The best centers world-wide are those that consistently generate not only high pregnancy rates, but also technological innovations, publications, and international prestige. Within Latin America, technological developments and international name-recognition is considered beyond reach, and so the centers that produce comparatively good results and publish internationally are esteemed as the best in the region.

As participants in an international community of reproductive medicine experts, Argentine infertility practitioners place high importance on being perceived as “modern” by their local and international colleagues. The plush waiting areas and high-tech laboratories in these principal private clinics in Buenos Aires resemble those of private centers in the US, and they are devoid of religious iconography or any other evidence of non-modernity.⁷³ Despite Argentina’s economic and political collapse in 2001, these health professionals maintain their claim on modernity by insisting that Argentina is a Latin American nation only by location. In response to my interview queries they repeatedly assert that Argentina—and by connection its medical care—is more European (read: modern) and therefore superior to its “underdeveloped” neighbors in South America. For instance, I opened this chapter with a statement declared by Navarro which encapsulates this type of negative evaluation of “the rest of” Latin America. Navarro, one of the directors of CREAR, asserts that medicine in Latin American operates more on an “intuition-based” level rather than a modern “evidence-based” model. He judges that this reliance on personal knowledge and experience is not as reliable as a more modern approach with rational statistics and scientific “proof.” In making this judgment, Navarro later identifies his center and his own clinical work as distinct from this non-modern “Latin American” way of doing things. I come back to this later in the chapter.

One of Navarro’s colleagues, Marta Romero, a biologist at CREAR, also verbalizes a common sentiment among Argentine professionals:

I think that in Argentina there are the best assisted reproduction clinics, in Brazil there is one and another one in Chile, but I think that the best reproduction clinics are without a doubt in Argentina. I think when the Argentine is a good

⁷³ In a couple of the small, marginal centers, religious values are at the center of the practice and proudly displayed. For instance, at Reproductive Medicine Institute (RMI) and the Laboratory for Reproductive Medicine. I will come back to these examples later in the chapter.

professional, he is a very good professional and stands out in the United States or stands out anywhere. That doesn't happen, or it happens but on a lower scale with the rest of the countries in Latin America. [...] You have seen a little of the Argentine's attitude that he thinks he is the best in the world; Argentines are always mocked because we believe that we are very important and we are far from that, but I think that...well, the Argentine, the Chilean, the Uruguayan, we are the most European for Latin America, the rest is like it has more of a mix of the native. Argentina has a different status than the rest of Latin America, cultural status, social status and intellectual status. Even if today Argentina is in a terrible moment, in Argentina the education and the status is very different from what you can find in Bolivia, or in Peru, Venezuela.

Indeed, in my interviews with professionals, some combination of four of the five primary centers in Buenos Aires (CEGyR, IFER, Fecunditas, Halitus) are always identified as the best in the region, occasionally along with Las Condes Clinic in Santiago, Chile, and two in Sao Paulo Brazil.⁷⁴ I discussed in chapter one, the directors of these leading centers trained in the United States and Europe and are some of the original “IVF pioneers” in Argentina. Yet despite these symbols and assertions of modernity, being “modern” is a lived concern for these specialists, who struggle with the seepage of religion and society into their scientific and medical practices, a theme that arises throughout this ethnography (Latour 1993). Furthermore, these “claims to fame” and reputation (also discussed in chapter one) seem to rest on successful replications of medical and scientific procedures in the “subaltern West” of South America. To practice assisted reproduction in Argentina does not invoke prestige on its own, but requires the qualification of “Western” affiliation or comparison—as Romero tells us, the proof of a good Argentine professional is that s/he will stand out in the United States.

⁷⁴ Centers that Latin American professionals most commonly evaluated as the best world-wide include: The Center for Reproductive Medicine and Infertility at Cornell (US), The Institute for Reproductive Medicine and Science of Saint Barnabas (US), Instituto Valenciano de Infertilidad (Spain), Bourn Hall Clinic (England), Center for Reproductive Medicine at UZ Brussel (Belgium).

In Argentina there is no law regulating assisted reproductive techniques, nor is there medical consensus across the centers on guidelines for practice. Since ART practices in Argentina are not officially regulated, clinical standards depend primarily on the individual professional codes of training and ethics in place at a given clinic. There is often a diversity of personal opinion among professional staff within each center, however as they are members of an institution, a common protocol directs practice. These clinical protocols, along with other forms of self-regulation like ISO certification and within-clinic ethics committees, thus serve as more than medical guides. In practice they become also social judgments, investments in modernity, and a means of profit. Assisted reproduction circulates in various networks of practice, each exerting constraints and requirements. In this chapter I analyze this complex field of actors that converge to produce a local culture of assisted reproduction in Argentina. This production of assisted reproduction practices in Argentina is necessarily one of mutual influence—dependent on local conditions, but also shaping them in turn. Although presented here as semi-disaggregated, these localized facets—a Latin American “superiority,” the importance of family and motherhood, ambiguous legislation, Catholic influences, modern investments, financial limitations, creative maneuverings—are intertwined and dynamic forces in the making of assisted reproduction in Argentina.

Restricted Access

“Not all babies are conceived in bed, body to body. Some, for different reasons, begin their existence in places less intimate with the intervention of specialists that help to concretize the desire to have a child. Even though the heroines of the telenovelas invariably become pregnant, ‘their first—and only—time’ this is not usual for women who inhabit this side of the screen. Far from the television melodramas, for each menstrual cycle there is a 20% chance of pregnancy if the woman is under 35 years old,

according to doctor Claudio Chillik, president of the Argentine Society for Reproductive Medicine (SAMeR). [...] Even though there are still more failures than successes for each assisted fertilization attempt, every day around the world there are more couples with reproductive problems who can't 'make a baby' in bed or out of it." Article in *Clarín*, November 29, 2005 (Aguilar 2005).

As in other parts of the world, use of ART in Argentina is highly stratified by social class and region (Colen 1995; Ginsburg and Rapp 1995). Access to these private centers is largely restricted to the mobile upper and upper middle class who can afford to pay the relatively high costs out of pocket. Although the prices of IVF and ICSI techniques in Argentina are about one-third of what they are in the United States—between \$2000 and \$5000 USD—these costs are beyond the reach of the average (middle class) Argentine whose monthly salary is approximately \$300 USD.⁷⁵ As discussed in chapter one, with the devaluation of the peso in 2001, these techniques (whose cost is calculated partly in USD) are prohibitively expensive for Argentine consumers who have even less purchasing power than before the country's financial crisis. Argentina has nationally funded universal health care, however the free public hospitals do not provide assisted reproductive services, and only one public hospital (located in Buenos Aires) offers low complexity techniques such as intrauterine sperm insemination and hormone stimulation. In July of 2004, the government passed a law dictating that private health insurance plans must cover the prenatal, birth and neonatal care of ART-conceived babies.⁷⁶ However the larger battle (mostly being fought for by patients of these

⁷⁵ In 2003, the prices at CREAR were as follows: one cycle of IVF cost \$2000 dollars (\$5000 pesos plus \$250USD for disposable materials); one cycle of ICSI cost \$2300 dollars (\$6000 pesos plus \$300USD); medication for either technique cost \$1300 dollars (\$4000 pesos). Any additional service, such as cryopreservation and storage of embryos is added to the total. As the economy continues to stabilize each year, the prices of techniques are also increasing.

⁷⁶See Giobberchio 2004; Iglesias 2003; Navarra 2004; Riós 2004.

services), to mandate that private health insurance cover assisted reproduction techniques, is far from being won.⁷⁷

Though most reproductive medicine professionals agree that “everyone—the whole population” *should* have access to assisted reproduction services, they also concede that this is not the reality in Argentina today. Economic circumstances are primarily identified as restricting access: “That [access for everyone] doesn’t happen because the treatments are expensive, you see? And people don’t have money to do a treatment. As this [ART] isn’t done in any [public] hospital, it’s a problem, because people who don’t have economic resources can’t do the treatments.” In this manner, equal access to ART in Argentina fits with the ideal of being a modern nation that provides high-quality health care to all of its citizens. The reality of restricted access is therefore lamented by these health professionals in Argentina, who often compare their nation to countries in Europe where ART programs are offered in public hospitals. Possible solutions proposed to remedy this limited access in Argentina include a law mandating that health insurance plans cover the costs of treatment, or a state-funded ART program with subsidized patient costs at a public hospital. In the meantime, most of the largest private centers in Buenos Aires have a non-profit clinic foundation that subsidizes

⁷⁷For patients and for their attending physicians, insurance coverage for ART services can have drawbacks. In 2006, one of the private health insurance companies in Argentina, OSDE, voluntarily began covering IVF and ICSI as part of their three most-expensive coverage plans. This coverage, which only the upper-class can afford to buy, comes with strings attached. OSDE agrees to pay for one treatment per year, but prohibits embryo cryopreservation, and mandates the transfer of only two embryos (regardless of woman’s age). Neither is this insurance a good deal for the private center, as OSDE reimburses the clinic 300 pesos for doctor consultations and 1000 pesos for all clinical and lab costs. In contrast, each IVF treatment costs the clinic at minimum 2800 pesos, only counting the cost of supplies. Private centers therefore lose money with OSDE, and patients are restricted in what they can do. For now, OSDE is the only private health insurance company that covers ART.

the costs of treatment for a set number of people every year.⁷⁸ The criteria for qualifying for this assistance varies by center, but it is primarily based on demonstration of financial need.⁷⁹ There is a hope that like other expensive medical procedures that are now offered at public hospitals without a fee, ART will also one day be incorporated into public medicine: “Before it was thought that angioplasty for example, couldn’t be done in a [public] hospital and today it’s done all the time. So hopefully the moment will come when this is seen as a necessity.”

However, as I discuss in this chapter, this wished-for transformation of ART from an elite form of medicine into routine medical care is fundamentally predicated upon the notion that ART is only appropriate as a treatment for the biological *disease* of infertility. This notion that ART should only be used to overcome biological obstacles to pregnancy and birth, viewed as “nature’s failures,” is a social construction which further restricts access to ART and promotes particular ideologies of family and health. The value that ART should be accessible to “everyone” therefore begins with a circumscribed definition of the eligible population, one that has nothing to do with economics. It turns out that the “everyone” most medical professionals speak of actually includes those who fit the following profile: heterosexual couples in which the woman is not older than 50 years in age, and who have biological difficulties becoming pregnant. This ideological restriction of access is exemplified in the operation of the clinic foundations. Though designed to

⁷⁸These foundations sometimes have other functions as well. At CREAR, the Foundation, formed in 1994, oversees the finances of three areas: low-income patient assistance; teaching/training courses; research projects. The teaching component includes providing two year-long training positions every year to gynecologists who want to learn reproductive medicine at CREAR—the fellowship applicants are usually from the provinces of Argentina. CREAR’s foundation receives donations from grateful patients and pharmaceutical companies.

⁷⁹The low-income patients who qualify for Foundation assistance pay a small fee to the foundation, all medical exam fees, and medication costs. They are assigned to the gynecologists who are doing residency on scholarship, that way paying patients are not subjected to the “teaching/training” component at CREAR.

facilitate access to ART services, these within-clinic foundations only consider solicitations from heterosexual couples, and place restrictions on the specifics of the treatment. These policies have more to do with ethical and moral judgments than with financial limits of the foundation. For instance, the President of CREAR's foundation is a devoutly Catholic woman (not a medical professional) who told me during an interview that she thinks of ART as a service to help married couples have children of their own. In her mind, gamete donation is un-ethical as it brings in a third-party to the conjugal unit. Under her direction, CREAR's foundation has clear moral parameters for who is "eligible" for financial assistance which exclude single women, lesbian couples, women over 42, and any heterosexual couple who needs gamete donation.

Reproductive medicine professionals maintain that persuading the government and health insurance companies of the necessity of providing ART care rests upon the fundamental notion that ART is a treatment for the *disease* of infertility, hence the insistence on heterosexuality and pre-menopausal women.⁸⁰ The following dialogue with a gynecologist at CREAR clarifies the core of this position:

Doctor: One thing, which is also in our law project, is that infertility be considered a disease. And as such that the State provide coverage for it. The principal problem for why some women don't have children in Argentina is that they don't have enough money to pay for the necessary treatment to achieve a pregnancy, this is a difference from what occurs in Europe, for example. I think that is something that you have to fight and you have to try to obtain it.

Kelly: But do you think that can happen here?

Doctor: Yes. Why not?

⁸⁰ A gay woman or man might also have a biological infertility problem, but because they are not heterosexually reproductive, they would not qualify under this treatment rationale. Similarly, a woman who is unable to have children because she is post-menopause, though infertile, is not classified as suffering the disease of infertility, and therefore is not eligible for ART services.

Kelly: Because the State has so many other things, that people say are more important and that this is something...

Doctor: How much does a bone marrow transplant cost?"

Kelly: I don't know.

Doctor: The State covers it. With a bone marrow transplant you can feed I don't know how many thousands of malnourished children. The fact that a problem exists doesn't mean that you don't have to dedicate other solutions for that problem. If I do not do a bone marrow transplant, a child dies, but I save the lives of thousands. I think that it isn't...That is the estimate of what needs to happen. And if they don't give coverage, because there aren't the means, it's okay, it doesn't seem bad to me. But they [the State] have to recognize infertility as a disease. And fundamentally the health insurance plans have to cover it.

In this schema, the economic inequality of access to private ART services can only be addressed if the State regards infertility as a biological disease, and ART as a disease treatment. However, defining ART as only appropriate for biological infertility problems has widespread social consequences. In validating ART as a medical service, these professionals are also propagating a traditional social estimation of family, which I discuss below. This construction of ART as solely a *medical* treatment for the *disease* of infertility has its roots in Latin American guidelines for ART created in 1995, to which I now turn.

A Latin American Consensus

"More than 150,000 couples in the entire world have seen their efforts to be mothers and fathers achieved. At least 200,000 children have been born and are evidence that science and technology are once again at the service of mankind." (Consenso 1996: 3)

Reñaca is a seaside resort town in Chile, a two hour drive from the country's capital city of Santiago de Chile. In the spring of 1995, 83 Latin American assisted reproduction specialists gathered at a hotel in Reñaca to exchange ideas about how to

proceed with a Latin American professional organization dedicated to assisted reproduction. At this workshop, the assembled professionals, representing 42 centers across Latin America, produced a document of consensus on ethical guidelines for selected aspects of ART, entitled “Latin American Consensus on Ethical-Legal Aspects Related to Assisted Reproduction Techniques”.⁸¹ Ten years later, these principles continue to direct the practice and provide the rationale for assisted reproduction techniques in many clinics throughout Latin America, including in Argentina.

Though they are non-binding and voluntarily implemented, the guidelines were an attempt to begin to standardize ART procedures across the countries of Latin America in the absence of legal oversight. The guidelines specifically cover the issues of: access, gamete donation, embryo cryopreservation, preimplantation genetic diagnosis, and embryo research. These five areas were chosen because of their status as “the most controversial” in legal discussions and public debate in 1995, and indeed these topics continue to be problematic. Although these guidelines are now ten years behind the technology, they have not been updated. Despite their age, the outlined parameters continue, by the default of time, to stand in for more formal national statutes.

The *Consenso* is based on the premise that assisted reproduction techniques are “science at the service of humanity,” a “pro-life” technology that helps infertile couples become parents (1996: 7). As such, these techniques are defined as a biomedical treatment designed to overcome biological obstacles to pregnancy. The guidelines therefore uphold and reinscribe the construction of infertility as a biological *disease* that requires medical attention. Assisted reproduction techniques step in to enable procreation

⁸¹ In Spanish the title is: “*Consenso Latinoamericano en Aspectos Ético-Legales Relativos a Las Técnicas de Reproducción Asistida.*”

when heterosexual intercourse is ineffective. Accordingly, all the social aspects of assisted reproduction practices must be pared away, leaving only biological dysfunction within the purview of professional experts.

On this basis, recommended access to ART services is narrowly limited to include only stable heterosexual couples who have been trying for at least one year to become pregnant. In what reads as a local compromise that runs counter to Catholic Church teachings on procreation within the marital unit, the *Consenso* states that a marriage requirement is discriminatory, as is a minimum period of cohabitation. This decision reflects the differentiation between ‘family’ and ‘married couple’—it is socially acceptable to make a family without being legally married, provided you are a stable heterosexual couple. On the other hand, according to the *Consenso*, these techniques should not be used as a “voluntary” alternative to “natural” heterosexual reproduction, therefore single women are explicitly excluded as technically they do not suffer a biological problem. The *Consenso* (1996:10) states:

...the techniques of assisted reproduction would be indicated for infertile heterosexual couples for whom other therapeutic alternatives are ineffective, or whose theoretical efficiency would take an unacceptable amount of time for the couple.

Access to ART services, according to the *Consenso*, is therefore only medically appropriate for heterosexual couples, and should not be used for single women, lesbian couples or gay male couples seeking help making a family. Notably, having defined at the outset that ART techniques are medical procedures for heterosexual infertility, the *Consenso* does not explicitly address the subject of homosexual couples. Instead, the *Consenso* guidelines, through their prescription of ART only for heterosexual couples,

implicitly and effectively promote traditional ideologies of a nuclear family as the ideal, and the “healthy body” as heterosexually reproductive one.

I will return to the *Consenso* recommendations, as well as the Reñaca workshop, later in the chapter. First I take a closer look at how these guidelines translate into daily medical practice in infertility centers in Argentina, practices that in turn reflect and reproduce traditional social values.

Diagnosing a Healthy Family

One day at the end of January 2004 I am at CREAR, sitting in the waiting room and observing patients coming in for their appointments. I venture a guess that most are here as part of their treatment program of assisted reproduction—either artificial insemination, IVF or ICSI. However, occasionally a pregnant woman comes in and I’m reminded that the clinic also has OB-GYN consultations. Today is one of those very hot, sticky, summer days, with high humidity. A very pregnant younger woman walks into the room alone wearing a halter top and a mesh sweater unbuttoned, highlighting how pregnant she is. Shortly after, a young couple comes in, this woman is also pregnant and wearing a short, stretchy bright-orange tank dress. Both this young couple, and the pregnant woman before them, attract looks from the others waiting. A middle-aged looking woman comes in alone and sits down across from the two young pregnant women—she looks sad to me. She glances at the pregnant women a couple times, then closes her eyes and puts her head down as if to take a quick nap. When she opens her eyes it looks to me like she might be crying. Her name is called and she leaves the

waiting area. As an observer of the scene—both part of it and outside of the emotional tension—I am confronted yet again with the high emotional stakes involved in doing assisted reproduction.

“Every day there are more methods of assisted fertilization and more couples that aren’t able to fulfill their dreams.” Article in Clarín, November 29, 2005 (Aguilar 2005)

The image of the pregnant woman in the city of Buenos Aires is one of visibility and adoration. During the heat of summer, pregnant bellies are bared like fashion statements of the flesh, and caressed by strangers in public. They are trophies to be proud of and declared visually. All year round, and particularly on mother’s day, advertisements for various products from watches to health insurance commonly use pictures of babies and pregnant bellies—the woman herself may be left out of the picture— as symbols of hope, renewal and happiness.⁸² These visual reminders of motherhood contribute to the widely-held notion in Argentina that a healthy and esteemed female body is one that bears children.

Reproductive specialists in Argentina also uphold and reinforce traditional societal values of family and health. Many doctors profess that being able to help a couple have a child is a primary motivation for their work. For instance, one center director emphasizes that he takes pleasure in helping *couples* to have children: “I think the possibility of contributing, in some way, to solving the problems that make a married couple or a couple not be able to have a child, is one of the greatest professional opportunities that one can have.” Following the ideology laid out in the *Consenso*

⁸² These visuals extend into the political realm as well: the political party PRO (*Partido para una república con oportunidades*), in January 2003 paid for an advertisement in the subway system that pictured an ultrasound of a fetus and the caption “the beginning of the new politic.”

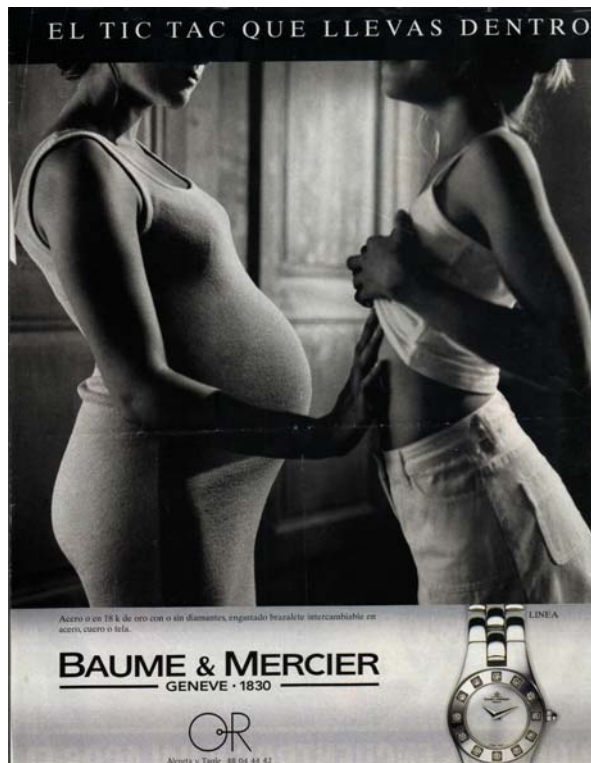


Figure 29. Full-page advertisement in a magazine: "The ticking clock that you carry within."



Figure 30. Logo for a shop inside the Abasto shopping mall in Buenos Aires that sells baby accessories. Photo by Kelly Raspberry, November 2002.

guidelines, these health professionals justify their practices of reproductive technologies by defining infertility as a biological disease that requires medical treatment. As a result, the majority of clinics in Argentina voluntarily deny single women and homosexual couples access to assisted reproduction services on the grounds that they are not “biologically infertile.” Although purportedly based on a medical foundation of disease, this denial of access confers and expresses a social judgment, supported by the Catholic Church, that only stable heterosexual couples are morally fit for making a family.

The underlying principle for limiting access to heterosexual couples only, is therefore not a medical one, but rather depends on social constructions of family and reproductive health. This is stated as a concern for the well-being of the child that will be born. Within this logic, children have a right to be raised within a family, and here “family” necessarily means mother and father. Biologist Marta Romero represents this sentiment in her view of what constitutes a family:

Single women, I don't know. I don't think they have to be married with a certificate, a stable couple seems okay. But I think it is important for the child to have a good family and I consider a good family one that has a father and a mother. So I don't think a single woman is adequate for the child, I am not talking about if it's okay socially or not, only that I am thinking of the child. That baby needs a father and a mother.

Though Romero states she is not making a social judgment when she approves of assisted reproductive services only for heterosexual couples, her rationale is inextricable from traditional Catholic ideals of family. A single woman, or two women in a couple, are not viewed as able to provide a “healthy” family environment for raising a child. An andrologist conveys this same ideology with different words:

What I think is that a child needs to be raised in an environment where the father and mother figures are clearly visualized. The child can't be raised by two women or two men. There comes a point at which the father and mother are irreplaceable.

From this point of view, which is not based on “evidence” or literature citations, only the nuclear structure of a mother and father make up a “healthy” suitable family, and so assisted reproductive techniques are reserved for those who fit this heterosexual profile.

This strict definition of family is tightly held on to by many, perhaps in part because cracks in the foundation are already appearing. Such is the case at CREAR where there is not unanimous agreement among the professionals of the center, and so the institution must abstain from declaring an official position on who is eligible for services. One gynecologist in particular has separated himself from this conservative pack by publicly providing ART to a lesbian couple, which I discuss below. However most of the professionals at CREAR agree with Romero and refuse to treat single women and lesbians due to the possible “harm” to the child. The following dialogue between me and one of the directors of the center reflects this traditional position on family:

Doctor: But it’s not the institution’s decision. That is to say, CREAR doesn’t oppose it, but CREAR is never going to...bah, ‘never’ I don’t know, but right now it doesn’t support that type of treatment, neither does it keep statistics to publish somewhere, nothing like that.

Kelly: And what is the objection against, for example lesbians?

Doctor: That we aren’t sure that the child that is born is going to have favorable conditions for his development, because the concept of family that exists in western society is a concept of ‘father and mother.’ Or otherwise, a concept of ‘divorced mother’ or ‘divorced father’ or ‘widow’ or ‘widower,’ but not two women...today. Within twenty years or fifty years maybe this will be different, but today we as CREAR, we do not want to be responsible for the birth of a child in this type of society.

The heterosexual construction of family that is the norm in Argentina is here allied with “western” society, in emphasis that this is not just an “Argentine” concept. I would add that this is also a version promulgated by the Catholic Church in which ‘family’ is predicated on standards of marriage and procreation.

The “healthy body” is thus defined narrowly as a heterosexually reproductive one both inside and outside of the fertility clinic. In this society, a heterosexual couple without children—whether by choice or due to infertility— is by default atypical and unhealthy. The social standard is to start a biological family soon after marriage and those who do not conform are seen as abnormal, living outside of social conventions. A single male biologist in his early 30s told me he has still time to marry and have children but that he feels pressure to do so:

People who do not have children live like they are outside of what would be a social mandate. It forms part of a fantasy...or a popular imaginary in which a person has to carry out a certain type of life and if there is something they don't fulfill, 'why doesn't this person have children?'

Such expectations place an extra responsibility on women, as in this society “woman” is often conflated with “mother.” As several female doctors told me (based on personal experience), the pattern of questions asked of a woman in her early twenties follows this sequential format: “Do you have a boyfriend? If you do, when are you getting married? If you're married, when are you having a baby? If you have a girl already, when are you having a boy? And then, when are you going to give them another playmate?” As this line of questioning reveals, social expectations to have children can be all-consuming for heterosexual couples, and particularly for women. Many Argentine women thus experience the pressure to have children as a “social mandate.” Pilar Di Paola, a lawyer who works in the area of reproductive technologies, explains this pressure:

In our society there is a mandate on the woman, it's still not like the European woman, or you [in the US] either, they don't see it [a career] as a life project here. You can be intellectually brilliant but you are not a mother and you are, in other words, you haven't fulfilled the social mandates. I imagine that it is because of that, because in the end you become aware that it isn't really like that. But still it is a mandate that weighs on all of us.

Though there are some women who choose to not have children, the social norm is to value motherhood above all else for a woman.⁸³

Alongside the unquestioned social expectations of women to have children, the value of parenthood is undisputed and primary. The following exchange summarizes the principal role that parenthood captures in the Argentine imagination. Immediately after telling me that it is fine if some couples decide not to have children, one clinic director underscored the apparent triviality of life without children:

Doctor: For me, paternity is something fundamental. I wouldn't feel fulfilled as a man if I didn't have children. [...] One of the most important things of a person, as a human being, is to have children.

Kelly: But why is the desire to have a child of one's own so strong?

Doctor: Because they are your genes. It's the only thing unique to you the day that you die. The day that you die, the only thing that is yours that is going to remain are your genes.

Kelly: But why do your genes matter?

Doctor: Well, it is the only thing that you are going to leave in the world. All the works, the books that you write, the good acts that you do, are going to disappear a few years after you die.

This view, that the only meaningful legacy that one can leave the world is through biological parenthood, is common throughout Argentine society.⁸⁴ Another doctor, after telling me that the most important thing in life is to have a child, said that someone who does not agree needs to see a psychologist. Though he laughed afterwards, this "joke" reflects the social importance of parenthood. This valorization of parenthood in turn feeds

⁸³ A book published in Buenos Aires in 2005, called "*¿Hijos? No, Gracias*" ("Children? No, Thank You") purports to examine the traces in Argentina of an increasing global trend of women choosing to not have children. This book begins from the standpoint that within Argentine society it's difficult to imagine a woman feeling fulfilled if she is not a mother (Soraci 2005).

⁸⁴ I come back to the meanings and importance of genes and genetic contribution in chapter three.

desires to pursue assisted reproductive techniques over adoption, a point I return to in chapter three's discussion of gamete donation.

The Porteño Postmodern Family

"Times have changed. Families aren't what they were, and the idea of 'everything in the past was better' lost support years ago. How to dare to revise the alleged goodness of some traditions, how to treat your neighbor with respect, and how to accept diversity, will clearly be the social and human challenges that are coming."

Article in the Sunday edition of *Clarín*, August 21, 2005 (Elustondo 2005).

Alongside these hetero-normative ideals, currents of social and moral change are disturbing the traditional order, and the picture is more complex than social conservatives might wish. With the help of assisted reproductive technologies, the arrival of the "postmodern family" to Buenos Aires' shores is no longer dreaded speculation, but a social fact. In December 2003, *La Nación* published a special full-page article describing the postmodern family in Argentina, historically located at the end of the 20th century and the beginning of the 21st. Detailed characteristics of this new family structure include: the average age of women at marriage is 27 years old; the average number of children is 2.5; a decrease in legal marriages and Catholic Church weddings; women working outside the home for long hours; a large increase in single-parent families; legalization of civil unions for gays; and the spread of assisted fertilization techniques. This portrait is contrasted to the "modern" family that predominated at the beginning of the 20th century, in which women married at the average age of 20 years old and had 6.5 children; marriage was formalized through the civil registry and the Catholic Church; women stayed at home to raise children; and extended families predominated (Arenes 2003).

In this changing social milieu, the boundaries around formerly fixed policies of access to ART are blurring. In the last few years a few gynecologists in Buenos Aires have begun discretely providing intrauterine donor sperm inseminations to lesbian couples as well as single women. The first slip in practices outside of protocol to become public news concerned the use of donor insemination for a lesbian couple in 2002. On June 18, 2002 a headline in the Society section of *Clarín* announced that “a lesbian couple will have a child through assisted fertilization” (Aizpeolea 2002). While the Argentine couple is not publicly named, the article does quote the doctor who attended them, a gynecologist and an associate director at CEGyR.⁸⁵ The reporter tells us that this couple has been together for eight years, and they are having their first child together, through the use of a practice called “donor insemination”—intrauterine insemination using a donor sperm sample.⁸⁶ In the newspaper piece, the gynecologist clarifies that this is a simple procedure and that “we are facing a treatment where there is no infertility in the couple. The woman who is going to be a mother was submitted to basic tests, to see if she was in physical condition to have a child (if the ovarian tubes are permeable and the uterus is in condition to ovulate).” This gynecologist though open to helping lesbian couples have children, also reflects the conservative society that he lives in when he calls only the woman carrying the pregnancy “the mother.”

Overall, this doctor has a more open understanding of what makes a family than his colleagues within the reproductive medicine community in Argentina. During an interview in 2003, he told me that for him, the decision of making a family as one that is up to the single woman, or the lesbian couple. As a doctor, he sees his role as helping

⁸⁵ I was not able to find out how or why this story came to the attention of the media.

⁸⁶ I specifically discuss sperm banks and the use of donor sperm in Argentina in chapter three.

them in that decision. He affirmed this in terms of helping single women become pregnant:

Because a single woman can raise a child, isn't that right? In fact, I would say that one of every four couples...one of every four...or one of every five children grows up without a father, you see? Because they are separated or because they are single mothers...I think a woman can raise a child. Of course it's not the ideal. The ideal is that there is a father and a mother. But well, there are also uncles and aunts, there are grandparents.

Part of this gynecologist's justification for considering insemination appropriate for single women is the social fact that women are already single mothers through other circumstances. Though he also registers single mothers as not the ideal, unlike others he views the extended family as a remedy. He also tells me that the most important thing to give a child is love, not a traditional heterosexual family form. Like other professionals, he speaks of the well-being of the child as the primary interest, but unlike many of the others, he recognizes that the child's welfare is not at risk with lesbian couples, single mothers and gamete donors. This use of assisted reproductive techniques in a case where there is no biological infertility runs counter to the main legitimization of ART in Argentina as a treatment for a disease, and can be seen as a market experiment with social consequences. In our interview in 2003, this doctor predicts that this experimentation will become the norm with time: "What happens is that the first impact is hard. But after that people begin...it starts to be something more common."

The openness of this gynecologist to providing ART services to single women and lesbians underscores the rigid limits on family that the majority of professionals espouse currently. In the original *Clarín* exposé on the lesbian couple (Aizpeolea 2002), the opinions of doctors who work at two other ART institutions in Buenos Aires are also quoted. Sergio Pasqualini, the director of another well-known clinic, Halitus, is also

noted as in favor of treating lesbian couples, but only after a psychological evaluation has been done. (At other centers psychological consultation is also required for any case of gamete donation. I return to the theme of gamete donation in chapter three). Nicolas Neuspiller, one of the directors of Fecunditas and former president of the Argentine Society for Reproductive Medicine, reveals a decidedly traditional view of family, embedded within a superficially-open position, when he is quoted as saying:

[M]edicine accepts homosexuality. Two women can carry this type of pregnancy to a good end, even though it is not known what will happen in the future with a child raised without a father. In any case, it is clear from the consultations that we have had with lesbian women that in the majority of cases they hide their condition and present themselves as single mothers. In general, their preference comes out in the psychological evaluations. In order to allow to this type of request, we require the approval of at least three psychologists.

Though Neuspiller professes that his clinic Fecunditas has open doors for lesbian couples, his doubts about the future of a child with two mothers have imposed the barrier of three separate psychological evaluations. In contrast, the gynecologist who helped the lesbian couple is quoted as insisting on rights of access to ART, albeit within an appraisal of motherhood: “At the very least a lesbian is a woman who has the same rights as any other woman to be helped by a professional and the same longings to be a mother,” a view that is decidedly in the minority for now.⁸⁷

Disturbances in established clinic protocol are also being caused by increasingly audible demands for ART services by single women in Argentina, and doctors who are

⁸⁷ Social constraints are revealed anew when three years later, on August 20, 2005, the birth of a child to a lesbian couple in the city of Córdoba is again a media sensation (see <http://www.lanacion.com.ar/731689>). In fact, an article published on this date in *La Nación* about the child’s birth points out that without legislation, only the woman who gave birth to the child will be legally recognized as the mother. Furthermore, the women request anonymity to avoid both press attention and legal attention—they don’t want the child taken from them. Two days before this birth announcement, on August 18 and 19 2005, a gay male couple from New York caused headlines in all three of the national newspapers: *La Nación*, *Clarín*, and *Página 12*. They were considering moving to Argentina with their five year old twins, created through the use of donor eggs and a surrogate from New York (see Downes 2005; Elustondo 2005a; La Nación 2005; Ochoa 2005).

responding. On August 21 2005, *Clarín* ran a story on single women in Argentina using assisted fertilization techniques, entitled “Single women who are doing everything to have a child” (Elustondo 2005b). When I first began fieldwork, five years before this newspaper story was published, no one that I talked to was openly in favor of helping single women become pregnant. However, by 2005, Chillik is quoted in this national newspaper as saying that CEGyR has about 30 cases per year of single women who come for donor insemination. Sergio Pasqualini states that Halitus provides single women with donor inseminations. However Pasqualini’s affirmation implicitly colludes with traditional social values of motherhood and heterosexuality:

they are usually women who are 38 or 40 years old who see that the time to be mothers is passing them by and they don’t want to deceive a man. A thirty year old woman has never come here to get pregnant on her own. In general we solve this with a semen donor insemination, but we also evaluate that the woman is conscious of what she is going to do.

By emphasizing that his clinic only sees *older* single women, who might “miss out” on their chance to be a mother if not aided by ART, Pasqualini implies that the ideal for a woman is to marry a man and become a mother—and if marriage is not currently an option, motherhood still can be through donor insemination. Along these lines, being a mother is more important than being a wife. Though the market in Argentina is more open to single women than ever before, these quoted gynecologists are in the minority in their willingness to provide ART access. Most professionals in reproductive medicine in this country are on the side of Ramiro Quintana, from IFER, who declares,

Single women have come here asking for fertility treatments, but we don’t inseminate single women. We don’t think it is something bad, there are no prejudices, but we feel that our mission is to help form families and we believe that, in that way, we would be contributing to the formation of incomplete families.

As Quintana reveals, the predominant ideal of family still does not allow for deviations from the heterosexual nuclear norm, despite their existence in the country. This heterosexual model is also reflected in the realm of adoption. Though single women are legally permitted to adopt, preference is given to married couples. The article cites that 21.4% of proposed applicants to adopt in 2004 were single women, but only 8% of children actually adopted were given to single women. In addition, single women who want to adopt usually have to accept an older child or a child with a disability. Furthermore, homosexuals—whether in a couple or not—are not legally permitted to adopt.⁸⁸ In this context then, use of private ART services is an attractive option for single women and lesbian couples who wish to become parents.

Regulating ART Practices

On a June day in 2003, I am interviewing the director of an embryology laboratory in his office. The interview is interrupted by a series of phone calls concerning how many embryos to transfer for a case later that day.

Doctor: That's Latin America...He wants more embryos for his patient because she wants more embryos. The patient, and the ob-gyn, they want more and they say 'come on, instead of two, three.' No, we defined two. Because if we do three, we have a higher multiple-gestation rate. 'But this is my patient.' No, we are so sorry. Don't be mad, but that's exactly Latin America. But because we are not like

⁸⁸ Civil rights for homosexuals made progress in Argentina with the legalization of civil unions in the city of Buenos Aires in 2003. However this legal status does not provide for inheritance rights within the couple, nor does it permit adoption. Then-president of the Homosexual Community of Argentina (CHA), César Cigliutti was quoted in *La Nacion* as saying that CHA's efforts to include "family" in the civil union law were rejected before it was passed: "In the enunciation of rights we were talking about family and partners, but they objected precisely to the word family. We realized that was still intolerable for some sectors of society and, as the important thing was to get the law out, we accepted it. But the future national law about gay relationships will have to include two big themes: inheritance rights and the right to adopt" (Arenes 2003).

this, we fight with the people. We fight with the ob-gyns and we decide two... and they have two...but they are always arguing.

Phone rings again and the doctor answers: Yes, yes. Two. Two embryos. What else? Okay, yes, bye.

Kelly: You don't always... you don't always get to have the final say, like that, do you? Don't sometimes the other doctors just decide on their own? Or is it always a mutual...?

Doctor: They can't decide other things than the normal protocol... They have to decide, [other doctor's first name] can't decide whatever he wants. But I'm not talking about just any doctor, I'm talking about an associate, who already knows [the protocol].

Kelly: Yes.

Doctor: And nevertheless...And I don't want to get angry, because I value him, he is a good guy. So I have to waste five minutes of my time to explain to him why he can't do something that he already knows he can't do.



Figure 31. National Congress Building in downtown Buenos Aires. Photo by Kelly Raspberry, June 2004

“The problem isn’t technological, the problem is how to use the technology. Or if it is feasible or not for biomedical or psychosocial reasons. The other [reason] is the regulations around doing it.” Gustavo Ortega, director of Santiago Clinic of Reproductive Medicine (CERS) speaking on the global flow of ART around the world

In December 2002, the clinic board of directors at CREAR approved a new set of goals for the following year, the first of which was to reduce the number of high-order multiple pregnancies, in other words to reduce the number of twins, triplets and quadruplets to no more than 15% of all pregnancies (previously it was as high as 25 to 28%). The way they agreed to do this was by setting a new stringent protocol for the number of embryos to transfer for each case of IVF or ICSI. Each viable in vitro embryo that is transferred to the uterus has a chance of implanting, therefore if four embryos are transferred, there is an increased chance for triplets or quadruplets. This protocol set strict limits, different from those used before, that all attending doctors at CREAR were required to follow to ensure high pregnancy rates of singletons only.⁸⁹ The protocol was predicated on the calculation that “healthier” embryos (those that will continue to develop within the uterus and become fetuses) are produced from younger women’s eggs (the critical factor is the “age” of the follicles, which can be different from the age of the woman herself). In the case of an egg donation, the donor woman’s age is used. The guidelines were as follows: if the woman is under 37 years old, two embryos are transferred. If she is 38-40 years old, three embryos are transferred. If she is over 40 years old, four or more embryos may be transferred. This guide included exceptions, depending on how many prior cycles of IVF/ICSI had failed, what the cause of infertility was, and the assessed quality of the in vitro embryo. The idea was to transfer fewer

⁸⁹ A technique known as “embryo reduction,” in which “extra” embryos are taken out of the uterus early on in development to prevent a multiple pregnancy is not practiced in Argentina. I come back to a discussion of multiple pregnancy and embryo reduction later in the chapter.

embryos so that the rates of multiple pregnancies would decrease, but not so few that overall pregnancy rates would decline.

Of course CREAR was not the only center in Argentina at that time with guidelines for embryo transfer. However I found that the specifics of those guidelines, though supposedly based on the same rationale, often varied. For instance, during that same year, the guidelines for embryo transfer at SER (Center for Reproductive Medicine) were different: for women under 30 years old, two embryos are transferred; between 30-35 years old, two or three embryos are transferred; after 35 years old three embryos are transferred. In some exceptional cases for women over 40 years old four embryos are transferred. Though the directors at both CREAR and SER were aiming to produce lower rates of multiple pregnancies, they differed in how they attempted to do so. This is due in part to different laboratory conditions at each center, and different overall pregnancy rates. Furthermore, as these local conditions change—a new biological media is used for example that improves in vitro embryo quality—the protocols change as well. This example of demonstrates the local conditionality of not only protocols, but also ART practices in general.

As Ortega points out, the main difficulties in producing a medical technology like ART is not the procedure itself, but the local meaning that the procedure has—“how to use it” and what social, political and economic implications this use holds for the place of practice. Therefore the technical ability to do the assisted reproductive technologies is not so much the issue of concern, but rather the local conditions of their practice. These circumstances include certain conventions that limit or qualify the use of a technique in a given place. For instance in Argentina (and much of Latin America), regulation of ART

is largely voluntary and more subject to local moral and economic markets and personal preferences, than actual laws.⁹⁰ In the following sections I describe the various forms of regulations and constraints that impact the daily practices of ART in Argentina. These include: existing national legislation, RED accreditation, ISO certification, within-clinic ethics committees, and Catholic Church influences.

The Law

In Argentina today there is no specific law or regulatory body designed to oversee ART procedures.⁹¹ There are however several existing legal statutes ostensibly unrelated to assisted reproduction directly, but which are often interpreted as relevant according to their declarations on the legal protection of human life. In the absence of an explicit law, these statutes are often used as guidelines. These include two international treaties, which in Argentina were upgraded to the Constitutional level of law in 1994 under Menem. The first is the American Convention on Human Rights, Pact of San Jose, Costa Rica, signed by Argentina in 1984, which declares in Article 4.1 “every person has the right to have his life respected. This right shall be protected by law and, in general, from the moment of conception”.⁹² While this decree clearly recognizes and protects human life at conception, the inclusion of the term “in general” creates an ambiguous situation in terms of when and where conception is considered to occur. Interpreting this law therefore depends on one’s orientation: while the Catholic Church would argue that conception is

⁹⁰ The main exception in Latin America is Costa Rica, where the Supreme Court banned all ART in 2000.

⁹¹ General medical malpractice falls under non-specific (to medicine) torts regulations as referenced in the Civil Code and under the Penal Code (i.e. negligent homicide).

⁹²See <http://www.oas.org/juridico/english/Treaties/b-32.htm>, accessed from the web November 11, 2006.

the moment of union between the sperm and egg, regardless of where it takes place, a more liberal reading would counter that the life potential of a human embryo outside the uterus is not explicitly protected by this treaty. The second potentially relevant treaty is the international Convention on the Rights of the Child, which gives protection to minors under 18 years of age. In signing this convention, Argentina made an additional declaration that the rights of a child begin at conception. While this declaration is only political statement and has no legal authority, some conservatives see it as a legitimate reason for protecting an in vitro embryo.

Another potentially applicable law, also subject to interpretation, is article 70 of the Civil Code which proclaims that the existence of a human person begins with conception in the uterus, and gives certain protections to this human life from that point (though many of these rights are not enforced until the person has been born: “*persona por nacer*.”⁹³ Given that this article was written in 1865, well before reproductive technologies made conception outside of the uterus possible, it is not surprising that it refers to conception in the uterus (*en el seno materno*). However, taken literally, the Civil Code can be used to argue that human life created outside the uterus is not protected under the Civil Code. Also under consideration is the consequence that if an in vitro embryo is defined under law as a “person” with rights, the Penal Code would also have relevance for assisted reproduction practices, in terms of its prohibition against murder of a human person, or possibly the abortion of a fetus. The difficulty lies in that none of these rulings explicitly define when life begins, nor do they clarify when such legal protections would take effect—whether at the point of conception regardless where it takes place, or only once an embryo is implanted in the uterus. In doing assisted

⁹³ Inheritance rights for example are not legally enforceable until birth.

reproductive techniques, clinic professionals may therefore be “mistreating” the embryo, depending on how the law is interpreted.

Also pertinent is a judicial decision made by the Civil Appellate court of Buenos Aires (Sala I) in December 1999 regarding the status of embryos. This appellate decision, which applies only to practices within Buenos Aires, upheld a former judicial decision in the lower court that gave embryos personhood rights (a case presented by lawyer Rabinovich). This judicial ruling explicitly affirms that: personhood begins at conception, no matter if it takes place within or outside the uterus; all rights begin at conception (while implying that conception is when the sperm penetrates the egg); fertilized eggs and embryos are prohibited from being discarded and used for experimentation. However this ruling, which closely follows the Catholic Church’s views on when life begins, has never been complied with by the ART centers, nor legally enforced. It is not talked about as relevant by reproductive medicine professionals in Argentina, indeed it was only referred to once in my interviews. I come back to this legal decision in interlude IV, as it bears weight on events and practices regarding the cryopreservation of embryos.

Legal Prospects

“Argentina is country where the Church has much presence and power. [...] I think that there is a great pressure from the Church against in vitro fertilization, but not so much because the Church is against in vitro fertilization, because I don’t think that it interests them so much. But for them to achieve what they want, that an embryo be considered a child or a son or a person, would prevent any future possibility that abortion is permitted.[...] And the way to achieve that is to begin by defining the embryo as if it is already a child, as if it were already born.” Nicolás García, gynecologist and a clinic director



Figure 32. Catholic Church Cathedrals in the city of Salta, Salta Province (L); and San Isidro, Greater Buenos Aires (R). Photos by Kelly Raspberry, 2003.

The influence the Vatican has over restricting the practice of assisted reproductive techniques is a subject of concern among Argentine infertility professionals. In this primarily Catholic society, the conservative values of the Catholic Church are easily observed, even in the law, as one lawyer told me:

The Argentine position was always to speak legislatively, from the moment of conception, the protection of the person and the existence of the person from conception. That is what the civil code says, which was made many years ago. Moreover it is a position that has been endorsed by the Church, it is the position that the Church has. And the Catholic Church has a lot of weight in our country.

As I discussed in the introduction, the Roman Catholic Church is against assisted reproductive technologies for two primary reasons: because it allows for conception to take place outside the conjugal unit; and, because it manipulates and potentially endangers human life at its early stages of development (for the Catholic Church life begins at conception therefore anything done to a fertilized egg, pre-embryo or embryo is

harmful). Over the last 15 years, the Catholic Church in Argentina has pushed for the passage of restrictive legislative proposals and impeded the approval of more liberal ones. In describing to me the weight of the Catholic Church in Argentina, the director of the embryology lab at the Reproductive Medicine Institute (RMI), a Catholic himself, characterizes the Catholic Church as very hypocritical. He tells me that the Church tries to tell everyone how to live, including through influencing politicians in Argentina:

You can imagine that there are a lot of people who continue to go church and continue to do assisted reproduction. Doctors who do assisted reproduction continue to go on Sundays to take communion...and no one says anything to them. Apart from that, it is a question of money. It's very complicated. The church is almost another political party. Do you know what they say? 'The Fourth Power,' 'The Fifth Power,' they get involved in everything. And depending on how much the politicians want to be on good terms, they make the laws in favor or against. At one time they were about to release a law that directly prohibited doing assisted reproduction. Why? Because there was a group of politicians that were from a Catholic group within the Church and they were going to achieve it.

This law wasn't passed, but the power of the Church to pass a similar one is always present. Part of the concern of the Church with regulating ART is that if a permissive law is passed that does not recognize life as beginning at conception, or that denies personhood rights to an embryo, then the grounds against abortion will also be weakened. As Nicolás García points out in the introductory quote, the Catholic Church desperately wants to keep abortion illegal, and their fight against ART is based partly on that desire. There is no doubt that the Catholic Church has influence over legislators—in the form of an informal lobby—but until now it has not succeeded in wielding enough pressure to push through a prohibitive ART law.

Furthermore, the persuasion power of the Catholic Church depends in part on who is governing the country. Navarro recounts that during the 1990s, the Catholic Church had a fair amount of influence over Menem's government:

The Church has a lot of power in Argentina, above all with some presidents, with some governments more than others. For example Menem, who was president two times in Argentina, was very corrupt. Nevertheless he was a good friend of the Church because he supported laws against abortion and for the protection of life, etc. [...] The issue is that the president, who was the most corrupt in Argentina, at the time he had the best relationship with the Church. And so during that period a law against assisted reproduction almost was passed, it was very prohibitive, it was like the law in Germany. In Germany it's terrible. Thankfully that law wasn't passed. But the danger is always there. In addition, [...], the Italian, was telling us that in Italy they are on the point of passing a very restrictive law. If that extremely restrictive law comes out in Italy, then Latin America is going to have problems because our legislators are going to base themselves on that law in order to try to imitate it. In other words for us it would be disastrous if Italy comes out with a law like the German one. Germany is farther away, it's not part of the Argentine culture, but Italy and Spain are. So, a restrictive law in Italy could reverberate here in Argentina.

Speaking in 2003, Navarro also points out that legislation in Europe, primarily in Italy and Spain, can effect what happens in Argentina since these European laws often serve as legal models for Argentina. The Catholic Church's power in Europe in the context of a highly polarized political debate was blatantly demonstrated with the passage of an extremely restrictive ART law in Italy in 2004. Like Navarro, many Argentine reproductive experts fear that this Italian law has potential to be a model for Argentina's legislature, as it is similar in scope to those that have been backed by the Catholic Church in Argentina. The Italian law bans embryo cryopreservation, restricts fertilization to only three eggs at a time, and requires immediate transfer of all created embryos, thereby implicitly prohibiting PGD as well. These strict measures are justified out of "respect for the rights" of the human embryo, yet the ruling creates a paradoxical situation in which IVF practitioners are now required to protect the life potential of an in vitro embryo (regardless of chromosomal normality), but in which abortion following prenatal testing is allowed (Benagiano and Gianaroli 2004). On the other hand, if a prohibitive law like Italy's is passed in Argentina, it won't stop some people—those who can pay— from

doing it illegally (like abortion), or for traveling to nearby countries to do it. As one professional summarized, “People are not going to stop wanting a child because the law says that they can not do it [ART].” Nor will professionals cease to supply a desire for ART—in such case, the professionals themselves are likely to relocate.⁹⁴ A biologist at Fertility Institute tells me this was already being considered during the 1990s in anticipation of the passage of the Catholic Church-backed restrictive law: “In fact, when it came out, when they were about to pass that law, everyone—many people were already thinking of putting a center in Uruguay. So people were going by ferry to Uruguay.” With the approval of a restrictive law, ART practices would change in Argentina, but they would not disappear entirely.

Between 1995 and 2005, the Argentine Congress reviewed 26 separate legal proposals to regulate ART, but passed none into law. As recently as August 20, 2006 *La Nacion* announced that “Assisted Fertilization Will Be Regulated by Law,” revealing that there are three law projects currently under consideration in the Senate, fairly similar in scope and relatively permissive (allowing cryopreservation and donation of embryos).⁹⁵ One of these proposals was crafted and submitted by the Argentine Society for Reproductive Medicine (SAMeR) in October 2005 in hopes of preempting a restrictive law. The SAMeR proposal to regulate ART begins with the declaration that infertility must be recognized as a biological disease. One of the former Presidents of SAMeR explains to me that any legislation must begin under this premise, and proceed from there:

⁹⁴ Many of the Italian ART centers, especially those offering PGD, relocated to nearby countries; Italians are now traveling to Switzerland, Spain and Greece to do IVF, ICSI or PGD (Piqué 2004).

⁹⁵ See Vallejos 2006.

Legislation must not begin with assisted fertilization, legislation must begin by saying simply that Argentine society recognizes—not the medical society, society—the Argentine people recognize infertility as a disease and not as a bad word. You see? Today, to speak of infertility is to speak of a bad word. Why? Because it is a word that produces expenses for the health insurance and private medical plans, so it is not recognized as a disease.

Here again is the notion that in order to increase economic access to assisted reproductive techniques, they must be classified as a medical service for a biological disease. Most medical professionals working in assisted reproduction profess to support the idea of a national law to regulate their practices, however they do not want one that places severe restrictions. Many of the proposals that have been considered by Congress in the past have dictated strict limits on procedures, including banning many of the techniques currently performed (such as embryo cryopreservation).

Most professionals would rather have no law, and take their chances, than have a restrictive one that prohibits them from doing their work. This gynecologist's position on an ART law is a common one, "But only when it's possible to regulate in an open way, no? Because if they begin to prohibit everything, I prefer not have a law. If it is a law that is going to permit doing things, yes. But if it is a law that is going to prohibit everything, then no." SAMeR's permissive proposal calls for the creation of a National Commission to oversee the techniques and report the procedures in an obligatory national registry. While ensuring regulation, this proposal gives open guidelines for most practices, though it prohibits surrogacy and cloning. However, most professionals do not foresee the approval of a permissive law such as this. In the past, the restrictive, Catholic-influenced laws have always gained more public support. One gynecologist explained, "Because the majority of people are against egg donation, sperm donation. Because it is the

thinking...of society.” Another professional, a lawyer herself, attributes this legal conservatism to a lack of understanding and the taboo nature of infertility:

There are still people that don't think about it, assisted fertilization is still something kind of strange. It is not an open issue, people prefer not to talk about it, infertility is not an open issue. People sometimes don't even tell their family. So that is another difficulty when you try to gain support for a law or when people don't want to say...that they are infertile.

There are still a lot of myths and misconceptions about what ART is, and infertility in general is not talked about openly in society.

Because the lawmakers themselves often do not fully understand the techniques of ART, most professionals think there should be limits to what the legislature decides. The doctors and biologists who produce ART on a daily basis agree that they are more qualified than the legislature to decide the specifics of what they do, though they would also like the support of a law behind them. Claudia, a lawyer who underwent ICSI and had triplets, told me,

The problem is, in my opinion, that the legislators can't establish technical rules for what the doctors can do. For example, if a law project says that they can only transfer to the uterus three embryos, that is ridiculous. That is what a doctor must determine, as it would be ridiculous for a doctor to establish the rules for the adoption of embryos because that is what a legislator does. [...] Meanwhile what the doctors do is to follow what they do in other countries, adapted to fit our society. There are things unthinkable in society today, in Buenos Aires, in Argentina, not even to speak of the interior. There are things that we are not prepared for yet.

According to this argument, those most equipped to decide what is permissible are the medical and scientific professionals who work on ART everyday. Society in general is not knowledgeable enough about reproductive technologies to confront the specifics of certain techniques. Another lawyer agrees, telling me that these technical advances are occurring before society is ready to confront the problems that they pose:

Many of our centers work very well as you have seen, with much care, precaution, respect, etc., and they are truly pioneers because they aren't acting with solid legislative backing, in other words they are 'drifting,' as they say. Here you have the principal differences with relation to the practice in Europe, where the doctor knows very clearly what he can and can not do.[...] It is a matter of technological advance. The technology that the US has had for fifty years, in other countries it is delayed in arriving. From the moment it arrives, society's demands begin. You can't look at law in a static way, law is dynamic. What happens here is that the problem was detected, here we have a problem, but simply, society isn't prepared to give a clear, complete solution to this problem. Because when society is ready, it is going to pressure the legislator and the legislator is going to end up passing a law.

This statement brings to mind Rapp's notion of "moral pioneers" (1999), in this case to describe the ART professionals who work in a legal vacuum in Argentina. This lawyer also brings up several points of interest. One is a differentiation between ART professionals in Argentina and their European colleagues, in terms of external oversight. Another is that the law responds to social demands and concerns, and as of yet Argentine society in general is not prepared to support any one law regulating ART.

On the other hand, the atmosphere of the current government in Argentina (led by President Kirchner) is a more progressive one than in years past, with the Health Ministry for the first time engaging in public debate in August 2006 over the advantages to legalizing abortion. This leads some to think that the moment for passing a permissive law is at hand. In the meantime, the absence of a law to govern assisted reproduction practices, or to define the appropriate treatment of the in vitro embryo, leaves regulation to the forces of professional aspirations and the private market. These self-regulations are often also driven by a desire to do modern medicine, and the available international connections that facilitate putting such desires into practice. For example, as I discussed in chapter one, Acosta came from the Jones Institute in the United States to help set up

today's "modern" CEGyR, complete with an institutional review board, ethic committee and research committee.

Modern Protocols and Accreditations

"Obviously the gynecologist has to deliver good quality eggs, a patient well-stimulated, and then to do the transfer well, that is another key moment. But I think we [biologists] have the most important work. [...] If the doctor gives you good eggs but you have a bad quality laboratory, if you don't control a number of factors—there are many—just as the gynecologist has various things to control, then it won't work. The laboratory biologist has many details, many things that one wrong move, or one thing that isn't controlled, can make the results terrible." Marta Romero, biologist at CREAR

In addition to the lack of an explicit law, infertility clinics in Argentina are not required to undergo any kind of national accreditation or certification process in order to provide assisted reproduction services to the public. As a consequence standards for doing assisted reproductive techniques are not subjected to external regulations and depend upon self-imposed monitoring. In each center in Argentina, protocols for ART treatment outline the following areas: to whom to give access (heterosexual couples, single women, lesbian couples, women under a certain age); which fertilization procedures to provide (intrauterine insemination, IVF, GIFT, ICSI); availability of egg, sperm and embryo donation programs; number of embryos to transfer; whether to cryopreserve embryos and at what stage (pronuclear, Day Two, day Three or blastocyst); and optional advanced embryo manipulation techniques (assisted hatching, PGD). Most of these protocols are based on international recommendations and then modified to fit local concerns. Though these medical protocols stand in as a "quality control" for each center, they serve only within-clinic policies, and do not in any way standardize ART practices across the country.

To counteract the appearance of working in an unregulated zone as opposed to in the orderly world of modernity, the majority of clinics in Argentina have developed self-regulations and forms of “quality control.” One of these is accredited membership in *La Red de Latinoamericana de Reproduccion Asistida* (Latin American Assisted Reproduction Network), or RED. Membership in RED requires a minimum standard for lab and clinic protocols and provides recommended guidelines for practices in the form of the *Consenso*, discussed earlier. Member clinics undergo an initial on-site evaluation conducted by a biologist and physician, who check that the clinic data reported is accurate.⁹⁶ RED also publishes a yearly registry of ART procedures per country, the *Registro Latinoamericano* or RLA. However RED is a private non-governmental organization that does not function as a directive or regulatory body. Nor does membership in RED ensure standardization of practices across all accredited clinics. Indeed, accreditation by RED is not viewed as sufficient by many, as this director of a center in Buenos Aires expresses:

What does it mean to accredit an institution? That a biologist and a medical director come and check if you have the basic laboratory equipment, and if you fill out the basic forms. Now, in no way does that check-up certify the quality of the service that you are providing, the quality of the laboratory work, the percentage of success you have, the quality of embryos—you don’t even see the rate of fertilization. It’s more than that— today RED comes, and it becomes an accredited institution. And tomorrow I decide to change the biologist, I change the doctor, I change everything, but the center continues to be accredited simply by its name. The professionals are different but no one is going to come back and recertify the institute.

⁹⁶ This accreditation process began in 2000 because of doubts that centers were accurately reporting their results. The professionals who conduct the evaluations are the leaders in assisted reproduction in Latin America, and rotate from year to year. The main consideration is that a professional can not serve to evaluate centers in his/her own country. The number of skilled biologists in ART is a much smaller group than the physicians (approximately 30 biologists, one-fourth the total of physicians), so the same biologists are often called periodically to do accreditations as new centers join the network.

As this gynecologist emphasizes, RED accreditation is a largely symbolic form of self-regulation. While four of the five principal clinics in Buenos Aires belong to RED, the actual protocols enacted in each depend more on the orientation and discretion of the directors than on any dictate from RED. Directors often depend on word-of-mouth and local knowledge of what other centers in the area are doing, in order to not be out-of-step with their practices. In chapters three and four I come back to this form of local “synchronization” of protocol and practice with the examples of paid egg donation and preimplantation genetic diagnosis.

Since 2002, ART centers in Argentina are also claiming modernity through the solicitation of ISO certification. Unlike RED accreditation, ISO certification is an international symbol of quality control, recognized in the US and Europe, and as such carries more prestige. Achieving ISO certification is a lengthy and expensive process in which an external auditing agency checks the efficiency of all aspects of the clinic—including the secretarial reception, record keeping and of course clinical and lab work. As of early 2005, two of the principal centers already had ISO certification and the others were considering it; the diagnostic center Laboratory for Reproductive Medicine was in the process of applying. The first time I meet him, one of the directors of SER, Mauricio Bianchi, proudly tells me that in 2002 his was the first institution in Argentina—and possibly in Latin America—to work under ISO 9000 norms. Quality-control through standardization is the key aim behind ISO, and what Bianchi seems most proud of achieving: “We standardized all the procedures, we oblige everyone who enters to follow the same standards and in following the same standards we think we can achieve quality of service with the best results.” The idea that a clinic should follow standard norms, with

every detail controlled and quantified, is an imported one, and perhaps for that reason, holds greater appeal. According to the specialists in Argentina, those on the margins of modernity—like themselves—are in greater need of standardization. Navarro explains the necessity of ISO certification for centers in Latin America, revealing the tacit acceptance of a ‘hegemony of the North’ that is common in the reproductive medicine community of Buenos Aires:

We have difficulty working in an orderly manner, according to protocols, etc. By ‘we,’ I mean Latin America. The ISO obligates you to write down and work in agreement with certain rules and to follow the objectives...it imposes order on you. So, in Europe and the US it is important, but here it is even more important because it’s not part of Latin American culture.

To maintain ISO certification, a center must submit to an external audit every six months, a control-check that ensures that protocols continue to be followed. In this manner, ISO-certified centers claim external proof that they are working at an “international” level of practice. However, a small but important detail that most Latin American advocates of ISO certification do not often discuss is that like the clinic protocol that a given center uses, the standards regulated through ISO are also decided upon and put into place by the center itself. Therefore, different centers with ISO can give themselves different standards to comply with, based in part on what they are already accomplishing. For instance, Julieta Moretti, a biologist at CREAR, explains to me that they were already achieving the 30% overall pregnancy rate that the center set as their objective for the ISO certification. She critiques ISO in this respect, while also recognizing that using the standards from a good center in the United States would be setting the bar too high:

Those are the numbers that we have, more or less, the overall rates without any polish. So you know that you are always going to be within that because they are our results. If I am at another center and my pregnancy rate is 5%, then I am going to make my objective to maintain 5%. [...] But in truth that is very

mediocre, why not use a standard like what is published in the United States, in the best centers of the United States? Well, what is the chance of aspiring to that and actually achieving it? Because if you compare yourself with...with the rest of the clinics here, we have a very good pregnancy rate, but it doesn't mean that we are wonderful. Actually, we are better than the others but maybe it will take us light years to become like the Belgium center or I don't know, Cornell.

Thus the ISO process does not necessarily *improve* conditions, rather it enforces and standardizes them within a given clinic (which sometimes is an improvement in itself).

These comments also underscore the perceived disparity between a “good” center in Argentina, even with RED and ISO certification, and one in Europe or the United States.

Another means of self-monitoring in the ART centers is through the coordination of within-clinic ethics committees. By 2003, the five principal clinics in BA all had some form of ethics committee. The oversight power of these committees varied across the clinics, and many of them changed in both composition and influence during the three years that I was observing.⁹⁷ In most cases, the purpose of the ethics committee is to give non-binding counsel on problematic ethical issues; the center is not obligated to follow the committee's suggestions. An ethics committee thus functions to create new standards, and to justify already existing ones. The committees also serve to reassure the health professionals that their self-imposed standards are legitimate. Often these recommendations and decisions are modeled after precedents already set in the center of ART production—the United States and Europe. One member of CREAR's ethic committee, a lawyer who works in the area of family law, explains that the committee

⁹⁷ The ethics committee that I observed from 2003-2004 at CREAR was formed in October 2002. It replaced a more informal committee, and the first few sessions attempted to set up a more formal structure with a set number of members coming from distinct backgrounds. The members—who volunteered their time—included several lawyers, a philosopher, a former ART patient and the clinic psychologist who was there as a liaison between the center and the committee. The committee met once a month, from 5-7pm on a weeknight. By late 2005 this committee was shifting yet again in terms of members, but the disciplinary composition was intended to remain the same.

reads and relies upon various literatures to make decisions and to know “the facts” before modifying them to fit Argentina’s circumstances:

What we try to do is, in taking a decision, we see what is happening in the world with this issue because generally we are coming behind. [...] We read judgments from different committees about different decisions in the United States and in England. There are also different ways of working. We adopt the one that works best for us, but always based first on the literature, on ‘the facts.’

Because Argentina is usually “behind” other countries in addressing these ethical issues and protecting them by law, the decisions and opinions already made in the US and Europe on a given issue thus serve as useful background for the recommendations of the ethic committee. In chapter four I discuss CREAR’s ethics committee’s decision on the moral status of the embryo.

In the absence of formalized and mandatory systems of oversight, these professionals in Argentina have elected certain self-regulations in imitation of the norms of the Northern Hemisphere. These displays of regulation—clinic protocols, RED accreditation, ISO certification and ethics committees—are proffered as proof of participation in the modern, orderly world of high-tech medicine, of which the US is the model:

One difference is that in the United States there is a culture of being more organized. It is more scientific and it is more systematic. It is more organized, which is a very good thing. We [at CREAR] have learned this over the years. It’s not very common in Latin America—having up-to-date data, and having the results that I want and publishing in foreign journals—this really isn’t frequent in Latin America. I’m not saying that they [Latin Americans] work badly, I’m saying that they work differently.

Although this gynecologist claims to not be making a value judgment, he clearly regards rigorous standards as a necessary component of doing reputable ART work.

Credentials of Association

As mentioned earlier, as a network organization RED provides only loose governance over ART procedures. However, part of being a modern professional is participating in professional associations, and this is where RED and the national societies for reproductive medicine come in. An important element of being a reproductive medicine professional in Latin America is the reputation that you build, and the connections that you make with other experts through participation in conferences and workshops.⁹⁸ There are various societies that professionals in Argentina who work in assisted reproduction can belong to, but the most important and directly-related are RED, FLASEF (Latin American Federation of Sterility and Fertility Societies), and SAMeR (Argentine Society of Reproductive Medicine).

As a multinational society, RED provides a means of communication for the professionals across Latin America, and a way to keep abreast of what others in the region are doing. At the time of this writing in 2006, RED counts 135 centers in Latin America as participants, with the highest number of centers in Brazil, Argentina and Mexico. However in comparison with Europe, the procedures per population in Latin American countries are very low (21,034 cycles initiated in Latin America in 2003 versus 324,238 total cycles in all of Europe in 2002, see Andersen et al. 2006; Zegers-Hochschild and Galdames 2004).⁹⁹ RED also publishes a regional registry for Latin America, the *Registro Latinoamericano de Reproduccion Asistida* (Latin American

⁹⁸ An example of the international ties of working in this field is the newly- created “Anibal Acosta Prize” for the best scientific work presented at the 2007 RED meetings. In honor of the Argentine who worked with the Joneses in the US (described in chapter one), the prize is worth \$4000 USD.

⁹⁹ The Latin American registry also reports high numbers of ICSI (50% of procedures in 2003) and high rates of overall multigestation: 31.4%, with 7.2% of those pregnancies triplets or quadruplets (Zegers-Hochschild and Galdames 2004: 4)

Registry of Assisted Reproduction) or RLA, which reports on the number of ART procedures every year. This registry lends international prestige and recognition to centers in Latin America, as a staff member for RLA told me, “the fact of participating in the registry is important. Because that way they will be known abroad. The centers like to appear among the one hundred and something accredited centers of Latin America.” As with other international reproductive organizations (including the American Society for Reproductive Medicine in the United States), the pharmaceutical companies Serono and Organon have long been financial contributors to RED, sponsoring both the registry and the general and regional workshops.

The formation of RED in fact grew out of the effort to create the Latin American regional registry. The RLA was introduced in 1990, at which time 21 centers in Latin America contributed data. Zegers-Hochschild describes this initial effort as largely based on his contacts in the region, and those of the pharmaceutical company Serono:

...I called the directors of centers on the phone that I knew, and then also those names that Serono gave me at the time—Serono was firmly established in Latin America. I invited them to participate. And thus we made the first registry. I paid for it, out of my own pocket, because to whom was this going to sell? To no one. And I got out the first Latin American registry. And from there we have continued every year up to the present.

Zegers-Hochschild recalls that the first registry was the most difficult to mobilize, as at the time, the private ART centers did not know to what purpose the information would be put. In addition, IVF was also still relatively new to Latin America, having arrived only five years earlier. However after the initial registry was published and confidentiality was established, the number of centers participating in the RLA began to increase. By 1994, there were 42 centers contributing data to the report, and the first RED conference was

convened in the early days of November 1995 in Reñaca, Chile.¹⁰⁰ At this first meeting, the *Consenso* (discussed earlier) was produced along with a structure for a Latin American network of ART clinics, including the designation of five Latin American regions with regional directors. The five regions were carved out as follows: 1. Argentina, Paraguay, Uruguay; 2. Brazil; 3. Colombia, Ecuador, Venezuela; 4. Costa Rica, El Salvador, Guatemala, Mexico, Panama, Dominican Republic; 5. Bolivia, Chile, Peru.

Officially, the advantages of affiliation with RED are an invitation to the international conference and public status as an accredited center. RED pays for two people from each clinic—a doctor and a biologist—to attend its biennial meetings held in various resort locations around Latin America. These conferences are sites for expert knowledge production and dissemination, as the conference coordinator says: “They are well-known people, that are in the field, that do good research, that come to share that knowledge and do it through RED or through contacts in the societies.” The list of invited speakers always include a smattering of foreign reproductive medicine specialists. For instance, the RED meetings that I attended in Punta del Este, Uruguay, in 2003, included high-status invitees from the United States and England (translation devices were provided for free for the presentations made in English) .

¹⁰⁰ RED and the RLA can and often do look to the USA and Europe for models on how to manage data reporting on assisted reproductive technologies. In Europe, most countries publish annual national registries, and the European Society of Human Reproduction and Embryology (ESHRE) uses this data to collate an annual report on ART in Europe. In the US, the Society for Assisted Reproductive Technology publishes an annual report summary on techniques performed in the US, however affiliation and data reporting to SART is not mandatory and so not all centers in the US are captured in SART’s annual report (see <http://www.sart.org/index.html> for more details).

Not all assisted reproduction centers are convinced of the benefits of RED, nor do all consider the membership fee of \$500 USD a worthwhile price to pay.¹⁰¹ Therefore, the monitoring of assisted reproduction practices that RED attempts to bring to Latin America falls short. In most countries, there are centers that choose not to participate in this organization. Though these centers do not “officially count,” their local impact on the production of ART is substantial. For example, according to the RED data, there are only two accredited ART centers in Ecuador, both in the capital Quito. In practice, there are at least six centers in the country, including two in cities other than Quito (Roberts, personal communication). Nor is this a phenomenon found only in the margins of Latin American IVF. In Mexico there are many centers that are not part of RED. In Buenos Aires, one of the largest and most reputable centers declines to participate in RED for “political reasons.” The numbers that RED reports serve as the “official” statistics, but the actual numbers of procedures and babies being born in Latin America are most likely higher.

There are also stakes involved in the collection and publication of data on assisted reproduction procedures. This is a business that sells as its product a non-guaranteed success rate. Distinction between centers is based largely on this percentage of success. The temptation then becomes the use of published data for commercial competitive purposes. Centers therefore are cautious about sharing success rates on a wide-scale, for fear that these numbers will be used against them by a ‘more-successful’ competitor. According to one RED member, these apprehensions extend to competition between bordering countries in Latin America. From the beginning, the Registry’s by-laws dictated non-disclosure of data on specific centers, allowing only summaries of

¹⁰¹ In 2003 the membership fee was \$500 USD, it may have increased since then.

procedures for the entire region.¹⁰² However at the 2003 RED meetings, members finally gave approval for the regional directors to have access to country-specific data—previously only allowed to the executive director of RED and the RLA editors. This restriction had been problematic in practice, as the regional directors need to coordinate the accreditation of centers for their regions. Zegers- Hochschild also received permission from the majority of centers in Latin America to publish country-specific data (including success rates) as part of a *world* registry on ART practices in 2000 (Adamson et al. 2006). In addition, the fertility societies of Argentina, Brazil, Chile, and Ecuador are in the process of creating their own *national* registries.¹⁰³ As one gynecologist who supports national registries in Latin America told me, the availability of consumer information on different clinic’s success rates is an important component of “modern medicine.”

Faith in the Clinic

“What we have as the beginning of life and the respect for the beginning of life is basic in religion. [...] The theme of ethics in religion is going to...it is going to limit and also to guide.” Fernando Pérez, director of Reproductive Medicine Institute (RMI)

Another “regulating” influence in Argentina is the Roman Catholic Church. For some Catholics, the Catholic Church’s opposition to assisted reproduction means a

¹⁰²Previously the only country-specific data that appeared were the number of centers and ART procedures undertaken per country, as well as a named list of the participating RED centers for that year. Thus, the 2003 registry (the most recent), reveals a total of 117 RED contributing centers with 21,034 cycles initiated that year, as well as a breakdown of the number of centers and cycles per country—Argentina had 19 centers, and performed 4,126 assisted reproduction procedures (Zegers and Galdames 2004:3). The success rates of pregnancy or birth for these 19 centers and 4,000 procedures are not specified. Instead, the 21,000 procedures undertaken—and the resulting 6,268 babies born—throughout Latin America are analyzed according to a range of variables, such as type of procedure or age of the birth mother.

¹⁰³ The Chilean national registry has been published through the Chilean Society for Fertility (Sociedad Chilena de Fertilidad) three times so far, with data from 2000, 2001, 2002. In Argentina, SAMeR’s website asks centers in Argentina to affiliate with SAMeR and to contribute data from 2004 by April 30, 2006 for the first national registry which presumably will be made public sometime in 2007.

complete aversion to producing ART—it is categorically forbidden. However for many practicing Catholics in Argentina who are specialists in reproductive medicine, various compromises are sought between religious and medical principles, in favor of engagement in ART. These compromises entail modifying both ART practices, and the Roman Catholic Church doctrine. For instance, one biologist who was raised Catholic but does not currently go to Church, points out the backwardness of the Catholic Church’s position: “I always say that if you can develop the technology in order to do this, if you believe in God, it will be because you are enlightened thanks to God, right? God blessed you so that you could develop—ICSI for example, so why not put it within reach of Catholics. It seems to me that is to deny the changes in the world.” I take two examples here of professionals who refuse to renounce their Catholic beliefs, but neither do they want to leave the “modern” medical world of reproductive technology.

The election of the German cardinal Josef Ratzinger as Pope in 2005 had a special significance for several members of Argentina’s assisted reproduction community. Josef Ratzinger is a familiar name to many who work in ART, as he is the oft-cited author of *Donum Vitae*, the official document proclaiming the Catholic Church’s position against in vitro fertilization. In attempts to reconcile the Catholic Church’s intolerance of ART with the work they were dedicated to, two of Argentina’s medical professionals wrote letters to Ratzinger, in his position as Prefect of the Congregation for the Doctrine of Faith, asking for approval for their work. These personal tales elucidate a deeply-felt need to reconcile religious beliefs with scientific practice. For some professionals in Argentina, resolving this potential conflict has been of primary importance.

One of these professionals is Augustín Ortiz, a Catholic scientist who works at the Laboratory for Reproductive Medicine. Part of Ortiz's work is to analyze and diagnose sperm, which requires that men provide a small quantity of their semen in a plastic cup to the laboratory. Ortiz felt that he needed to find a way to appease the Catholic Church's warning against the "spilling of seed" outside of procreation, and so he "invented" a device which he calls the *recolector seminal*—the semen collector. However Ortiz was not satisfied with just his invention—he then sent Ratzinger a letter seeking approval for the use of the semen collector.

The semen collector comes in a square, clear plastic envelope stapled to a sheet of instructions for the spermogram. Inside the small plastic envelope is an instruction sheet for the use of the collector, as well as a long, conical clear plastic bag and two small rubber bands. The collector is to be used like a normal condom, though it is a primitive, shapeless one that must be held in place with one of the supplied rubber bands. The plastic is by design inert so it won't harm the sperm cells. The instructions advise that "once you have obtained the sample, take off the collector, closing the open end with the rubber band. Take the semen collector to the laboratory as soon as possible." How often this collector is actually used is unclear, and imagining alternative ways of carrying the filled collector across town to the laboratory becomes graphically comical: perhaps the glorified condom held by a rubber band is stored in a ziplock bag and carried in that way, or maybe it is placed in a sterile cup with a screw on lid?

The instructions for the spermogram give the option of obtaining the semen sample by either sexual intercourse, using the semen collector, or by masturbation. Masturbation is straightforward: the semen must be ejaculated directly into the sterile

plastic cup, and the lid placed on the cup. The sample, whether collected through masturbation or intercourse, must be brought to the laboratory within an hour and kept at room temperature at all times. However, the sample cannot be brought in at any time of day, but must be obtained and delivered Monday through Friday between 8 am and 12 noon, or on Saturday between 8 and 10 am. In bold, the last line clearly forbids obtaining the sample before 7 am. The instructions also clearly request that the sample is obtained after three to five days of sexual abstinence, absolutely not less than two days and no more than five. Though this is not explained, this rule is to ensure the optimum quality of sperm, as a sperm of only two days may be immature, and of five days will be too old. This laboratory does not provide a special room with magazines or videos, if masturbation is chosen, then the only option is one of the bathrooms.

After telling me about the invention of his sperm collector, Ortiz explained the purpose of his letter to Ratzinger:

I had a double objective there. First, I couldn't be offering a morally illicit act in order to obtain a semen sample if I truly accept what the Catholic Church says. And second, for those people who for moral or religious reasons don't want to masturbate, I had to give them a solution in the laboratory. And from that I developed the semen collector, and later I sent all my research to the Vatican, and to the Congregation for the Doctrine of the Faith. And they authorized its use for me. It's not that I oblige others to follow the religious practice that I do, no. We give them all the options, and then we let people do what they want. If someone tells me, 'no, I want to obtain it by masturbation,' it is fine with me, 'if you don't have any difficulties I will accept your sample and I will analyze it for you.' I'm not going to impose anything on your freedom to decide, but if I have to solve the problem for the person that has a difficulty, then I have to give a serious and scientific response.

The “serious and scientific response” that Ortiz settled on is the semen collector, and by providing that, Ortiz rests easy that his work is in compliance with Church doctrine. By offloading his moral perspective—like a disagreement with masturbation—onto the

rationality of science, Ortiz can take the personal out of his laboratory practices. Cardinal Ratzinger's written response to Ortiz's letter, dated April 2, 1984, assures Ortiz that the semen collector is "licit from the moral point of view" and "presupposes a true conjugal act." Written in antiquated, formal Spanish, the letter is favorable in tone:

Honorable Mr. Professor:

In response to your letter dated the 7th of February, I am very pleased to tell you that the technique that you use to obtain sperm is valid from the moral point of view. It represents, in fact, a real and proper conjugal act. Obviously it also represents that an actual possibility of insemination exists; but with respect to this, the judgment should be made by your science and knowledge as a researcher, not by the authority of the Church. Having told you that, I express my sincere esteem.

Ratzinger's response maintains the clear boundaries between religion and science insisted upon in modernity. As an authority of the Catholic Church, Ratzinger approves Ortiz's invention as *morally* valid, and defers the "scientific" aspect of the device—the chance of insemination—to the authority of science. Hypothetically we might consider the implications of what might have happened if Ratzinger had not approved of the semen collector. Would Ortiz have found a different means of reconciling his science with his morals, or would he have found a less morally-problematic scientific practice to pursue?

Guillermo López, gynecologist and director of an assisted reproduction center, also wrote to Cardinal Ratzinger as a means of resolving a perceived conflict between his Catholic principles and professional inclinations. As a practicing Catholic, López initially had serious reservations about doing assisted reproductive techniques, which led him to consult the Catholic Church directly. He remembers that in the mid-1980's he was working as medical staff at CREAR and debating whether to become involved in the emerging field of ART:

Initially I had thought 'no'. And then, when the Pope came here, I had the opportunity to interview Monseñor Mejía, who is a Cardinal, a prefect of

finances. [...] With Monseñor Mejía we discussed doubts and I personally brought up the doubts that I had and as I saw it. And he said that it was my decision of conscience and that if it seemed okay to me—He told me in that context he didn't see any difficulty. We sent a consultation letter to Cardinal Ratzinger, I know he received it because I received feedback from the letter that we sent, and we didn't receive any official response from him. In that letter we asked him, if he saw any clear objection to the way of doing things, that he answer us if it was wrong. And we didn't receive any answer. And in terms of morality, what isn't prohibited is authorized...In other words, by default I assumed that the way, the way that we proposed it was accepted.

López therefore concluded that since Ratzinger never responded with an explicit denunciation of ART directed *personally* towards López's inquiry, he could become involved in the field without compromising his Catholic values. Notably he declares that “what is not prohibited is permitted” in morality, which is actually taken from the *legal* system in Argentina which operates under that rule. He tells me that today he does not have any qualms over doing ART, in part because the center that he co-directs, Reproductive Medicine Institute (RMI), follows a rigid set of ethical principles. These principles allow him to feel at ease with his Catholic conscience.

RMI was founded in the late 1990s by three Catholic gynecologists and a biologist, including Guillermo López and Fernando Pérez. Like López, Pérez intended to operate an assisted reproduction center according to well-defined ethical principles, and that is what RMI is today. Theirs was one of the first ART centers in the greater Buenos Aires area, located in a reputedly upper-class suburb. It is accessible by a 40 minute train ride from the center of Buenos Aires or 20 minutes in a car. The center only does approximately 200 IVF/ICSI cases per year (and another 200 inseminations), and operates according to restricted notions of what is acceptable: gamete donation is not available, cryopreservation is only performed in exceptional cases and GIFT is a common

practice.¹⁰⁴ Single women and lesbian couples will not find this a welcoming place, nor will those who want to do PGD or any other type of advanced embryo manipulation. This protocol is firmly founded on the notion discussed earlier that infertility is a biological disease. The program manager explained the rationale to me:

Here the center has a very strong philosophical basis that first of all, the cause of infertility is a disease, and that is what they are treating. Homosexuals do not have a physical disease that prevents them from having children, it is a different issue. So here they only work with couples, they don't necessarily need to have a marriage certificate, but they do need to be a couple.

Everyone involved at RMI agrees on these ethical guidelines of the clinic, and López and Pérez insist that their Catholic beliefs guide their ART practice. I come back to the influence of Catholicism over ART production in Argentina in a discussion of the moral status of the embryo in chapter four.

Interval: *Traveling to Modernity with Medical Tourism*

With the devaluation of the peso in January 2002, prices in Argentina fell compared to their previous value in US dollars. For those carrying dollars, services like ART were suddenly about three or four times less in Argentina than they would be in the US. Shortly after the downfall, some of the directors of ART centers in Buenos Aires realized that their economic disaster could translate into a new medical tourism market for their services. An article published in *La Nacion* in July of 2002 reports on the attractiveness of assisted reproductive treatments in Buenos Aires for foreigners, saying that some foreigners—usually from bordering countries— have always come for ART

¹⁰⁴ Out of the total number of cases, about 45-50% are ICSI, 40-45% IVF and 5-10% are GIFT.

treatments, but with the crisis there is added potential for reproductive tourism from the United States (Castro 2002).

This propaganda-like piece in *La Nación* cites that “with their prices converted into pesos since January, the leading institutes of assisted fertilization in the Capital wait to receive more foreign patients every day, who are tempted not only by the quality of medical attention, but also by the difference in prices between Argentina and their origin country.” The article goes on to cite that a non-specified treatment of assisted reproduction costs between 4000 and 6000 pesos in Argentina—which at the time valued between \$1000 and \$2500 dollars—substantially less than an IVF treatment in the US at the time (about \$10,000 dollars). Though the prices may be lower, the article’s suggestion is that the quality is not. Argentina’s scientific modernity is well-defined in comparison to the US: “the four experts in human reproduction indicated that the Argentine centers obtain on average pregnancy rates similar to those reached in North American establishments.”

Though the article is careful to interview the directors of the four principal clinics in Buenos Aires (Procreate is not included as a principal clinic at this time by *La Nación*), special attention is given to Chillik, the medical director of CEGyR. Chillik attempted to capitalize on the peso’s devaluation by developing a reproductive medicine program for foreigners. This program was called “Quality and Warmth” (*Calidad y Calidez* or *CC*), complete with its own website and tourist packages and the promise that “a trip has never had a better destiny.”¹⁰⁵ The idea was that foreigners would be attracted to the combination of superior medical quality and personal attention, combined with

¹⁰⁵ This slogan includes a bit of a wordplay in Spanish, as the noun “destino” means both destiny and destination in English.

lower prices for services, and a vacation trip. According to the article, Halitus was also offering benefits to foreign patients, including promotional hotel rates and discounts on medication. The main target of these tourism packages were Argentines and other Latin Americans living in the US, Chillik publicized his CC program in Miami.

Though enticing foreigners was one strategy of surviving the crisis, not all doctors saw this as a desirable option. One of the directors at IFER is quoted in the *La Nación* article as saying, “it doesn’t give us satisfaction. In IFER, we prefer to treat Argentines. We maintain these prices precisely because we shouldn’t commercialize the desire to be a parent.” This doctor emphasizes the desire of clinics to continue to serve their main population—Argentines with infertility problems, for most of whom even the reduced prices in pesos were too expensive in 2002. In doing so he also distinguishes his clinic as outside of the commercialization of the desire to have a child—that characterization belongs to those who are trying to seduce foreign patients.

However, by the middle of 2003, Navarro tells me that medical tourism for assisted reproduction hasn’t become a strong market in Argentina. Some from the US come to CREAM, but they are usually Latin Americans who live in the US and have family in Argentina. From Navarro’s perspective, potential patients from the US are reluctant to travel so far to an unknown country, even for better prices:

The American is very fearful...and now even more so. They are afraid, they don’t know the culture so they automatically imagine that there are Indians everywhere. It’s hard for them to think that maybe there are other people who work well despite not being in the United States—that is very typical of the American, isn’t it?

Navarro’s perception is that the North American who is not familiar with Argentina will by default think that the country, and by extension the medicine, is not comparable to the

US. When I ask if he thinks the rates are as good as what a potential patient would find in the US, Navarro tells me that he doesn't just think so, he can prove it. At CREAR, they take the published average success rates from *Fertility and Sterility* (the journal by the American Society for Reproductive Medicine, ASRM), as well as those by ESHRE (European Society for Human Reproduction), and compare these numbers to CREAR's rates. In May 2003, he cites that the average rate for clinical pregnancy in the US, as reported by *Fertility and Sterility*, is approximately 36% using ART and in Europe it's around 26%. CREAR's annual average for 2002 was 36.6% —right on par with the average in the US. Navarro attributes the difference in rates between the US and Europe as in part due to the practice of embryo reduction in the US. The higher the number of embryos transferred, the more likely a pregnancy will occur and the higher the success rates will be. However transferring three or more embryos also carries a high risk of multiple pregnancy, as discussed earlier. In the US some practitioners transfer a high number of embryos, and if more than two embryos implant in the uterus, they selectively “reduce” the “extras.” Most countries in Europe have strict bans against embryo reduction, as well as caps on the maximum number of embryos to transfer, with some countries following a ‘single-embryo’ transfer rule. ART practitioners in Argentina do not use embryo reduction, and so must either transfer fewer embryos and risk low pregnancy rates, or transfer more embryos and risk high rates of multiples in order to produce comparable success rates.

Public Insufficiencies



Figure 33. Mural outside of a public hospital in Buenos Aires. Photo by Kelly Raspberry, 2004

It is 10:15 am on a Thursday morning at the end of December in 2003; I am standing in a partitioned medical consultation area in the endocrinology division of Hospital Bolivar. I can hear the doctor-patient conversation in the consulting space next to mine. These ad-hoc room dividers, though convenient for space-saving, offer no clinical privacy. There are two white plastic chairs and a small table in this area. The windows are opaque plastic and the entire room is lit by overhead fluorescents. There is no air conditioning to temper the humidity of the already-hot summer day. On my way up to the third floor at 8 am this morning I passed crowded waiting rooms on each level, with patients overflowing into the stone hallways and down the stairwells. Patients must arrive early—between 6 and 7 in the morning—to take a place in line in order to receive a number to be seen by a doctor. These numbers are passed out at 8 am, those who do not get a number must come back another day and try again. The convenience of a fixed-time appointment made over the telephone is a luxury that does not exist at the public hospital.

I go to the main consultation office, which is slightly larger than the partitioned rooms and houses a wooden desk, a wooden chair and three plastic chairs. This is where the coordinator of the low-complexity assisted reproduction program at the hospital, gynecologist Rodrigo Díaz, attends patients. A long sheet of hand-written names posted on the wall is the waiting list for microsurgeries. Microsurgeries within the endocrinology department have been suspended for the last six months due to over-demand for the shared surgery rooms in the hospital. I count about 50 names of people who wait indefinitely. Another list celebrates pregnant patients in 2003, I count only 14 names. Another gynecologist has just poked her head in the door and told Díaz that she has a patient who has a myoma and needs to consult with him.¹⁰⁶ She explains that the woman is 36 years old and shows him the woman's ultrasound test done at SER. Díaz also looks over the handwritten index card that serves as the patient's medical record.

The couple is asked to come in and sit down. Díaz tells both the man and woman that a myoma in the uterus may or may not interfere with getting pregnant. In case, given the size of the myoma it probably will have a negative influence. There is a microsurgery technique that he can do to take out the myoma, and this will probably help. The man and woman nod, and the woman says that she understands that it's also possible to look and see if she has endometriosis. Díaz agrees and says that doing a laparoscopy would allow him to see if there is endometriosis at the same time as taking out the myoma. However, they need a specialist like himself to do the microsurgery, not just any gynecologist can do it. He asks if they have any health insurance and gives them two options. Either he puts them on the waiting list for microsurgery here at Hospital Bolívar and they wait, or they find a private center covered by their insurance to do the surgery.

¹⁰⁶ A myoma is a benign fibroid tumor in the uterus.

It will cost around 200 pesos (about \$70 USD) at a private place. He tells them to come back on Monday and tell him what they have decided to do. The woman says that she wants a uterus that is okay and starts crying. She asks if she undergoes the surgery, for how long afterwards does she have to wait to try to become pregnant. Díaz says that he can not tell her for sure before doing the surgery because he has to see what the fibroma is like, but it should not be more than 10-12 months.

I am standing against the wall, watching this entire interaction and I register the shock that crosses this woman's face when she hears this time-table of delay. She tells Díaz that it has already been three years of trying to get pregnant. He says again that it takes at least eight months to recuperate after surgery, and she repeats forcefully that she has already endured three years of waiting, and now he is telling her it will be another year. Díaz tries to soothe the woman, saying that he knows it is difficult, but this is the only thing she can do, this is the only path to take. If she does become pregnant now, then she will likely miscarry because of the myoma. She nods and says that she thinks this might have already happened during what seemed like a heavy menstrual cycle.

Díaz says that he is sorry to the couple, and that he knows it is hard and that they are grieving. The woman says that the time factor is the hardest part. Díaz agrees but says there is no way around this. He can't offer any other information without knowing where in the uterus the myoma is and exactly how big it is; these factors affect recovery time. The woman is calmer now and says she understands, but it is hard. Díaz spends a few minutes writing notes on her medical chart while the couple sits and waits. Two gynecologists come in and discuss a different patient's case with Díaz. Once again Díaz tells the couple that theirs shouldn't be a hasty decision, but that they need to decide

what to do. They agree that they need to do the surgery. The woman has brought a booklet of centers covered by her insurance plan and begins looking through it. Díaz looks and only finds one center listed at which he is permitted to work. He advises her to call and tell them that she needs surgery for a fibroid and she is coming from Hospital Bolivar. He then says to come back on Monday and tell him what has been arranged. The woman says okay and the couple stand to leave, Díaz kisses the woman's cheek and shakes the man's hand.



Figure 34. Public hospital in Buenos Aires. Photo by Kelly Raspberry, 2004.

“I think that it [doing ART] is going to be linked to...whatever the state of public health is in Argentina. To think today that a hospital will have this, seems like a utopia. A hospital is a place where the priority is to operate on patients with cancer or give priority to urgent pathologies. As long as things continue like this, where we don't have supplies necessary to be able to satisfy even the basic needs of emergency medicine, I think that we are still far away [from having ART]. If the country really improves and is positioned as a country solidly on the way to development, then I think that in the long run it will happen.” Biologist at the low-complexity lab at Hospital Bolivar

In the ideal world of ART production in Argentina, all of the state-funded public hospitals would provide free high-complexity ART services to anyone who wanted to use them, in cities and towns across the nation. In the actual world of ART production in Argentina, the only public hospital in Argentina that provides some form of assisted reproductive medicine is located in a working-class neighborhood (Almagro) of Buenos Aires. Hospital Bolivar is a complex of large, run-down buildings that occupy an entire city block, and sits across from a large circular park that includes the Natural Museum of History and an Observatory. The hospital is accessible by numerous city buses and a subway line about 10 blocks away. Hospital Bolivar's assisted reproduction offerings are housed within the department of endocrinology—composed of a team of dedicated physicians and a biologist, but not a clinic in itself—and are limited to infrequent microsurgeries (i.e. to remove ovarian cysts, cut away endometriosis) and low-complexity hormone stimulation and intrauterine insemination treatments.¹⁰⁷

Hospital Bolivar is the reference hospital for the city of Buenos Aires, and depends on the Buenos Aires city government for funding. Though it maintains a reputation for quality medical care, since the crisis in 2001 the hospital's budget has been cut, and doctors often go on strike, protesting the lack of such basic supplies as sterile gloves. In the past, Hospital Bolivar was a middle-class neighborhood hospital. Now the majority of patients come from Buenos Aires province. Some are unemployed and in general they represent a lower-income group than the patients who used to access the

¹⁰⁷ Apparently at one time the public hospitals Hospital Rivadavia, Hospital Fernandez and Hospital de Clínicas—all in Buenos Aires—had some form of low-complexity program. At the time of this fieldwork the status of those programs was unclear, as they shift with the flux of economic resources and hospital staff. Those working at Hospital Bolivar were fairly certain that the other programs weren't in operation at the time. The latest news, at the end of 2006, is that Hospital de Clínicas is beginning a low-cost public program of high-complexity ART, the first of its kind in Argentina. Funded by the University of Buenos Aires (rather than the city government like Hospital Bolivar), Hospital de Clínicas is fee-based, though the fees are lower than at a private center. The details of this new public ART program are not yet public.

hospital. The economic crises in the country always hit the middle-class hardest and the crisis of 2001 was no exception. In this climate of budget shortages, reproductive services are not given much attention. As one gynecologist told me,

Reproduction in the hospital is not a priority. So, we have a list of patients that are waiting to be operated on and they don't have any other possibilities and they have to wait. Imagine a woman that comes because she wants to have a child, and while we are examining her, we find that she has a fibroid in her uterus...a myoma in the uterus that has to be taken out. The woman wants to do it now, she doesn't want to operate in a year and a half. Well, if you want to do it now, you have to find a private doctor that can operate now. [...] But people who don't have economic resources can't do anything else, they have to do it here and so they have to wait.

At Hospital Bolivar, all doctor consultations are free, but patients have to pay a small fee for any analysis tests (i.e. ultrasounds, x-rays) done at the hospital. They also have to pay for medication. For this reason the gynecologists at Bolivar often prescribe the cheaper, generic hormone drugs.

The assisted reproduction team at Bolivar attends to patients three days a week (Monday, Tuesday and Thursday), from approximately 8:30 to 11:30 AM. There are three gynecologists, two andrologists and a shifting group of residents in training who see patients. Returning patients do not meet with the same doctor unless they request to do so. Two of the gynecologists volunteer their time; they are not paid by the hospital for their work but instead explain that they benefit from the training and collaborative environment of working in a public hospital. In a given day, about 30 patients pass through the consulting rooms with a variety of reproductive problems. Only about 150 patients per year ask for assisted reproduction services, and of that number, about 30-40 per year go on to do IVF or ICSI at a private center. The extent of assisted reproductive care provided at Bolivar is therefore very low-tech: it encompasses monitoring ovarian

hormone stimulation, sperm diagnosis and analysis, and intrauterine inseminations with processed sperm.

Hospital Bolivar has a referral agreement with two private centers in Buenos Aires, Institute of Reproductive Health (ISR) and SER, for high-complexity infertility cases.¹⁰⁸ Patients referred from Bolivar for an IVF or ICSI cycle will pay a lower cost at ISR or SER than if they go to the private center on their own. At Bolivar, the cheapest methods of becoming pregnant are tried first; no one is referred to ART until they have first attempted three intrauterine inseminations with hormone stimulation. In cases of male infertility, the less-expensive option of using a sperm donor is often suggested over the high-tech alternative of ICSI. In ART cases, a gynecologist at Bolivar oversees the analysis tests and the hormone stimulation while the private center takes care of the more-technical egg aspiration and embryo transfer. Even with this reduction in price many patients can not afford ART, one gynecologist told me that out of ten patients referred to a private center maybe two will be able to pay for an IVF or ICSI treatment. An andrologist who works mornings at Hospital Bolivar and afternoons at a private ART center told me that though prices of ART have become more accessible, many of the people who come to Bolivar still can not afford it:

It [assisted reproduction] used to be much more expensive, so it was almost impossible for our patients to access. But now there are more groups providing it, there is more competition, and like everything, with time technology becomes less costly, it is cheaper, and it becomes more accessible to everyone. But even so, for many couples it is still impossible to pay what they ask for it and they are not able to do the techniques.

Though it is better than no program at all, Bolivar's public low-complexity program is not sufficient to address the stratification of access to ART in Argentina. Making ART

¹⁰⁸ This informal agreement apparently began around 1999 or 2000. Referral to either ISR or SER depends on who is promising the lowest price at the moment (more recently this has been SER).

available without any cost to patients would require a major investment on the part of the government, a prospect that seems implausible at present.

Daily Difficulties

“In the United States they have everything all right there, they have a totally different economic level in the country, it is a totally different reality than ours. The difference is appalling. But not a terrible difference in terms of training and capable people who work in the centers, because in fact, in terms of CREAR, we are all very well trained [...] we are very skilled. And in that I don’t think we have differences. We have the limitations of this country that we live in, of the economy in the country where we live...There, down below, where the map ends, everything is much more difficult for us.” Marta Romero, biologist at CREAR

The realities of performing ART in Argentina, even in the private medical sector, include practical difficulties that are not experienced in Northern sites of production.

While clinging to their credentials of modernity—comparable success rates, ISO certification, ethics committees—Argentine doctors also concede that there are significant local difficulties in producing ART. These include the instability of the national economy and the fluctuation of a patient population that can afford the private services; the costly importation of all high-tech equipment and laboratory supplies; the influence of Catholic ideologies; and the lack of national funding for research and development.

To begin with, ART is a temperamental technique that often does not “work”; twenty-five years after the first IVF baby, general pregnancy success rates in centers around the world are still well below 50% (Adamson et al. 2006; Andersen et al. 2006; CDC 2006; Gleicher, Weghofer and Barad 2006). There are still many unknowns in the field, and research into human reproduction is an ongoing endeavor. The success rates in

an ART laboratory are sensitive to minor modifications; dramatic changes can result from using a different biological media or Petri dish. I witnessed this first-hand as my observation visit to one of the centers in Chile, Santiago Clinic of Reproductive Medicine (CERS), in November 2003 coincided with an unexpected and distressing drop in their success rates. Though I sensed the tension when I first arrived, I didn't understand what was happening until one of the gynecologists finally explained to me a week after I arrived, in the middle of November 2003:

At the end of the interview, I ask if I might watch an aspiration while I'm here, and [doctor] asks if I want to get him killed. Then he explains that I have come at a bad time because they have just found out that their pregnancy rate results went from 50% to 35% and then last month to 28%. Everyone is worried and trying to figure out why this extreme decrease in success rates happened. He tells me that is why [center director] is so aggressive about not letting me into the lab right now. They are all trying to be extra careful and to see if they can get the rates back up. He then says that possibly I could go to an aspiration if it is a Saturday and the husband isn't there and the boss isn't there. With all these conditions, what he is saying sounds like a polite "no" and indeed I leave Chile without observing inside that center's laboratory.

The laboratory and the biologists who work inside the lab are vital to an assisted reproduction center's success, and conditions must be carefully controlled. As this excerpt from my fieldnotes emphasizes, an unexplained decline in rates is cause for much concern. One director of an embryology lab in Buenos Aires was emphatic in telling me, "The truth is that the success of an in vitro clinic is fundamentally in the laboratory, it's like a restaurant. It's important for it to be nice inside, but the most important is the

kitchen, isn't it? In the clinic it's important that everything work well, but the most important is the laboratory." As this chapter reveals, there difficulties in Latin America to running a high-functioning ART laboratory that have more to do with local circumstances than with enigmas of the field.

Doing assisted reproduction in Argentina implies a substantial amount of importation from the United States and Europe—of materials, supplies, equipment, techniques and skills. Argentines therefore must not only have considerable financial resources to navigate in this Northern-dominated world, but also a facility with English, and ingenuity for accommodation. One gynecologist describes the process of importing and translating technology from the US, as a “follow the leader” process:

And what we have to do is to follow the leading societies. The United States is a power that is a leader in many things, including in medicine. That is why they do the practice and give the results and we assimilate it, we copy it. It is logical that we are going to arrive at least three years late with everything. I don't know, before the gap was much greater...It seems to me that globalization not only, in the case of Latin American countries, improved their level from the medical point of view, but also that the United States lowered a little.

While the influence of the North as key to Argentina's production is clearly emphasized here, so too is that of globalization in narrowing the gap between sites of production and importation. This gynecologist sees less difference now between the United States and Latin American countries because of the global spread of technologies. However, keeping the lab well-stocked with biological media, and the surgery room with necessary supplies, is not a simple matter for professionals working in Latin America. Because most of these products are fabricated elsewhere—the most commonly used brands are made in the United States and Europe—the biologist and clinic coordinator must be

vigilant about pre-ordering supplies to allow enough time for their travel and passage through customs. This embryologist summarizes,

You need a new incubator, it costs \$9000 dollars. For you [in the US], it is a lot of money, I'm not saying that it isn't a lot of money...But you move in a different economy, it is a rich country...it is the number one country in the world. Because of that it is totally different for you than for us to obtain \$9000 dollars. We are totally broke, in debt.

This is a costly business for Latin Americans who earn local currency but must pay for the equipment, disposable supplies and required medications in either US dollars or Euros.

The problems involved in importing media and supplies became clear to me one day while interviewing the head biologist at a center in Latin America. Our interview on a Thursday afternoon was interrupted by several phone calls, one of which was from the supplier of biological media used in the laboratory. The biologist was explicit about my not recording the phone call, and only talked to me about this problem "off the record":

The first interruption seems to be a phone call related to a shipment of culture media problem. Apparently an order of media was very late, the first time that this has happened in [biologist]'s experience. He tells me all this later. I watch [biologist] make a face about what the caller is saying and hear him say that this clinic has better results than 80% of the clinics in Latin America. Then he talks to him about the transportation problem they've experienced and that they used to have a direct transportation agreement with the supplier. For the last 1 ½ years they have been going through this middle person and the conditions for using this middle person are that things arrive on time and fresh, otherwise the work in the lab is trash. This is a paraphrase of what I hear him say. Then he tells him that they were in a difficult position, trying to get other media

since the ones they ordered hadn't arrived. He motions me to turn off the microphone while this phone call is going on, and is very attentive to protecting the security of what he is saying. When I ask him about the phone call afterwards, he tells me that he needed to find other ways of getting media, and then adds that these ways aren't unethical or illegal, but it was a complicated situation, and won't explain anymore than this. He makes a few phone calls to someone about this. About half an hour later there is another phone call, it seems to be about where he can find some available media and pick them up.

This incident is a telling example of the frustrations and difficulties of doing ART in the Southern Hemisphere. In the US the ease of obtaining necessary laboratory materials and supplies is taken for granted, but in Latin America it can be a costly obstacle to daily work.

In addition, ART equipment, such as microscopes, incubators and air filtration systems are very expensive. Therefore centers in Argentina do not often buy new equipment. They “make do” with last-year’s models until they can save enough for the current model. Because of this, they are sometimes at a technological-disadvantage in their work, as this gynecologist explains,

There is a difference in technology, which is very important, isn't it? Those in the United States always have more equipment, and it is newer. We take longer to change a piece of equipment. So, in the United States they are going to change the incubators as well as the microscopes...maybe every year they change and they have a modern, better, new device, and we have the same one for five years. When we first buy them they are great and then they begin to be slightly out of date. That is a central element. The modernization of equipment and the latest in equipment.

In addition to not buying the latest technology every year, centers in Argentina often “make do” with less equipment over all, a limitation which can compromise the work

itself. A biologist at one center spent two weeks training at Cornell (in embryo cryopreservation) in 1999, and returned to Argentina impressed by the high quality of work made possible with additional equipment:

When I was at Cornell, at the time they had ten incubators. Ten, and they had three micromanipulators. Here you make an incredible effort to have three incubators and one micromanipulator. But maybe the level of quality would be much better because the day that you have five ICSI cases to do, you could have two people sitting down at two micromanipulators and you can do the work in half the time, that otherwise takes you five hours.

In this estimation, the economic restrictions of working in Argentina make it difficult to produce the same quality as a place such as the United States where such constraints do not exist.

Because it is exceptional, the introduction of cutting-edge equipment is often made into an elaborate affair designed to garner public attention. For example, in January 2004 the private ART center Halitus bought a 4-D ultrasound machine and paid for an announcement in *La Nacion* to publicize its arrival. The advertisement disguised as a piece of journalism, reads:

The medical institute Halitus at the end of this month will introduce a new 4-D ultrasound, of the latest generation in technology, after an investment of \$300,000 dollars. It will be added to the one bought last year. The medical institute, which specializes in assisted fertilization, carried out more than 1100 assisted reproduction treatments of high complexity in 2003.¹⁰⁹

As I discuss in this ethnography, ART professionals in general try to not draw public attention to their work in order to avoid potential social conflicts. However, as this announcement demonstrates, they *would* like to be known for their advanced equipment and technology. Given these less-than-ideal circumstances, many reproductive medicine

¹⁰⁹ See www.lanacion.com.ar/565495.

professionals in Argentina agree that if you can manage to do good medicine in this environment, it is “because you are really good.”

Alongside not having local sources of supplies and equipment, there is very little funding for original research in Argentina. Because research is not a priority, technical advances in the field are imported along with the materials. This reliance upon importation—of materials, skills and techniques— is identified as a major disadvantage for Argentine professionals, contributing to a sense that they are only replicating what others develop: “The big difference between Argentina and Europe or the United States is that we can copy technology, but not develop it, because there is no budget allocated for research.” The lack of research and innovative development in assisted reproductive techniques contributes to a sense that Argentines are “behind” their international colleagues who have more funding for investigation. As a site of production rather than innovation, Argentine ART is invariably located far from the center. Argentine professionals themselves say that it is necessary for international colleagues to evaluate them on an individual basis because otherwise their national and regional reputations as Argentine or Latin American lead to indifference and dismissal—as gynecologist Leandro Gallo at CREAR, told me, “They think we are good professionals but that...well, that we don’t do research, almost none...and that we only work, we copy what the others do.” A feature article on scientists in Argentina published in 2006 in *Clarín’s* weekend magazine, *Viva*, further highlights the problems of doing science in Argentina, and echoes what these reproductive medicine professionals told me (Aizen 2006). A neuroscientist who recently returned from the US and is now working at the University of Buenos Aires is quoted as saying,

we are behind in being able to do good science, simply because here you spend a large part of your time in bureaucracy, materials take time to arrive and cost double. The money that they give you only allows you to do science to a certain point, with none of the latest technology. The only ones who have the possibility of publishing are a small group who has agreements or grants with people abroad (Aizen 2006:20).

These sentiments encapsulate precisely the same problems that plague the private sector of assisted reproduction. In addition to a lack of funding, a deficiency of systematic quality controls also affects the ability to do research and publish. In 2003, Julieta Moretti explains to me that putting such controls into place at CREAR has taken time:

Here [in Argentina] you don't have everything systematized, like you aren't involved so much in the quality controls and the...the routines to be more reproducible. Here you are like, 'well, today I feel like it, I will check,' and 'today I don't feel like it, no.' Now you are much more trained. It's the same thing with the doctors' records. Before they didn't write anything down. We didn't know if the patients were getting pregnant and that is absurd, you have a lot of statistics without being able to use them, before we didn't have any access. With the inseminations, let's say until a year ago when we made a special form, because we do about 400, 500 inseminations per year, which is a lot of numbers, a lot of work to publish, then they didn't know anything, not even how they were stimulated, so you couldn't do any type of research from it. So now we ask them to fill out this form with all of the information.

Methodically recording and tabulating the daily work of ART allows centers to publish articles based on clinical cases, however compiling such statistics requires systemization, a component of ART work that must be "imported."

The small amount of research that *is* produced in Argentina (often in collaboration with US or European colleagues) is celebrated as a sign of modernity and prestige. For instance, an article published in *La Nacion* in August 2002 begins by announcing a research publication on a new technique for detecting problems in sperm, proudly declaring that "three Argentines participated in the work which was published in the prestigious journal *Human Reproduction*" (Navarra 2002). The newspaper piece goes on

to describe the actual technique, called SUTI (Sperm Ubiquitin Tag Immunoassay) and the hopes that it will be helpful in resolving cases of what these specialists term “infertility without apparent cause”—which makes up 30% of all infertility cases. The notable aspect of the article is the emphasis on the publication of this work in a reputable journal published in English, and the positive spin on such technical advances. Furthermore the US collaboration is downplayed, mentioning only one of the two North American researchers (Peter Sutovsky), thereby leaving more credit for the Argentines involved.¹¹⁰

Conclusion

The production of ART in Argentina is a localized blend of particular morals and norms and the messiness of daily practice. As I discuss in this chapter, there are ideal notions that encompass: who the patients are (the kinds of families being made); the economic accessibility of the procedures; the types of regulations in place; the success of the procedures; and the prestige of the professionals. But during a typical day of doing assisted reproduction techniques, most of these ideals are not realized. Market demands are increasing the accessibility of ART for single women, lesbian couples and older women, while the high costs of this private medicine continue to exclude the lower classes. Regulation continues on an individual, non-standardized basis, with the ever-present possibility that the Catholic Church’s opposition to these practices may prevail in the legislature. The achievement of good success rates are accompanied by problematic high multiple pregnancy rates and the burden of imitation rather than innovation.

¹¹⁰ Two of the Argentine authors are from CEGyR (Brugo Olmedo and Rawe) and one is from the public Children’s Hospital in Buenos Aires (Chemes). Two of the US researchers are from University of Missouri-Columbia and one is from the Oregon Health and Science University.

In this chapter I examined the complex field of actors that converge to produce a local culture of assisted reproduction in Argentina. This production of assisted reproduction practices in Argentina is necessarily one of mutual influence—dependent on local conditions, but also shaping them in turn. Although presented here as semi-disaggregated, these facets of Argentine life—a Latin American “superiority,” the importance of family and motherhood, ambiguous legislation, Catholic influences, —are intertwined and dynamic forces in the making of assisted reproduction in Argentina. In the next chapter I discuss the hierarchy of “choice” in making a family in which adoption is the least preferable option, to be considered long after the use of donor gametes. I also look at the careful controls ART professionals place on gamete donation in an attempt to self-regulate the market aspects of ART in Argentina.

INTERLUDE III

Twelve Tries, One Daughter

Fernanda Barberis is 45 years old when I meet her in 2003. She is involved in the Ethics Committee at one of the centers, and is one of the founders of Argentina's non-profit patient support group. The patient group organizes twice-monthly support group meetings, and larger informative conferences twice a year for heterosexual couples who have infertility problems. I quickly find out that Fernanda has a long personal history with assisted reproductive techniques which dates back to the mid-1980s. She has done 12 high complexity treatments including egg donation twice. One of those attempts worked for her—she has a thirteen year old daughter. She thought about, but never tried to adopt. Here is her story:

I began with the treatments in 1985. In reality my problem appeared in 1982 and back then I was with a doctor that wasn't up to date, so I lost two years. That is why we counsel couples to go to specialty centers. Whether they are public or private, because at the public hospital they don't do high complexity treatments. That is the issue. Everything is for the same reason, that there is no law, there are no subsidies, so...But even so, at the [public] hospital when the couple needs high complexity assisted fertilization they refer them to private centers with a hospital fee. Times are different now.

So at the root of my problem...I felt it very alone, with my husband, when we were in treatment. Because imagine, that was in 1985, a long time ago, almost 20 years ago,

and then it was spoken of less than now. [Kelly: IVF began in 1985.] In 1985, yes. [...] Gómez was my doctor. He was always my doctor. And so, I felt very alone, you see? Apart from that the anguish of not being able to have children like everyone else, which is obviously a part of life, and everyone around you—friends, siblings, sisters-in-law, they can have them and you see their pregnant bellies moving and well... That is the anguish that always comes out in the [counseling] groups. The relationships with family, within the couple, it is very powerful. And it is an issue that wasn't talked about at that time. Imagine that to talk about in vitro fertilization, even though it began in 1978 and the first one was Louise Brown, it was still taboo. It was something from science fiction.

Well, much later I had my daughter who is old now, she is 13 years old now. Thirteen, almost fourteen. She is very little there [points to a photograph]. I have to change that one, the photograph is a little behind. After many treatments, because I have blocked fallopian tubes, and my problem is endometriosis. So it [IVF] was the only way. First, they tried operating on me, they did inseminations.[...] Well, I tried many inseminations, many operations. Now they don't try so many, they try three or four inseminations and if they don't work, you go to an in vitro. But well, times are different. And so, at the end...in 1988 I did the first in vitro and they transferred five embryos, and I became pregnant. Yes, they used to transfer more embryos, as you see. But one implanted. But it wasn't her [the daughter]. After two months I lost it. Because I had a hematoma between the placenta and the fetus and...it stopped developing. It was horrible. [...]

I had already paid for three attempts, because I was paying for every three—it was a plan, it was cheaper, I don't know. The second one didn't work. And they

transferred two embryos in the third attempt, not more than that, and one stayed. Her. That was in 1989.

Then I tried for a brother with eight more in vitros. [Kelly: Eight?]. Yes, I did twelve in total. Don't look at me like that. (laughs). [Kelly: Wow.] In the middle of all that for a second one...I wanted to have a second child, I lost another pregnancy because it was an embryonic pregnancy. In other words it implanted but after that it was reabsorbed, which was awful because she had already asked me for a brother, and I told her that I was pregnant. Her face was so happy, I will never in my life forget that, because of course she saw in school that everyone had siblings. And she has many cousins because my husband has seven siblings, we are a very large family. I have a lot of nephews and she saw that everyone had siblings. So I explained to her, which is a whole different issue, to explain it, 'it isn't that I didn't want to but that mom and dad we can't because...' Well in that moment I explained to her that when I was younger I had a blocked tube and that...that the seed couldn't take root and it couldn't form the baby.

In other words, more or less I passed through all the techniques that you know: insemination, high, low, middle...with stimulation, without stimulation...fertilization with ICSI, without ICSI, egg donation. But okay, I was lucky. In other words, in my ranking one child is little because I did so many [attempts], but well, thank goodness I did have one. Because there are some women that also did a lot and they never got pregnant. And this is a lottery also because the fact of getting pregnant or not, it doesn't depend on you nor on the doctor. Once they do the transfer, what happens inside there no one knows.

Because not even the doctors know very clearly when the moment of implantation is, and why it implanted or didn't implant.

I was really hooked. In other words, my goal was to have a child. When I married, I began with problems, I had a tumor, they had to operate on me, in other words I already knew that I was coming with a complicated thing. I wanted to have at least four, five children and I got married and I didn't use protection. I wanted to get pregnant on my wedding night, as soon as I came back from the honeymoon. It wasn't like that...After three months I went for a check up and they discovered a tumor this big, benign thank goodness, and after that I began the race against infertility. I am going to repeat, I had two years with a doctor that said the infertility was my husband, and the problem was actually me. I didn't know to look for a diagnosis. He told me to go on vacation. I went on vacation and I came back...Apart from that, 90% of infertility causes are of organic origin. Only 5%, no more, can be psychological, the psychologists say. And then, I began with a specialist that they recommended. My mom found him, I don't know who had recommended him, in this case it was Gómez, when IGyR didn't exist yet. And immediately they did a laparoscopy on me, you know when they study you from inside? [Kelly: Yes.] And they found endometriosis. And so then they operated on me.

Everything that he said, I did it, because I wanted to have a child. And in its place, in place of having children, I did dentistry classes. In other words I made myself busy with my career, and the treatments. The two things. In order to save money, to do the treatments, we worked. In that time I was earning more, there was more money

everywhere. I spent a lot of money on this. I don't regret it. And then, when the time came that there was no way to get pregnant, I decided...the doctor and I decided to do an in vitro. And then, after she was born with the third attempt, I said, 'okay, if I got pregnant once, I can do it again.' Always with in vitro. I couldn't naturally, I never could.

And then one, another...And sometimes I wondered when I was going to say, 'enough,' when I was going to stop. And as long as I had the money, as long as we had the money for it...at the end the doctor didn't even charge me. He didn't even charge me because I was already a friend, you know? And well, when I did the last one...then, of course, when my eggs didn't work any more, the doctor told me, 'enough.' He told me 'enough, enough, stop now.' And I said to him, 'and what else is there?' 'Egg donation.' 'Okay, egg donation.' I did two egg donations that were technically very good because they transferred good embryos, but I didn't get pregnant. So then I said, 'okay, that's it.'

I was almost 40 years old. I am 45 years old now. And I said, 'no, enough, I am old already.' My ovary had already started to bother me, I had a cyst, because of the many things that they had done to me...I was at the point of being operated on for a hemorrhaging cyst that was produced in the...In nature when the follicle, when the egg leaves the follicle, if you don't get pregnant that follicle is reabsorbed. If you get pregnant, it transforms into the 'yellow body' in order to give you progesterone. Well, in my case as I wasn't pregnant, and didn't reabsorb, it filled with blood and then when it broke...it gave me a hemorrhaging cyst, of blood...and it really hurt! [Kelly: Oh no.] They did an ultrasound and my ovary was like this [gestures that it was big]. And there I said, 'okay, enough.' So much medication, so many things bothering that ovary, the left one. And I was at the point of operating on it, and I said, 'no, enough.' Luckily, with

medication it went down and with an ultrasound check up we saw that it was okay, and then we said, 'enough.'

That was five years ago that I stopped...And that was my limit. There are some who get tired much sooner, they do one or two, they fail and they don't want any more. Others can't continue for economic reasons. Now that is happening, that happens. They can't...now no one could do twelve in vitros. Speaking economically, it is impossible. You have to be a multimillionaire. I had asked for money, you can imagine, from everyone at one time: my father, my father in law, my friend...Later I returned it, I could return it. But when I was doing the treatment, sometimes I didn't have the money and the doctor, by the end, I'll tell you again, he didn't even charge me for them. The last ones he did totally free. The last four. Before that he told me, 'you put the money that you can gather together in an envelope for me.' [Kelly: And all the treatments were with Gómez?] *Yes, yes. [...]*

[Kelly: Did you think about adoption?] *I thought about adopting. My daughter even told me, 'mom, why don't we adopt?' But my husband didn't want to. He wasn't interested in adopting, after having her. Before having her, when we had failed, when I lost the pregnancy and we had two attempts left already paid for, then we said that if the third try didn't work, we would adopt. We had put that limit. [...]* *But when I became pregnant on the third try and she was born, I said, 'I'm continuing.'* *In that moment if the third in vitro attempt had not worked, we had decided to adopt. But she was born and I said, 'no, if I had her, I'm continuing.'* *And then when I stopped the treatments she said*

to me, 'why don't we adopt?' and I said, 'yes,' and I filled out all the paperwork and everything...because a friend of mine did the paperwork for me and sent it to me. And my husband wasn't interested. So, because if had been for him, when our daughter was born, he would have ended the treatments. He wanted one child and he already knew it was difficult. [...] Well, my husband didn't want to adopt. So, if one of you doesn't want to, we said, 'okay, that's enough, that's it.' And that is how we stayed."

CHAPTER THREE

“THE FERTILE MARKET”: ARGENTINE VARIATIONS ON ADOPTION AND GAMETE DONATION

Gamete donation refers to the use of third-party donor sperm and egg in combination with insemination, in vitro or ICSI techniques. In most centers in Buenos Aires, the use of donor gametes is offered as an additional option for creating a family—one that is privileged above adoption. However this option is a complicated one, involving as it does a third-party (the donor) whose presence is seen as having the potential to not only disrupt the social order of heterosexual parenthood, but also to push ART irrevocably into the realm of a commercial enterprise. To minimize the impact of this third-party, centers insist on two immutable conditions: that the exchange is anonymous, and that it is “voluntary”—not financially-based. Therefore, all aspects of the gamete donation are regulated and controlled by the attending doctor and center. There is neither known donation, nor donor trait selection, nor are potential donors offered large sums of money. The guiding principle is that so long as health professionals dictate the process of gamete donation, the practice is confined within the acceptable boundaries of medical treatment and medico-scientific rationality. However, as I discuss in this chapter, the flaw in this logic is one that continues to surface: the arena of reproductive medicine is not itself a “purely rational” space, but a hybrid of social, material, and political circumstances.

In this chapter I contextualize gamete donation practices within the local culture of assisted reproduction, arguing that the conditions of gamete donation in Argentina are tied to particular concepts of family, nature, genetic inheritance, the market, and Catholic beliefs. A cultural analysis of gamete donation can speak to a number of areas of anthropological interest, including gift-commodity exchange, organ donation and trade, commodification of genetic material and body parts, and gendered meanings of donation (Becker 2000; Cohen 2003; Scheper-Hughes 2000; Sharp 2000; Titmuss 1997; Waldby and Mitchell 2006). For the purposes of this ethnography, here I am most interested in examining this hybrid space of gamete donation to understand how ART professionals in Argentina reconcile competing scientific, social, moral, and economic claims on their practices. I argue that these professionals act as mediators who attempt to contain the influence of the market on medicine and science, and to preserve the social/moral order of a traditional nuclear family and valorization of parenthood. I begin with an examination of adoption, then discuss the conditions and controversies of gamete donation, objections to surrogacy, and end with a look at “prenatal adoption” or embryo donation.

Adoption: “The Last Step”

Augustina: Actually because my husband was still...I was totally convinced and I would have already adopted for some time. He was convinced of adoption too but he said “let’s burn all the possibilities, let’s try to do it,” for example, “for as long as we have the frozen biopsy. After the frozen biopsy, I’m not going to do another biopsy, so that’s it. We adopt.” So he agreed with the adoption but he wanted...to have all the possibilities of having our own child.

Kelly: Yes, but for example, if the last time hadn't worked, how many times, how many times more do you think...?

Augustina: I wouldn't have tried any more. It was he who continued insisting, and there's enough left of the frozen biopsy for one more attempt, not for much more. So...

Kelly: It seems very difficult to decide.

Augustina: To stop here, of course. But it was happening to me and I was already tired of everything. Of course, the one who is physically taking it, is the woman. Because, okay, the poor guy, he took it himself, in doing the biopsy, but that was it. They did it and period. The one who was physically taking it every day, getting shots every day, having blood taken...and the time...and thinking about it. Because the man, it's like the man is more practical. And he was seeing that it wasn't working...the beta was negative. Well, yes, he was sad, but that was it. 'Okay, let's try again, that's it,' and he was wrapped up in his work, in his golf, and that was it.

Kelly: Yes, separated a little.

Augustina: Exactly. On the other hand, it's like the woman suffers more, she suffers differently. For me it was very difficult. But okay, we had resolved that we were going to try until the biopsy was used up, and in fact there is enough for one more attempt and not much more, and so if it doesn't work, we will adopt.

"The last step for me would be adoption.[...] If before a certain thing didn't exist, well you didn't have another option and you had to do what there was. But now having other alternatives, and ones that I agree with, I would exhaust them first before turning to adoption." Julieta Moretti, biologist at CREAR

In Argentina, some say that family is the "pillar" of society. In chapter two I discussed the value of parenthood, and the predominant definition of family in Argentina as a heterosexual, nuclear one, which thereby excludes non-traditional family forms. Here I again examine the notion of family in the context of adoption and gamete donation. Why have assisted reproductive techniques—with their relatively low chances of success and relatively high costs—replaced adoption as the preferred method for making a family

for infertile couples in Argentina? The bureaucracy of the adoption system is a partial answer, but a more compelling one is the potent social value of biological parenthood in Argentina, illustrated by a common preference for even gamete donation over adoption.¹¹¹

Adoption is a time consuming and lengthy process in Argentina. There are no private adoption agencies in the country; the only way to adopt a child within Argentina is by submitting an application to the judicial system. Judges in Buenos Aires city and in provinces around the country use a registry of applicants to place children with adoptive parents. Waiting lists vary by place and therefore it befits an applicant to register in multiple places at the same time. The application materials to adopt include psychological and social work evaluations, proof of income and financial stability, proof of residence, criminal checks, HIV tests, photographs of the family, and a petition of reasons for adopting. There are two avenues to assembling this exhaustive application: one is through the state-run organization, *El Consejo del Menor de la Familia*, which is a free but prolonged process. There are also several private agencies—all located in Buenos Aires—that charge a fee to put together the required application materials and provide advice throughout the process. Though the private agencies shorten the time it takes to prepare the required application packet, and aid in signing up on more than one registry, they have no influence over the judicial-side of the actual adoption placement.

Despite changes to the national adoption law in 1997, the adoption system is still inefficient and bureaucratic. The law as it stands today does not allow international adoptions (there is a residency requirement of 5 years in the country); requires a

¹¹¹ See Bharadwaj 2003 for a discussion of the preference for secretive semen donation over adoption in India due to a social stigma of infertility and a desire to “hide” the disgrace of a third-party involved in making a family (which is possible through the secretive use of donor gametes but not through adoption).

minimum age of 30 years old (if younger, the applicant must be a married couple with either proof of 3 years of marriage or proof of infertility); and does not allow direct negotiations between the adoptive and birth parents—the attending judge is the primary intermediary. Adopting a child is also more difficult for single women, and prohibited for homosexual couples, as I discussed in chapter two. Furthermore the system is quite inefficient: though there are hundreds of orphaned and abandoned children living in state institutions throughout the country, there are also long waiting lists for adoption applicants to receive these children, and applicants must register with each area’s list separately. Leonor Wainer, president of Anidar, one of the private organizations, tells me that how long the adoption process takes, depends on the age of the child: “It depends on different things, if the family wants to adopt a baby who is under one year old, it can be a wait of two or three years. With older children it can be a year or less than two years, and with children older than six or seven years it is less than a year.” She also says that most of the people she sees have already tried several attempts of ART, and are now hoping to adopt a baby under two years—which means waiting several more years to make a family.

Recently the adoption system has been under critique, with much media attention paid to the continuation of illegal adoptions in the provinces in which a couple will pay a judge directly to be given priority in adopting a child.¹¹² These illegal adoptions, while motivated by the bureaucracy of legal routes to adopt, are reminiscent of the illegitimate

¹¹² This type of illicit “adoption” takes place mostly in the poorest areas of the country, mainly the Northern provinces: Chaco, Misiones, Santiago del Estero, Jujuy. In the last year media attention has been focused on the “baby-trafficking” in Santiago del Estero. See Heguy and Rodríguez 2007.



Figure 35. “I want to adopt a father, his age doesn’t matter to me. Does my age matter to you?” National adoption campaign poster. January 2007.



Figure 36. “Even though he won’t have your eyes, he is going to be just like you.” National adoption campaign poster. January 2007.

“adoptions” that took place during the most recent military dictatorship.¹¹³ In December 2003 President Kirchner signed a decree to implement a single national registry of adoption. However, since adoption is a matter of civil procedure, the provinces do not have to comply with the federal government’s decrees; as of January 2007 there are still no national figures for how many adoptions or adoption applicants there are in the country (Moreno 2005; Palacios 2007). As recently as January 2007, several of the organizations that aid in the adoption process launched a publicity campaign to encourage legal adoptions and the adoption of older children and siblings, under the idea that “children have the right to have a family.”

On the other hand, inside the ART clinics, adoption is usually discussed as being a last alternative, something to try after IVF, after ICSI, and finally, after ICSI using donor gametes. Perhaps understandably, the focus is not on making a family in any way possible, but rather on creating a pregnancy and biological parents. For instance, when discussing options with a couple who has fertility problems, a doctor may include adoption as one alternative to think about, but very little time is spent discussing that option. One andrologist tells me that today he recommends semen donation over adoption for his infertile male patients, and recognizes that his preference for gamete donation influences his patients:

The majority, now they choose, in my case, they choose donor semen now. Ten years ago, it was different. But also because... maybe because I thought

¹¹³ During the dictatorship, the children (particularly infants) of those who were captured and tortured—commonly known as “the disappeared” (*los desaparecidos*)—were kidnapped and given to military families (and those with connections to the military) and illegally registered as their own. Today there are several human rights groups in Argentina working to uncover the identities of those “adopted” children: *Las Abuelas de la Plaza de Mayo* (the Grandmothers) and *Hijas e Hijos por la Identidad y la Justicia contra el Olvido y el Silencio* (HIJOS). As of February 2006, the Grandmothers claim to have “reclaimed” the identity of 82 of those children (their grandchildren) now in their late twenties through DNA paternity tests (see <http://www.abuelas.org.ar> for more information). This is a controversial issue in Argentina, as some of the “adoptees” have refused the DNA tests. See Arditti 1999 for a detailed account.

differently about semen donation also. [...] If I had to choose myself, I'm going to choose donor semen because I'm going to be sure, at least more sure, that the genetic is normal, and that everything is normal.

This doctor's rationale, which he passes on to his patients, is that adoption is a risk as it includes many unknowns about the health of the child, whereas the use of gamete donation allows for more certainty as genetic testing is possible. Gamete donation is construed as providing the ability to be "more sure" about the health of the child. From a business point of view, recommending the use of gamete donation also keeps the patient inside the ART center, whereas adoption is completely external.

There is also a pervading view—inside ART centers and without— that pregnancy is an inherently fundamental experience for women, one that should be made possible using whatever methods are available. This ties in to the social value of motherhood discussed in chapter two. The biologist Moretti summarizes:

They tell you, everyone says that your thinking changes when you have a child inside. So I think that is why people try all these options...otherwise you wouldn't get involved, nor spend so much money, nor complicate your life, nor get injected every day, you would go to...to adopt a child and that would be it.

Similarly, when I ask Navarro if he thinks adoption is looked at differently in Argentina than in other places, because of the history of illegal adoptions, he tells me adoption in general is a difficult process, and also emphasizes the "innate" importance of pregnancy:

Adoption...first it's difficult, it's difficult here, it's difficult in the US, it's difficult in Europe because there aren't many children to adopt, little children, small ones, babies...There are a lot of children, but that isn't the same. To adopt a seven year old child that comes with a history, isn't the same as adopting a ten-day old baby. There aren't so many healthy ten-day old babies. And on the other hand, the maternal instinct of pregnancy is very strong. Women in general prefer to be pregnant.

In these statements, pregnancy is identified as a "maternal instinct," a primary aspect of female personhood. This cultural value that the experience of pregnancy is an innately

important life experience for women, works two ways. One is to make adoption a less attractive option for couples who want to make a family. Though the end product of adoption is parenthood, the woman “misses out” on being pregnant. Though it is not a direct experience for him, presumably the man in the couple also has a vested interest in sharing the project of his partner’s pregnancy. In this manner then, the assisted reproductive technique that can make pregnancy possible becomes preferable, even if it requires gamete donation. The use of someone else’s sperm, or someone else’s eggs, to create an embryo becomes desirable in the context that this “donation” allows for the experience of pregnancy and birth, and also genetic relatedness with one member in the couple.

In this society then biological parenthood is given a priority above other ways of making a family. In some circumstances where full-genetic inheritance isn’t possible, gamete donation provides an acceptable approximation. Juan De Luca, a gynecologist, explains this cultural value of the “biological family,” one that he himself claims not to share:

From a cultural point of view I think it is a mistake because the fact of being a mother is not defined through biology. But people still continue to believe that most of being a mother comes through biology. [...] And that is partly due to what we call ‘family,’ and the importance of the family nucleus. I think much is due to that. You can see that here the ‘typical’ family, the usual family, normally has three children. Three or more.

As illustrated in chapter two, the ideal for a woman is to be a mother—to give birth and make a family. Though the shared preference by both partners in a couple is to conceive a “biological” child that is genetically related to both parents, the second-best option is to pass on the genes of one part of the couple. The third-best option is to be able to gestate and give birth to a baby, even if it is not genetically related to either parent (as in the case

of embryo donation which I discuss later in the chapter). Because biological parenthood and pregnancy is privileged, the least desirable option of making a family in Argentina is therefore to adopt a child. In this milieu, the production of ART serves and reproduces the desire to have a child “of one’s own.”

Indications for Gamete Donation

“What happens is there is a certain number of patients who are totally azoospermic [no production of sperm]. And they need...In other words their only possibility of being parents, the couple, is with the reception of gametes. Sometimes it is the woman who doesn’t have eggs, or sometimes it is the man that doesn’t have sperm.” Gaston Gonzalez, biologist at CERS

In ART centers in Argentina, the primary justification for gamete donation is to “enable” infertile couples to become parents. As the biologist’s statement quoted above illustrates, gamete donation is often presented as “the only” way to resolve an infertile couple’s desires to have children. The primary indications for the practice are therefore presented as medical ones. The use of a semen donor is usually recommended for infertility cases where the male partner does not produce fertile sperm (azoospermia), or there is a genetic risk of sex-linked diseases. Egg donation is often suggested for women who have non-functioning ovaries or few fertile eggs due to “premature ovarian failure.” However, like the definition of ART as a medical treatment for the disease infertility, these “medical” indications for gamete donation are themselves based on traditional values of heterosexuality and family. The clinic protocols in Argentina follow the same principles as those outlined in the *Consenso*, the original RED-issued set of guidelines discussed in chapter two. The *Consenso* guidelines are unequivocal that gamete donation is indicated only for infertile heterosexual couples, in this case if one or both partners

lack gametes, or have a severe sex-linked genetic disease. In a clear valuation of the pregnancy experience, the *Consenso* also states that parenthood can be established without genetic ties, and that one benefit of gamete donation is in allowing “the future child to be delivered by the future mother” (Consenso 1996: 11).

On the other hand, like in other places around the world, the demand for gamete donation in Argentina is not only coming from infertile couples. For instance, older women whose decrease in fertility is age-related (and therefore not technically a disease-related condition) are turning to egg donation in order to become pregnant. In addition, as I discussed in chapter two, recently single women are also becoming mothers through the use of donor insemination in certain centers of Buenos Aires.¹¹⁴ Clinics have different ways of setting limits on these “social” infringements, but slowly consumer demand is winning out over moral objections. The case of egg donation for older women provides a good example.

The *Consenso* guidelines declare that “reproductive medicine has the ultimate goal of making it possible for people to express their fertility even when they have been affected by a disease that limits this fertility,” and therefore justify an age limit for recipients of egg donation to be before the “average age” of menopause (Consenso 1996:12). Thus, women who suffer premature ovarian failure are appropriate recipients for egg donation, but postmenopausal women who no longer have fertile eggs are not. Most centers in Argentina follow these *Consenso* recommendations and restrict eligibility for egg donation by age. The rationale is that women need to be “within conditions of having a child”—in other words, she needs to be physically able to carry a pregnancy.

¹¹⁴ Notably the main Argentine sperm bank, Cryobank, explicitly states on their website that since there is no law prohibiting it, they make donor semen available for purchase by single women.

However, the limits of this ‘fitness’ can vary from woman to woman. CREAR’s stated upper age limit for women to use egg donation is 50 years old—which they claim complies with a recommendation from the Ethics Committee of the American Society for Reproductive Medicine (ASRM). Other centers are more flexible and determine the age limit on a case by case basis.¹¹⁵ The higher physical risks of pregnancy in older women are of concern, as is the social prejudice against older mothers. Most centers agree that egg donation for women over 60 years of age is not appropriate both for medical and social reasons. Mauricio Lombardi, one of the directors at Fertility Institute, thinks of age limits in terms of the restrictions that nature has put into place. Therefore, since women “naturally” enter menopause and cease reproductive functions, the center should follow this cut-off and not help women over 48 or 50 years old have children: “I have no doubt that there should be an age limit because I believe in a dogma which is ‘not everything that you can do, you should do.’ [...] The only animal that has the privilege of menopause is the human. [...] So you know that your reproductive ability is over.” Along these lines, since “nature” doesn’t limit men, neither should a reproductive center, as Lombardi explains: “I think the man is different because naturally, the man has semen until he dies. In other words nature armed you with...perpetuity in the man.” Most doctors agree that these limits do not apply to men (for sperm donation), particularly since the concern is constructed around ensuring a healthy pregnancy and motherhood, and less on the lifespan of the father-to-be. As Mateo Capaldo, a director at IGYR tells me, “It is different in men because the problems aren’t the same, because actually he

¹¹⁵ An article published in *Clarín* announcing the birth of twins to a 59 year old woman (using egg donation) in the United States in July 2006 quotes an Argentine ART specialist as saying that in Latin America the advice is to not provide egg donation to women over 53 years (Galarza 2006).

doesn't run a risk, if he wants to do it, like the example of Chaplin, it's done. We have had couples with very senior men—75 or 80 years old. And it doesn't worry us much.”

The ideology at play in justifying gamete donation is again one of “giving nature a helping hand” while also preserving a traditional social order. While permitted, these “non-medical” requests for gamete donation must be carefully controlled and reined in so as not to upset traditional conventions of heterosexual reproduction and the nuclear family. The very practice of gamete donation itself—in introducing a third party into this family unit—is also potentially disruptive. As I discuss in the following section, ART professionals have devised various ways of attempting to limit the potential hazards of gamete donation.

Third-Party Anonymity

“There are some matters that need to be understood and clarified. For example, genetic grief: the one who knows that he/she will not contribute a gamete to a child loses the possibility of transmitting fundamental physical aspects, but she/he will offer everything else, which is a lot, as the father or mother. [...] In these cases, it is necessary to work on the difference that exists between being a ‘progenitor’ as a biological or genetic concept and being a ‘father,’ a bond that is much deeper and implies much more.” Psychologist Darío Fernández quoted in *La Nación*, July 10 2004 (Navarra 2004)

In an ideal context, gamete donation allows a couple to have a child to raise and love, and the origins of the genetic material that create the child are downplayed. The unique possibility of parenthood is instead emphasized, as this gynecologist summarizes:

I agree with egg donation. I think that if a woman doesn't have her own eggs anymore, then she can receive donor eggs from another woman. It seems to me that...again, it seems like a matter where having a child and being able to raise that child and the love that you give is the most important thing, right? Whether the egg is from her or is donated, I don't think that is the central issue.

However, for many—both for those professionals who agree with the practice and for those who don't— the presence of the donor *is* a central issue, one that must be actively controlled and minimized. According to the Catholic Church, gamete donation is a violation of the married unit: conception should take place within the conjugal union and not involve a party outside of the marriage.¹¹⁶ There are a substantial number of reproductive specialists who therefore do not recommend gamete donation to their patients, whose positions I detail below. Among the professionals who *do* provide donation, minimizing the influence of the third-party is essential to the practice. The principal method for lessening the potential impact of a donor is the condition of anonymity.

Almost all ART centers in Argentina agree on the importance of anonymity for donation. This means that in Argentina, the attending doctor is the one who obtains and matches the donor with the recipient, and is the only one who knows the identities of both parties. The *Consenso* guidelines also advise that donation be anonymous to all parties—except the attending center which should keep a confidential registry. Reproductive health professionals in Argentina explain the necessity of anonymity in terms of preventing future complications, and of “protection” for both the donor and recipient.¹¹⁷ As this gynecologist summarizes, “It is demonstrated that anonymity is healthier from the mental point of view. And tomorrow you don't know, maybe the known donor will go crazy...To know ‘who’ predisposes you to greater conflict tomorrow.” There is also a

¹¹⁶ Those who object to assisted reproduction completely consider the attending *doctor* (necessary for an ART procedure) to be a third-party disrupting the conjugal unit.

¹¹⁷ The “healthy” and “protective” qualities of anonymity are not absolute givens, but a local judgment up for debate. In fact, some countries—Australia, Holland, Norway, Sweden, Switzerland and the UK— no longer allow anonymous sperm donation.

concern that in the absence of explicit legislation, the donor may try to find the recipient and claim the resulting child as her or his own. The medical coordinator at ISR explains the anonymity condition according to that concern, “To better protect the recipient and the donor, because as nothing is legislated, you don’t know if at some point she is going to reclaim your...your child. So, we have ensured that the program is absolutely anonymous.” The ambiguity of the law is indeed a point of concern, as the existing Civil Code indicates that the legal mother is the woman who gives birth, and the legal father is her husband.¹¹⁸ However this Civil Code—as I discussed in Chapter two—was written long before the advent of reproductive technologies, and the creation of a “biological mother” distinct from the “genetic mother.” The day that a known donor lays claim to a child who was created using her donated eggs, or his donated sperm, there will be extensive legal debate in determining his/her rights as a mother/father. This ambiguity has bearing on surrogacy arrangements as well, which I discuss later in the chapter.

These health professionals also claim that anonymity is necessary to ensure a straightforward construction of family relationships—again based on the ideal of the heterosexual, nuclear family and “treatment” of the couple. The introduction of a third party into the scenario of having a baby therefore has the potential to disrupt the “natural” order of two biological parents. A biologist summarizes this viewpoint that using a known-donor presents a strange variable into the family equation:

If I decided to accept donation, I would prefer that it were anonymous. I find that a known-donation, from your brother, your father, from your uncle or a friend, would obstruct in a certain way the relationship of the couple, the child and the donor. I think that people are very complex and that even though the donation

¹¹⁸ Determining the ‘legal father’ involves a complicated series of presumptions in the out-dated Civil Code, the specifics of which are beyond the scope of this ethnography. They are based primarily on how long the husband has been married to the woman who gives birth, and most likely will not hold up in a contemporary case trial.

may be very altruistic, the donor could, in some way...including if I were the donor...if I were the donor and I saw that you have a child that is mine, but not from a relationship between us, but from a donation, my behavior would be strange in that situation. I think that it would be strange. So, I would prefer that the donor is not a known donor. Because the relationship that could develop wouldn't be normal. Because the genetic father could assume certain attitudes that he shouldn't assume.

To prevent the development of a relationship that is “not normal,” the attending doctor therefore controls all aspects of the donor-recipient gamete matching. The theory is that with anonymity, family relationships can remain pure and unproblematic. The anonymity of gamete donation ensures that the donor remains invisible to the recipient party, a non-entity that need not be accounted for in the designation of mother and father. In contrast, the presence of a donor is seen as particularly problematic when the donor is a relative, as this biologist at Fertility Institute summarizes:

When those cases come of ‘no, I am going to ask my sister to donate for me,’ okay...if it isn't anonymous, it is with someone that I know and with a relative. Sometimes they think, ‘of course, if it is my sister, she has at least 50% of my genes, so it is halfway like if it were my child.’ [...] But life together is going to be difficult. Because I don't know if they can separate from the idea, ‘that aunt is actually...’ First the imagining that she [the sister] slept with her brother-in-law. And then, the other woman is going to know all her life that in reality that child is half hers. And the other woman is going to know that the child is half her sister's. It seems complicated.

The potential complications of a family relative-donor presented here recall again the standard of anonymity as healthy, protective, and pure—compared to the disturbing, dangerous and messy qualities of known donation. I come back to the role of the doctor in attempting to purify the exchange—through limiting its commercial aspects—later in the chapter.

For those who disagree with gamete donation for religious reasons, the perceived ethical problem of the third-party donor is not resolved through the guarantee of

anonymity. For these Catholic doctors, the anonymity requirement does not “erase” the fact that there is a third-person involved in what should be an act only between the (married) couple. One Catholic doctor at Fertility Institute, Mauricio Lombardi, states that though he does not provide nor agree with gamete donation, he does not judge those who decide to do it:

I do not do it for religious reasons. Because I believe that a married couple...their union is a sperm and an egg. But I do not judge the person who does it. If you are sure of what you are doing, of what you are receiving—the genetic inheritance of someone else—and you accept that, then I do not have any objection to you doing it. But I do not do it, I refer it to someone else.

Likewise, Guillermo López, one of the directors of RMI—where gamete donation is not performed by any of the medical staff—considers gamete donation to be at odds with the teachings of the Catholic Church. He nevertheless claims to not judge those who decide to try it, and like Lombardi, will refer those patients to another center:

I recognize that there are decisions that are difficult and I respect those who think differently. I don't judge, nor do I look down on marriages that use donor insemination or [egg] donation...On the contrary, I tell them ‘up to this point...’ I think that egg donation is an option and I suggest places that they can go to. And I explain that in reality, we don't do it because of some limitations that we have put in place, and they [the patients] respect that and understand that very well.

Among those who disagree with gamete donation there is repeated acknowledgement that many others find anonymous gamete donation both acceptable and desirable. However not everyone is as non-judgmental as Lombardi and López appear to be. Fernando Pérez, López's colleague at RMI, counsels against gamete donation. He instead directly refers his patients to adoption, which he thinks of as a “simpler” arrangement:

I have nothing against gamete donation. But I advise against it. If someone wants to aid in the couple's project to have a child, by using frozen semen—donor semen or donor egg, they are free to do so. I don't participate in that type of project because I don't agree with...I think that the couple who decides to have a child, and if at some point one of the two doesn't have the reproductive potential

to do it, then, for example, in the case of the man, the two stop at that point and they establish, ‘what are we doing now?’ ‘Let’s adopt.’ The two are on equal footing, they adopted a child. If they use donor semen, the woman moves forward with her desires, with her pregnancy...the man stays behind. I have seen it, it is not that I have seen it a lot, but I have had various patients that I treated up to that point, then they resorted to donor sperm and then they divorced during the pregnancy. Because having allowed a third person to enter was so much of a conflict, that they couldn’t endure it. So personally I advise against it. [...] I think the most reasonable thing for a couple who can’t have a child, is adoption.

In Pérez’s view, the psychological impact of involving a third-party in making a child is disproportionately disruptive. In such a case, adoption—in which both members of the couple are equally “estranged” from the child in a biological sense—seems more “reasonable.” In this sense the “equal footing” that adoption provides is seen as preserving the couple, where as gamete donation is constructed as an “unnatural” condition of conflict within the couple’s relationship. One of the scientists at the Laboratory for Reproductive Medicine is in complete agreement with this viewpoint:

I prefer adoption because then the child is 100% separate, not 50% of one, because later that impairs a marriage. It is an imbalance within the marriage. [...] It cannot be an issue where in the first fight, the woman throws in her husband’s face, or the husband to the wife, ‘you are not even capable of having a child.’

These professionals therefore advocate adoption because it presents what they regard as a more straightforward and equitable relationship between the adopting couple and the child. In comparison, gamete donation is seen as “leaving out” one of the partners—the one whose gametes are not used—and introducing a problematic additional party.¹¹⁹

Regardless of the anonymity of the arrangement then, for these professionals gamete

¹¹⁹In addition, gamete donation is constructed as a gendered experience, and therefore the psychological counseling at an ART center is managed distinctly for egg and semen donation. Health professionals believe that the woman, even if using donor eggs, feels a parenthood connection through the pregnancy. With the use of a sperm donor, the man is more marginalized as a participant, as this gynecologist tells me, “the one in general who most decides the issue of egg donation is the woman, and she can compensate her doubts with the gratification of being pregnant. On the other hand, with semen donation the man stays a little more on the margins of paternity, so it is handled totally differently.” Newspaper articles in Argentina also uphold this viewpoint, see for example Navarra 2004.

donation remains out of bounds, a practice that creates needless tension and havoc in the traditional family order. However, as I discussed earlier, this point of view is in the minority in Argentina among both reproductive medicine professionals and their patients.

Consensual but legally ambiguous

To ensure patient agreement with these policies, most centers that provide gamete donation require signed consent forms for both donors and recipients, which state voluntary assent to anonymity and the donation. However these consent forms could be easily contested in the absence of a national law for ART. Furthermore there *is* a legal document that is potentially in conflict with this anonymity-policy: Article 8 of the Convention on the Rights of the Child states that a child has a right to preserve his or her identity. This Article also makes the state responsible for protecting and assisting in reestablishing the child's identity when it is in peril. As mentioned in chapter two, this international treaty was placed at the level of Constitutional Law in Argentina. The Convention has primarily been used by the Grandmother's of the Plaza de Mayo (*Las Abuelas*) to aid in identifying the children of the disappeared (mentioned earlier)—relying upon a notion of 'identity' as biological in origin. Using a similar interpretation, this Convention therefore also has relevance for ART practices using anonymous donors—the “biological” parents whose identity could be requested by the child. The potential for this right to identity to apply to ART cases is something that most reproductive medicine professionals have thought about. Carlos Sanchez, a biologist at Fertility Institute relates the need for anonymous gamete donation with the right to identity:

Why must it be anonymous? Out of respect for...I think that the only one who has a right to know the identity is the child. Argentina has a history, in that sense tragic and that everyone knows, and I think that in that sense Argentina has a factor that is important which is called 'the right to identity.' But the right to identity that you can exercise, if you want to, is at adulthood. And it seems to me very critical to maintain that criteria for the case of children born from assisted reproduction where there are donors. It seems okay to me that if the child wants to know his/her biological parents, he/she is the only one who can know that information. It doesn't seem okay to me that a couple will know who the donors are. Not at all, because they can establish ties that don't seem...normal. In other words, you don't know, what type of relationship you can establish with a person who is not related to you and yet who biologically is related. So it doesn't seem right for donors to know who the receptors were, nor for the receptors to know who the donors were.

Though Sanchez is certain that anonymity must be maintained between the donor and recipient, he is also in favor of allowing the resulting child access to the donor information.

Further complicating matters, a Supreme Court decision in 1996 approved the use of mandatory genetic testing to establish parenthood, against the wishes of both the (adoptive) parents and the child (Arditti 1999).¹²⁰ In addition, Argentina's adoption law allows an adopted child, at 18 years of age, to find out who his or her "biological reality."¹²¹ These instances, in which parenthood has been legally defined according to biology and genetic origins, could potentially cancel out the Civil Code's privilege of the

¹²⁰ Constructions of identity are completely tied up with politics and history in Argentina, particularly regarding the events of the most recent military dictatorship (1976-1983). As mentioned earlier, the Grandmothers utilize the notion of "genetic identity" to aid their struggle in finding their grandchildren, and sponsor a myriad of annual events like *Teatro por Identidad* and *Cine por Identidad*, as well as art expositions, and memory museums. Also along these lines, a National Genetic Data Bank was created in 1987 (within the Immunology Dept. of Hospital Durand) to aid in identifying the DNA of the children of the disappeared, and to provide the Grandmother's "scientific" proof of their biological affiliation with those who were illegally adopted. Furthermore, in 1992—with insistence from the Grandmother's—a National Commission for the Right to Identity was also formed to aid in uncovering "the true identity" of the children of the disappeared. For a thorough discussion of such efforts, and the political struggles of the Grandmothers to find the children of the disappeared, see Arditti 1999 and the Grandmother's website: <http://www.abuelas.org.ar/>. Though fascinating, a full discussion of "genetic identity" and the way it is being used in Argentina is unfortunately beyond the scope of this analysis.

¹²¹ Article 328 of Ley N. 24.779, enacted March 26, 1997.

woman who gives birth as the legal mother. However, because there is no specific law for ART that resolves this ambiguity, the implications for gamete donation cases is unknown.

Ana María Picolotti, a lawyer explains:

...there is no legislation over donation of eggs, of sperm, what is going to happen with the affiliation? Whose child is this? Who is the father, can the person who donated the sperm make a claim? Or not? [...] There is no law that says that you lose all rights, so why wouldn't he be able to make a claim? A judge will have to decide that later, but in principle he would be able to make a claim [to paternity]. Okay, it is strange that someone who donated his sperm at some point is going to claim paternity. That is strange. But do strange people exist in the world? Yes they do, so...

Since there is no legislation, there is a possibility that a court case could approve a claim to parenthood by a donor. This issue won't be settled definitively until there is a specific law passed. Another professional, Gabriel Ferrari, a biologist at a public hospital who does not work in high-complexity ART, also points out the conflict that putting this right to identity into practice presents for private centers:

Of course, the rights of children include the possibility of knowing your origins, your roots, no? This stems from what happened after the last military dictatorship, when there were many people who were disappeared. I think that they [children] can investigate, but what happens is that to investigate here would be very difficult, because how are they going to do it, except by going to the institute's archives? [...] I really don't know what happens if a child who knows that he is a product of fertilization with donor semen presents a legal request, I suppose that he has the right to know, but I think it would be violating the institution's norms that promised anonymity to the donor. So, I don't know, there it would enter into a trial, no? I imagine that the institute wouldn't give it [the identity] up without a fight.

Ferrari brings up the fact that centers will most likely be reluctant to violate the anonymity that is the principle of the gamete donation exchange in Argentina. On the other hand, the law proposal that the Argentine Society for Reproductive Medicine submitted to Congress in 2005 (discussed in chapter two) includes a clause that at 18

years of age, the child created using ART and donated gametes has the right to know the identity of the donor.

The hyper-attention to genetic identity and biological origins in Argentina is encapsulated by CREAR's decision in 2002 to provide a "paternity certificate" to couples doing ART. This certificate was proposed as a way to sooth patient's fears of laboratory mix-ups, as well as to ensure for the clinic that the said couple is the genetic progenitors. For instance, I was repeatedly told a story (whether fact or fiction I can't say) in which a woman brings to the laboratory a sperm sample for an IVF treatment. The sperm sample is supposed to be from her husband, but it is actually her lover's semen, and eventually the husband finds out and blames the center. To prevent this from happening, CREAR offers couples the option of a paternity certificate, free of charge. Test results of the DNA profile of the couple (from blood samples and the semen sample) are kept until the child is born, then that child's DNA is compared with the couple's. To increase public awareness of this service, in June 2002 La Nación ran an article announcing this new free service. In what reads as publicity and self-congratulations, Brugo Olmedo is quoted as saying "we estimate that this is the first time that this is happening in Latin America. In addition the Jones Institute in the US, where the first test tube baby of the country was born, confirmed to us that until now they haven't offered something similar to this" (Shapira 2002). However according to one biologist I spoke with, by 2005 only one couple had requested the service.

Sources of Gametes and Egg Economics

"I think that the person who gives should charge for her eggs...Why? Because the doctor charges for the procedure, so she should also charge. Like for example, why are you

paying the semen donor? Then also pay the woman.” Mauricio Lombardi, gynecologist at Fertility Institute

The other contentious side of gamete donation is the perceived encroachment of the financial market into this “moral” area of exchange, primarily due to the commercial aspect of obtaining the gametes. In this area, gamete donation threatens to push ART out of the realm of medicine and into that of commerce. In Argentine centers therefore, there is an idealistic dynamic set up between “altruistic” donation and paid donation, even though both involve a degree of financial recompense. The *Consenso* guidelines recommend that gamete donation should be without financial incentive, though compensation for transportation and missed work is acceptable. With respect to sperm donation, financial reimbursement is a fairly standard practice internationally— including in Argentina—and is usually a relatively small amount. However egg donation is a more complicated and morally-charged matter, as it involves medical intervention and substantial time investment. The methods of procuring these gametes also differ. Donor sperm samples are usually contracted from a private semen bank while donor eggs are obtained within-clinic. [In Argentina, egg donation has not only increased in practice in the last five years in Argentina, but has also irrevocably crossed from the realm of “altruistic gift” into the economic market.]

When I first began researching assisted reproductive practices in Argentina in 2000, the majority of health professionals that I spoke with purported to be morally against paying for egg donation, and no clinics offered this option. Those centers that offered donor eggs to their patients did so through within-clinic donor programs set up as anonymous contributions, directed by the attending doctor, and solely for use within the

clinic. Donors therefore were exclusively patients —women whose infertility problems were not related to the fertility of their eggs, and who therefore often produced more eggs (because of hormone stimulation) than they could use themselves. These patients— deemed “altruistic” donors— would agree to anonymously give their surplus eggs to another patient. At some centers, patient donors received a reduction in their own treatment costs, as the recipient would help pay for the medication—though this was not openly stated as an incentive for donation. However, patient donation does not provide a constant and abundant source of donor eggs and relying upon this method limits the number of potential recipients a center can provide with egg donation. With only patient donors to fill the demand for donor eggs, many centers had long waiting lists for recipients— for instance at CREAR the minimum waiting time to receive donor eggs from patients was about 1 ½ years.

By 2003, many of the ART centers that provide gamete donation had begun to incorporate *paid*, non-patient donors into their egg donation programs. Paying women to donate their eggs, though it allows centers to better meet the consumer demand for donors, also involves a dance on the edge of traditional ethics and the border between ART as a medical treatment and ART as a business enterprise. If centers are not careful, they might fall into the abyss of the profit-motivated market. For instance, Augustín Ortiz disagrees completely with gamete donation because it implicates commerce: “‘Donor’ is a word that shouldn’t be used because they charge money, so they aren’t donors. Donation is selfless and this is not selfless; it is self-interested and it is for money. The same with semen. It is exactly the same.” To counteract this type of negative judgment, the “altruistic” patient donor is still idealized and privileged at the centers, even though

all have incorporated paid donors into their programs. For instance, Constanza Rovere, one of the directors at Conceive, claims to use *patient* donors for egg donation cases, and reserves the paid donors for research projects as much as possible. She presents an idealized picture of the patient donor:

The donors, in general I always like to work with anonymous and altruistic donors who are part of the in vitro fertilization program, and who in an altruistic way—that is to say, who want to—sign and accept to donate their excess eggs after covering their own possibilities.

Similarly Carlos Sanchez, a biologist at Fertility Institute, explains why he thinks voluntary donation is preferable:

it should be an altruistic gesture. The issue of if donors are paid or not takes you to other issues that for me are...are very difficult, like the motivations for which someone will donate. And if the motivation is economic, maybe at one time you have economic troubles and you accept defined conditions and with time you regret it. On the other hand if you do it voluntarily, you don't regret...or the probabilities that you will regret it are less.

The assumption here is that a voluntary patient donor will donate out of a desire to help someone else, whereas a paid donor is primarily motivated by money.¹²²

Of course in practice neither type of donation is so clear-cut. For instance, at some centers, patient donors receive a reduction in their own treatment costs, as the recipient shares the cost of the medication. According to the doctors, this reduction apparently was not explained to a patient donor until after her consent was given, so as not to be an incentive for donation, but the anthropologist can wonder. Furthermore, a psychologist at one of the centers points out the social implications and dilemmas of the power imbalance between doctors and patients: “A physician who can give you the baby you want is like God. People who are donating think, ‘how can you say you won’t help this

¹²² In her work on semen donors in the United States, Tober (2001) argues that “true altruism” does not exist, as some form of self-interest is always at play in the donor gamete exchange.

person?’ They are ashamed if they don’t help because they are asking for an egg, so they should give back.” This example makes clear the power dynamics built into these biomedical practices, in which the practitioner’s control is often normalized as a given characteristic of this system of “expert” knowledge.

Alongside these idealized notions of altruism is a market reality that donating gametes is a service that demands retribution. Manuel Giordano, another biologist at Fertility Institute, in comparing semen and egg donation, points out why paying egg donors is practically a necessity: “With respect to the woman, it is much more complicated, she has to do a stimulation, go to surgery, it is completely different. The problem is that you are not going to find many women available to do that altruistically.” The gynecologist Lombardi, quoted above, also agrees that egg and sperm donors should be paid, even though for religious reasons he does not do gamete donation cases himself. Similarly, Tomás Navarro’s concerns about commerce have grown quieter in the face of the demands of the industry. Though he begins by presenting his original objection as a religious one, it turns out that it stemmed from the ideal of altruistic donation which he has since abandoned:

Before, I was against semen donation. I thought that...for a religious reason, I thought that it wasn’t very ethical, I thought...because it isn’t ‘donation.’ My problem was always that no one ‘donates’...Everyone *charges* money. If your boyfriend—you have a boyfriend right?—if he wants to donate semen, he doesn’t donate it, he charges...50 dollars, 100 dollars per sample. So, it’s not an altruistic donation of gametes. There is money in the middle, and that makes it dirty. And it takes away all the possibility of altruism, and converts it into a part of the business. That is how it is. I’m not saying that a medical student who donates semen will become rich off of that, but he can pay part of his studies with that. Simply by masturbating. It doesn’t seem like such an interesting, romantic and attractive thing. But this is a reality. The day that I realized that this was the reality, and that I couldn’t change it, *avanti*...

Though Navarro prefers altruistic donation, he realizes that this is not a realistic condition to work with. He therefore conceded his objections to the monetary, business-side of ART—exemplified in the case of gamete donation—when he realized that the activity would continue as such with or without him.

The Harvest



Figure 37. University of Buenos Aires School of Medicine. Photo by Kelly Raspberry, 2004.

The main source for ART centers in Argentina of donor sperm is through a private free-standing sperm bank, Cryobank, which is located in the posh *Recoleta* neighborhood of Buenos Aires.¹²³ Cryobank deals only with Argentine donors, usually medical students studying at the University of Buenos Aires School of Medicine. A biologist at Cryobank told me in an informal interview in 2005 that the sperm bank posts advertisements at the University soliciting male donors between the ages of 21 and 44

¹²³ There are other sources of donor semen samples that some centers use. There is another private sperm bank, CEUSA, which is affiliated with one of the infertility centers. I'm not sure if CEUSA is open to the public, none of the biologists at other centers mentioned using it. In addition, one of the centers has its own within-clinic sperm donor program for use only by the center's patients. A third clinic had its own sperm bank in 1998, but now uses Cryobank. A fourth center offers patients the option of importing donor semen from the Fairfax Cryobank in Virginia, USA.

years old. To select healthy donors, a range of basic tests are done—an interview, physical exam, spermogram, tests for Hepatitis B, C and HIV, and then the samples are cryopreserved for six months. After six months the potential donor is again tested for Hepatitis B, C and HIV, and only at that point is the tested sample distributed to the public (international standards prohibit the use of fresh donor sperm because of the risk of transmitting HIV). Most donors give four to five samples, and are paid a nominal amount of 80 pesos per sample (approximately \$27 USD). According to the Cryobank website, only 20-25% of those interviewed are accepted as donors (in comparison, California Cryobank’s website says they accept 1-2% of applicants and Scandinavia Cryobank accepts 8%). Apparently the sperm bank sends out 12-15 cryopreserved samples a month, but does not track the intended use of the sample—whether for inseminations, IVF or ICSI. The only records they keep are the quality of the sperm sample, and where it was sent. Like the prices at ART centers, the fee charged for a sperm sample changed with the economic crisis of 2001: before the crisis one sample cost 250 pesos—equivalent to \$250 USD—and by 2005 it cost approximately 350 pesos, around \$175 USD.¹²⁴ Notably, the Cryobank does not ship sperm samples outside of the country—according to the biologist I spoke with this is because the Argentine Customs office does not allow this.¹²⁵

Egg donation programs in Argentina differ from donor sperm in that they are conducted exclusively within-clinic, and therefore particular to each center. There are

¹²⁴ Fees have increased over time. By November 2006 the price was up to \$480 pesos for a basic sample, not yet processed. A processed sample costs an additional \$150 pesos (approximately). Notably, the Cryobank website does not list prices for the semen samples, unlike the sites of large international banks like California Cryobank and Scandinavian Cryobank.

¹²⁵ I suspect there is a different reason—not explained to me—for why Cryobank does not ship donor sperm internationally. Since there is no law prohibiting the shipment, the refusal on the part of Customs could be appealed by Cryobank.

also more contingents involved in egg donation as it is a more complicated procedure than procuring a semen sample. In general, paid egg donor applicants fit the following profile: under 30 years old; proven fertility (usually children of own); a psychological evaluation (must not think of eggs as children); in good health (negative medical checks for HIV, hemophilia, Hepatitis).¹²⁶ Patient donors go through all these checks as well, though they are on average older in age and in most cases do not already have children. After the selection process of a donor, obtaining the eggs entails the month-long process of ovarian stimulation and oocyte aspiration described in chapter two. Once they have been aspirated from the follicles, these donor eggs must be fertilized immediately with the recipient's sperm sample (usually obtained and cryopreserved ahead of time to ensure that it is viable and ready). While donor semen is always cryopreserved for infectious disease reasons, donor eggs are not—the technology for freezing eggs is not advanced enough to make this viable. Once embryos have developed out of the fertilized donor eggs, they can either be transferred right away, or cryopreserved for a later date. Usually the menstrual cycles of the potential donor and the recipient are coordinated so that the recipient's uterus can be artificially prepared (with hormone stimulation) to receive a fresh embryo transfer.

Most centers declare they do not agree with advertisements soliciting egg donation, instead they rely upon word of mouth—spread mainly through previous donors and interested patients—to bring in non-patient egg donors. In some centers donor referral has advantages, for instance at CREAR, a patient who finds a suitable donor moves ahead on the waiting list for gamete donation (however she will not be matched to

¹²⁶ As one of the directors at one of the centers is a geneticist, donors at that center are also submitted to genetic testing for Cystic Fibrosis, Fragile X and karyotype mutations.

this known donor); at IGYR a donor who brings in another donor receives a small compensation. This discreet solicitation is in most likely an effort to keep a low profile—though many centers now include paid egg donors, the issue is still a sensitive one. One biologist explains that this quiet consensus among centers is fundamental in this community of reproductive medicine:

It is like with the voluntary donors. Recently now they are using paid volunteers, but before no, because you were going to pay in order to give...in order that they donate eggs to you. It was something like, you were a monster, the black sheep of the institutes. But well, times have relaxed a little, other clinics are doing it, everyone is doing it, but no one says it in *vox populi* because it is like the discarding of pronuclear stage, we don't have any conflict in discarding them but we do not go out and say to the whole world, 'we discard.'

Controversial practices—like paid egg donation and the disposal of fertilized eggs—are done quietly at the centers so as not to raise strong objections. I will come back to the problematic of discarding fertilized eggs in chapter four.¹²⁷

Interval: Global Harvest, Local Risks

As I discuss in this chapter, the global side of ART is not just in knowledge, equipment, and culture media, but also in genetic material that is often procured in one country and used in another. These international flows are particularly common with donor semen, and their pathways (though a reversal of the common trajectory of donor organs) trace the first colonizers' travels from North to South. Indeed, California Cryobank calls itself a “world wide leader in sperm banking” and among its newest offers is “Nordic sperm”—sperm samples from donors in Denmark obtained by a new partnership between California Cryobank and Nordic Sperm Bank. This global trade in

¹²⁷ In Chile egg donation continues to be patient-based, without financial compensation.

genetic material raises several issues—among them the ugly specter of new forms of colonialism, eugenics, and the “whitening” of South American populations.¹²⁸ Here I confine my discussion of this global travel to an ethnographic incident that illustrates one of the dangers involved in donor gametes: that of a medical risk of infection.

In this “new era” of genetic risk, even the prestigious central site of California Cryobank is susceptible. The vulnerability of a sperm bank, even a world-recognized one located in the US, was made startlingly clear to me during an interview with a biologist at a center in Santiago, Chile in 2003. Even California Cryobank makes mistakes, as this series of phone calls makes clear:

We pause the interview when the phone rings, this call is asking about the use of a donor sperm sample back in 2000. I watch as [biologist] takes from a shelf a small notebook of handwritten notes on the purchase and use of donor sperm samples. I'm surprised this is the system they used just a few years ago—handwritten notes—and I'm not clear on if they have continued to do it this way. This particular time period was from when another person was director of the lab. When [biologist] gets off the phone he looks very upset and he tells me that this was California Cryobank calling and they are looking for a sperm sample they sold to the center in 2000. They've done some testing and it appears that this donor is a carrier for cystic fibrosis. He tells me this is the first time in his experience that anything like this has happened before. He then takes out a phone directory and looks up the doctor's name who was the attending doctor for this patient, since he doesn't have a record on whether the woman who used this sperm sample got pregnant or not. The doctor is someone who isn't medical staff here, but has an arrangement to bring patients who want ART services to the center.

¹²⁸ These issues deserve an extensive analytical critique that is beyond the scope of this ethnography.

He reaches the doctor and finds out that this woman didn't get pregnant, it was an insemination case. But she does still have a cryopreserved sample from this donor because she bought two from him, and one from someone else. [Biologist] makes another call to someone to locate the stored sample and to mark "do not use" on it. He leaves the room to do this and comes back shortly after. Then he calls the doctor to tell him that he's marked the sperm sample and that if the patient is going to do any further inseminations, she will need to use another donor. He tells me later in his view, the most important criteria for matching donor and recipient is blood group, all the physical characteristic-matching does not matter so much. He also tells me that they have been using California Cryobank for years, and that they use it because it is generally a good sperm bank. He tells me that the screening procedures that they use are rigorous and that makes them worth using even if it is a long way to ship. I ask why not use the sperm banks in Buenos Aires, as they are much closer and probably less expensive. He tells me that the screening isn't as good for those banks, that they aren't as rigorous in their testing and so he prefers to go with California. He adds that the cost of shipping (which the patient pays for) isn't very high, maybe an extra \$300 USD. He also says that there are some good cryobanks in Europe also, and sometimes they use these, but that is even farther away so it's less common.

The phone rings again, it is the cryobank trying to find out if the woman who bought the donor sample was pregnant. [Biologist] speaks in English with the cryobank representative and later I ask him why he is doing this. He tells me that they speak "Mexican Spanish" and that it is difficult to understand so he prefers to just use English instead. He tells the caller that she didn't get pregnant and that they will not use the

remaining sample. He asks them to send a letter to him that he can pass along to the doctor that will explain what happened and apologize. And that the doctor will share the information and the letter with the patient. He says it's okay to write the letter in English, they will be able to understand it. Then he says to send it by email to his address since the post in Chile is very slow. He asks them to arrange to either give a refund to the patient or give a new sample, depending on what she prefers to do. He hangs up and we resume our discussion.

Five minutes later the phone rings again, it is the cryobank yet again and this time they are calling about another donor sample that was sold to someone at this center. This donor has also tested positive for being a carrier of cystic fibrosis. [Biologist]'s face is very upset at this news. He looks at the notebook again and can't find the last name of the patient they are telling him they sold to. He thinks maybe it wasn't at this clinic. I hear him asking why they are doing this to him. Finally after about three minutes of going back and forth on this, and [biologist] scanning through the pages of the notebook, he finds out that they are using the wrong last name. It is under the woman's last name, a convention that English speakers don't understand since they usually only use the husband's last name after marriage. He finds the recipient and agrees to call her doctor and find out if she got pregnant. When he hangs up he looks at me writing and asks if I'm writing this stuff down. He tells me I should not. He is concerned about the sensitivity of this information. I stop my note-taking from then on, and fill in the rest from memory later that day. What happens next is that [biologist] calls the other doctor, who is a colleague of the first doctor and doesn't find him. So he calls the first doctor again and gives him the message and asks him to find out if the woman became pregnant. This

sample request is also from February 2001. There are no more phone calls about this today, and we continue the interview. Before resuming, I ask if maybe he'd prefer not to continue since he's a bit shaken up by this news, but he says it's okay. He also apologizes profusely for the interruptions.

“El Mercado Fecundo”: The Fertile Market

“It should not have money in the middle, because if it does it is a sale. If the motive is economic it degrades the donation, and it also increases the risk that the donor will falsely answer very important questions, like if in her family there are antecedents of genetic diseases. What I do think is that the woman who donates should not have any expense, and that is why she should be given a reimbursement. But not a payment that is disguised as a reimbursement.” Claudio Chillik quoted in *Clarín*, August 18, 2005 (Farber 2005)

Since the introduction of paid donors, the quantity of egg donation cases has dramatically increased in Argentina. By July 2006, egg donation accounted for between 12 and 30% of all assisted reproduction cases in the country (as documented in various newspapers articles, see Bär 2006; Riós 2006). In an article published in *La Nación* examining this phenomenon, gynecologist Gabriel Fiszbajn is quoted as saying, “Five years ago it was used in 10% of the procedures and now that figure reaches 30%” (Bär 2006). Indeed in an interview in 2003, one biologist explained to me that an increase in egg donation cases was one of the ways that the center she works at endured the economic crisis of 2001:

When we began in '95, '96 with donation we were doing 10 or 15 donation cases per year. Now we have about 120 cases of donation, in other words what we lost in normal patients we are gaining in egg donation cases. So actually we maintained stability, because of these other things.

These increases in the use of egg donation are tied to both the improved accessibility of using egg donation—a larger pool of donors means less waiting time for recipients—and the relatively good success rates that the procedure promises. Since paid donors are selected primarily based on age and fertility, their eggs fertilize well, resulting in a pregnancy success rate of approximately 40%.¹²⁹

In the face of the growing popularity of gamete donation, there is additional impetus to control and monitor the “market” aspects of the practice. Restricting the influence of the market takes two primary forms in Argentina: a self-imposed ceiling on what is paid for egg donation, and prohibition of donor trait selection.¹³⁰

Financial Reimbursement, not Incentive

“This is important because there are, including in the United States, there are agencies that accord value to the characteristics of a donor. In reality this is condemned by all the ethics committees everywhere because it is like saying, ‘well, I put my own price on my material.’ Not here, it is a compensation for the disturbance, the time we are taking away from you.” Mateo Capaldo, a director at IGyR

Despite the presence of paid-donors in their within-clinic egg donation programs, reproductive medicine professionals cling to the assertion that ART is a medical treatment, and not an economic enterprise. Under this logic, paid donors are given a small “reimbursement” in order to cover any transportation costs, lost salary and in recognition of the time that the donor has invested. The sum is in no way meant to entice women to

¹²⁹ Capaldo told me during an interview that success rates at IGyR with egg donations are very high—around 80%, due in part because they match each donor one to one with a recipient. Other centers, like CREAM, often maximize a paid donor, dividing up her eggs between as many as three or four recipients. In other words if a donor produces 20 viable eggs, at CREAM, each recipient will receive 5 of those eggs. The fewer number of eggs that are fertilized, the lower are the chances for good embryos to develop, to implant and to become pregnancies.

¹³⁰ As mentioned earlier, compensation for a sperm sample is already well-established and not a matter of concern for most professionals who agree with gamete donation.

donate for purely financial motives. As Giordano, a biologist at Fertility Institute states, this amount must strike a balance: “international recommendations say that it isn’t necessary to pay so much, so that it is not like a salary, but neither [so little] that it doesn’t interest anyone.” In what seems an unspoken agreement, the centers that provide gamete donation all offer about the same amount to egg donors—between 1000 and 1500 pesos (between approximately \$330 and \$500 dollars) for each time the woman donates. Most centers also permit the same woman to donate only two or three times total, in part to ensure that no one regards donation as “a way to make a living.” Constanza Rovere, one of the directors at Conceive explains that non-patient egg donors are not “paid” as such, but rather compensated for their effort:

the economic retribution that they are given is for the time that they lose, for the salary they lose. [...] The transportation costs, all the costs. It is a retribution that justifies all of that, but obviously it is always a little more than that. But nothing like what happens in the United States. Because we...Our IRB, our institutional advisor...it’s not that retribution doesn’t seem right, but it doesn’t need to be a retribution—how can I explain—that is excessive. So that they only donate for the money. There has to be a spirit of wanting to do it for another person, wanting to give to another person.

The idea is that all donors, paid or not, should be primarily motivated by a desire to help someone else, rather than for any economic reasons. The money that is given is constructed therefore as compensation and not as a fee. Nicolás García, one of CREAM’s directors, is very clear that gamete donation should not be a paid for, though he recognizes that this means less people will donate: “From the practical point of view it is going to limit it. But I think that in the end, to submit yourself to medication, or to give away part of your genetic inheritance for money...it should not be like that. If you do it out of goodwill, to help another person, it is welcome.”

However, this is not a wholly realistic view of paid egg donation. Receiving money for egg donation can be an incentive for some women, particularly given the difficult economic situation in the country. Capaldo recognizes this motive, though he attempts to present a controlled situation by insisting that the ‘quality’ of the donation is not given a price, just the act of doing it:

...obviously for these women, the motive for donating their eggs I would say in this moment, is the compensation that they receive. We do not pay for the quality of the eggs, but for the fact of donating them. In other words it is the same to us if she is a model, a she has a great figure, or if she is a maid or whatever. This is important, it is not that someone says, ‘do you want me to donate your eggs,’ and you tell me, ‘I am going to charge you \$50,000 dollars.’ No. For everyone, as they have to do a treatment that at a minimum is going to be at least twenty days, that implies a loss of salary and pause in their activities. So obviously we have to pay the transportation costs and the time that we are taking her from her work. Obviously as here there is so much unemployment and the salaries are not very good, obviously it will be more attractive to receive 1000 pesos in compensation and to not be without work, than getting 300 or 400 pesos which really is what people earn.

In admitting that money may motivate some women, Capaldo downplays the commercial aspect of the exchange. Capaldo, like Rovere, emphasizes that this practice is different from that in the US where donors are selected for having certain qualities and the price paid for their gametes are adjusted accordingly. From these viewpoints, to pay for (and elect) donor gametes has the negative connotation of equating a child with a consumer product that is chosen and bought. Whereas “society” in the form of a (scientific-religious) morality is an acceptable part of medical practice, “society” in the form of an economic market is not. This refrain is similar to that given against surrogacy arrangements, which are also seen as involving direct market relations, a practice I discuss later in the chapter.

Medical Matching

The other primary method of restricting egg and sperm donation from belonging to the economic market—and from disturbing the family order—is to not allow for donor trait selection. Because matching donors to recipients remains under the direction of health professionals, gamete donation can be construed as separate from both the potential “chaos” of the free market, and from social influences. In this way, the medical professional is an intermediary who controls and neutralizes the exchange, supposedly stripping it of commercial context.

The “matching” that a given center therefore performs between donor and recipient is an approximation of similar phenotypical characteristics and blood type, for both egg and sperm donation cases. Sanchez, a biologist at Fertility Institute, explains how the process works for donor sperm, which is bought from Cryobank Argentina, emphasizing the importance of shared physical traits:

I would say, for 99% of the couples what they want is that the semen donor looks similar to them. It is absolutely infrequent for a couple to tell you, ‘I’m not interested in what the donor is like.’ What interests them is that the donor has the same features as the parents who are going to receive the sample. So you create a form, there is a form that you complete with all the information, phenotype, you also ask for blood group, height, eye color, hair color, of both, of the couple and the grandparents, and the parents also. So with all this information, what we do is call Cryobank and we say ‘look, we need a sperm sample whose donor has these characteristics.’ And they send you the sample.

In contrast to the service offered by many international sperm banks, at Cryobank donor profiles are not available to potential customers to select from, instead the attending doctor matches the description of phenotypical characteristics of the donor with those of the patient. The same is done with egg donation, though this takes place completely

within-clinic.¹³¹ At the request of the recipient couple, the attending doctor will often also use photographs of the couple and their family, as well as those of the donor, to make this phenotypic match. However these photographs remain confidential and are only seen by the medical staff.

With no trait selection and imposed anonymity, the consequential third-party in a gamete donation situation thus becomes the “scientifically-neutral” doctor, rather than the potentially-disruptive donor. Unlike the known or elected (trait selection) donor, the doctor does not threaten the order of the family. Capaldo explains that for this reason, at his center they do not provide photographs of donors for recipients to select from:

We do not work with photographs because it seems to me more like the job of an agency and since this is all relatively new, it wouldn't be very nice for the recipient to have an image and then to be on the street, continually trying to see which woman is the one who donated her the egg. That is how we see it, maybe it is not like that.

By overseeing all aspects of a third-party interaction, the health professionals attempt to prevent the possibility of “irrational” emotions and actions that would upset the precise, naturalized social order of mother, father, and child.

In discussing the rational guidelines for gamete donation in their clinics, health professionals in Argentina often favorably compare their own programs to the “free for all” system in the United States. As mentioned above, practices of gamete donation in the United States are deemed as a morally-inferior default model—the probable result of society and the market having free reign, as opposed to medicine setting the standards. However, the situation in Argentina is not as purified as these doctors claim. To begin with, there *is* an exception to this ban on trait selection: in the form of expensive,

¹³¹ At some centers (like CREAR) the within-clinic egg donation program is centralized, with several doctors overseeing all donors and recipients. At others (like Fertility Institute) egg donation is more individualized with each doctor managing their own list of donors and recipients.

imported, foreign sperm donors. Patients at ISR are offered the option of paying for Fairfax Cryobank semen samples imported to Argentina from the United States. Using Fairfax Cryobank allows the patient to select not only the donor characteristics of their choice, but also request sex selection of sperm (for both cases of sex-linked genetic disorders and “family planning”). As I mentioned, neither of these selection options are available at the local Argentine sperm banks. Notably, the high cost of using Fairfax Cryobank—one vial of donor semen costs at least \$200 dollars, and international shipping of the cryotank costs another \$900 dollars—means that the majority of patients seeking semen donation rely on the local banks.¹³² (A doctor at ISR said that sometimes several couples join together to pay for a shipment of cryopreserved donor semen from Fairfax—one tank can fit several samples at once). As far as I know, ISR is the only ART center in Argentina that uses an international sperm bank, however in Chile there is no local sperm bank and so almost all the centers use California Cryobank, and patients select their own donor profiles.¹³³ This situation suggests that in contrast to preferring the currently-idealized system of anonymity and medical oversight, if couples have the option to choose donor characteristics, they will probably do so—despite the “mess” this might create in family relationships, not to mention inside the rational (*not* market-driven) space of the clinic.

Reproductive medicine professionals therefore strive to minimize the impact of the social and economic context within which they work. These boundaries are flexible at

¹³² Prices taken from the Fairfax Cryobank website: <http://www.fairfaxcryobank.com/fees.aspx>, accessed on January 31, 2007.

¹³³ According to a biologist at CERS in Santiago, Chile is too small of a country to make a sperm bank with the proper controls profitable and useful. Furthermore, the biologist says the reason that CERS contracts donor semen from California Cryobank rather than from Cryobank Argentina is because the controls at Cryobank Argentina are not as rigorous (not because Cryobank Argentina can not ship internationally).

times, as the introduction of paid donation reveals. However there are certain lines that are not crossed. In the next section I discuss one of these untouchable borders: surrogacy arrangements.

“Madres Prestadas”: Borrowed Mothers

“I think the methods of donation—surrogacy was born out of donation and all these things, they are absolutely methods of exception. Because...I think that as a doctor you are treating a disease. And I am not very convinced that when you use donor gametes, you are treating a disease. You are participating in an act of adoption. There are people who will propose to a woman, because she is 40 years old and has an FSH level at the limit point, or has a poor response of two or three [eggs]...they tell her, ‘no, better to do it with donor sperm or donor eggs.’ No. I think that you have to try to struggle so that it is the most natural possible within what there is. And of course I am stubborn about things like post-mortem inseminations or things between homosexuals because they are not part of the history of natural reproduction. So, you make a balance between what is natural and what is not natural, because of course it isn’t ‘natural’ to do in vitro fertilization. But neither is it ‘natural’ to give penicillin for pneumonia.” Sergio Hernández, gynecologist in Santiago, Chile



Figure 38. "Borrowed Mothers" article published in *Las Noticias*, Oct 2006

Unlike gamete donation, which is practiced within a set of clearly-defined medical controls, surrogate arrangements are viewed as impermissible by the reproductive medicine community in Argentina, primarily because of its commercial connotations. In Argentina, surrogacy is viewed as belonging neither to the realm of medicine or nature, but to a commercial arena of consumer practices, of “renting” and “buying.” Indeed this market-location is embedded into the language itself—the very term in Spanish used most frequently in Argentina to describe a surrogate arrangement is “*alquilar un utero*,” which translates as “to rent a uterus.” Furthermore, the Roman Catholic Church, in *Donum Vitae*, characterizes surrogacy arrangements as “contrary to the unity of marriage and to the dignity of the procreation of the human person” (Pellegrino, Harvey, and Langan 1990:23). For these health professionals, surrogacy—to an even greater extent than gamete donation—blurs the ethical line between medicine and the market/society. In the case of surrogacy, the negotiation of the limits of ‘modern’ medicine can only be resolved through absolute rejection of the practice.

In its basic form, a traditional surrogate arrangement involves one woman agreeing to carry a pregnancy and give birth for someone else—the “intended” parent. This pregnancy can be created with the use of the surrogate’s eggs, or in the case of “gestational” surrogacy, with the eggs of another woman (usually the woman who commissions the surrogacy). Traditional surrogacy only involves a sperm insemination, while gestational surrogacy requires an IVF procedure and the transfer of the created embryos.

According to those that I talked with, surrogacy is not officially permitted or practiced in Argentina by ART professionals for two reasons: because it is a primarily

economic arrangement, and because there are no legal protections for the agreement. The protestations against involvement with surrogacy are therefore founded upon the idea that medicine has no place in the purely commercial world of a surrogacy arrangement. A professional involved in the Argentine Society of Reproductive Medicine explains why the society prohibits surrogacy:

Because it is a commercial problem. It is to pay a person to carry forward the pregnancy. And to submit a woman to the risk of a pregnancy with a commercial contract is something that we do not agree with. [...] In other words I can not obligate you to give me your child, just because I paid you, or because the embryos are...[mine].

This view reduces surrogacy to an entirely commercial transaction in which reproductive medicine does not belong. One of the directors of IGyR, Mateo Capaldo, also voices common objections to surrogacy:

Renting a uterus [*el alquiler de utero*]*—*I think that it should be discouraged in all cases. First, because I consider it illicit, the proposition, because one isn't respecting the other individual as a person, but rather as a thing, 'you are going to do what I say.' You see? And the other reason is that it doesn't have legal support.

Surrogacy is therefore problematic not only because of the financially-based relationship created between the surrogate and the intended parents, but also because the contract drawn up between the interested parties is not recognized as legally binding in Argentina. With respect to this legal vacuum, the involvement of an ART center would result in a consent agreement that has no legal validity—based on the Civil Code, the woman who gives birth will most likely be recognized as the mother, even if the eggs came from someone else. Capaldo explains that this is a common problem for surrogacy internationally, "If you look at the law around the world, or where it is legislated, priority is always given to the woman who gives birth to the child, as the legitimate mother, independent of the genes." Making a surrogacy arrangement legal would most likely

entail an adoption on behalf of the non-surrogate woman, however this would not be an easy process given the adoption system in Argentina. Without a law to recognize surrogacy as a legal (and therefore legitimate) option for making a family, surrogacy remains on the margins of society—a financial transaction. It is unlikely that surrogacy will be legalized any time soon in Argentina. Most of the legal proposals for regulating ART up to now ban surrogate arrangements. For instance, in the law proposal drafted by the Argentine Society for Reproductive Medicine (SAMeR) in 2005 (mentioned in chapter two), surrogacy is explicitly prohibited and considers a surrogacy contract as null.

On the other hand, one professional in Argentina frankly told me that she agrees with surrogacy, provided that it is legally regulated. A gynecologist at one of the centers in Buenos Aires, this doctor disagrees with the prohibition in SAMeR's proposal. In her view, surrogacy is occasionally necessary to allow a couple to make a family (again, there is an apparent dismissal of adoption as an option):

What I don't agree with in the current proposal is that they want to prohibit gestational surrogacy. I don't think...For me, the word 'to prohibit' in proposal from the Argentine Society for Reproductive Medicine, it seems terribly inappropriate. I mean, I think that that gestational surrogacy is an extreme situation and sometimes it is very necessary. [...] There are many women who are born without a uterus but they have ovaries. They marry, and they can generate their own embryos...So why not? If it is all regulated, if it is done well, with antecedents and etcetera...

Our country has a disadvantage because the mother, according to the legal [Civil] Code, is the one who gives birth. So I am not going to do surrogacy here. When I have patients—I have many patients that come for surrogacy and who need it. Many, because they are born without a uterus, those are the most poignant and clearest cases. So, why not? And many, who suddenly have very serious problems in the uterus.

So, what I do, precisely in order to avoid any type of conflict, for my patients who have the possibility—obviously, unfortunately, again we return to the same issue—it can only benefit those who have economic possibilities. I have direct contacts in the United States, I really like to work with those in the State of California where they have a lot of 'know how' and everything. And so, many have done the surrogacy there. They do everything necessary here and then they

go over there. Another thing that I have as of recently is the contact for a center of surrogates, they can send you the recipient [surrogate] here. So, then they do everything here. But the child is born there. But that also has an extremely high cost. And with the economic problematic of Argentina in recent years, few Argentine patients can access that. Because the cost is very high.

Because surrogacy is not protected by law in Argentina, this gynecologist claims to not do it herself, but rather recommends her patients, or at least those who can afford it—to places where they can do surrogacy legally. In this view there is again an apparent dismissal of adoption as an option for making a family, or at least as a preferable one. According to an article published in 2006 in the weekly magazine *Las Noticias*, this gynecologist is not the only person in Argentina who agrees with surrogacy. This rather sensationalist article—entitled “*Madres Prestadas*” or “borrowed mothers” claims that there are private parties in Argentina seeking surrogacy arrangements through internet chat groups and classified advertisements in newspapers (Bossi 2006).¹³⁴ The article details a classified listing posted in a provincial newspaper by an Argentine business man (living in Barcelona) which reads: “Looking for a ‘belly’ [vientre] to rent in order to have a child, pretty woman 18 to 28 years.” Apparently the man received 600 emails from interested Argentine women.

Prenatal “Adoption”

“Now we are more restrictive in terms of cryopreservation than before. For example, if a patient had fifteen fertilized eggs, maybe we would let all fifteen develop and then we would cryopreserve for three attempts, and then you would have a lot of opinions going around [about what to do with the cryopreserved embryos]. So what you could do, which is what we are doing now, is to make a better target and do only one frozen transfer. This

¹³⁴ This article also refers to the surrogate woman as the “*mamá rentada*”—the ‘rented mother’ and traces an Argentine couple’s efforts to find a suitable surrogate in Argentina. There are also photos of high-profile celebrities and their relation to surrogacy—Sharon Stone and Jodie Foster supposedly used surrogate arrangements to have children, and Argentine Ballet Dancer/Choreographer Julio Bocca (who is gay) is said to “fantasize” about using surrogacy to fulfill his desire to have a child.

is the institution's norm now, and the patients who do not want their embryos can donate them. It is like adopting a child, it is like donating, actually, the gamete already mixed."
Julieta Moretti, biologist at CREAR

I opened this chapter with adoption, and I close by examining a new twist on traditional adoptions, made possible through ART: the “adoption”—or donation—of in vitro embryos. Unlike gamete donation, accepting a “donor” embryo does not allow either member of the couple to pass on their genetic material, however it does allow the woman to experience pregnancy, which a “traditional” adoption does not.¹³⁵ This newly-emerging practice is not developing so much from the demands of infertile couples, or the invention of a new technique, but rather from a practical problem in the laboratory of ART centers: the excess amount of unwanted, frozen embryos in storage. In ART centers around the world, unclaimed and unwanted cryopreserved embryos are accumulating in nitrogen tanks and the case in Argentina is no different. The problem of what to do with these stored embryos is a difficult one to resolve, as it requires an agreement over the moral status of the in vitro embryo and suitable legal protections, neither of which exist in Argentina. I examine the problematic of the moral status of the in vitro embryo, as well as the technique of cryopreservation in more detail in the following chapter. Here I look specifically at the practice of embryo donation as one proposed “resolution” to this storage problem.

Centers in Argentina today are aware of the stored-embryo dilemma and therefore try to cryopreserve the least amount of embryos possible. However there are and continue to be many embryos frozen and stored in nitrogen tanks, some dating back to when the

¹³⁵ In Argentina embryo donation is directed towards heterosexual, infertile couples. However according to a local article published in 2004 on embryo donation in Spain, the practice is offered in Spain as an “adoption” option not only for infertile couples, but also for single women and couples who are interested in traditional adoption (Ricart 2004).

centers first began cryopreservation. This is because during a typical IVF or ICSI case, more embryos are created in the laboratory than will be transferred at one time. After selecting the most viable, best-quality embryos for the fresh transfer, the rest are frozen with the idea that the patient will want to transfer them at a later date. While most patients decide to thaw and transfer the stored embryos, others do not. The centers are thus left with the stored embryos, sometimes without even current contact information for the previous patient. Giordano, a biologist at Fertility Institute, explains the different options for solving this difficult situation:

You have three options: you leave them there indefinitely, that is what is happening here, some have been there [in storage] since 1994 and they continue to be there without any type of decision. Or you discard them, like they do in England, but here they are not going to do that because, even though there is no law, it would be very poorly seen, very poorly. Or you use them for research, or you donate them. Using them for research purposes is also badly seen.

The hypothetical options as Giordano summarizes them are: to leave embryos in the storage tanks indefinitely, dispose of them, use them for research, or donate them to another couple. However, these different paths depend ultimately on how the in vitro embryo is defined, existing legislation, and the social climate for a given practice. As he points out, these are morally and legally contentious and unresolved matters in Argentina:

Of course, here we have the key question: what are they? Because if they are persons, I can't use them for research, and if they aren't, then I can. If they are not persons, why can't I use them for research? Why can't I throw them out? For me that is the question. Out of all of this, that is the question. [...] Now, to donate them...okay, yes. Whether they are or are not persons, you can donate them. I agree with that. But the problem is that I don't know if they are persons, and if they are persons, it is like an adoption. So, doesn't a judge have to intervene for it to be an adoption? Can they just donate like that? Once a couple donates, is that it? The law doesn't intervene?

The problem with donating an embryo thus returns us once again to the lack of legislation in Argentina over ART practices and the ambiguous legal status and rights of an in vitro

embryo. As Giordano brings up, if embryo donation is a form of “adoption”—because the embryos are considered similar to children— then a judge would need to participate to make the exchange legal.

It would be quite useful for ART centers to be able to donate to other couples those embryos that are unclaimed, or unwanted—and therefore empty out their nitrogen tanks and lessen their responsibility for these ambiguously-defined entities. However there are obstacles to being able to do this on a regular basis. One is a practical limit, which has to do with characteristics of the embryo itself. Only embryos created with eggs from women under 35 years old are considered eligible for donation. This is because the risk of the egg carrying chromosomal abnormalities increases significantly in women over 35 years old (or at least that is the medical consensus, such a precise age cut-off is difficult to determine on an individual basis).¹³⁶ This is the same rationale used for the age limits of egg donors. A biologist at CREAR explains:

To do embryo donation I need to be careful with the matter of genetics. There you have a quite important limit because our average [female patient] age is more or less 35, 36 years old. In other words I have many patients over 35, which is the maximum age able to donate. So those embryos that are frozen are a problem because the patient doesn't want them and I can't donate them either. It is a risk, I mean, if I am 37 years old and I want to have a child, well okay. But if I am receiving an embryo, I am not going to want to have genetic problems, it is like with egg donation.

Given that the median age of female patients at most ART centers is around 35 years old, the genetic risk that the majority of embryos may carry immediately reduces the number of potential frozen embryos to donate. Embryo donation is therefore only a partial solution to the problem of surplus stored embryos.

¹³⁶ See Berkowitz et al. 2006; Dulitzki et al. 1998; Heffner 2004; Munné et al. 1995.

Another significant impediment to embryo donation is the reluctance of former patients to donate their embryos, even ones they do not plan to use. Though a center may have a long waiting list of women/couples eager to receive a donor embryo, the eligible couples who consent to give their embryos to someone else are much fewer in number. For example, a year after beginning to offer embryo donation (in September 2003) CREAR had done only four cases resulting in two pregnancies:

Because patients don't want to donate them. The waiting list for embryo recipients is very long. There are a lot of patients who would accept, but the patients that have to donate them, it is like they have, I don't know, more problems to donate a single gamete, than something that is genetically complete from the family, from the couple. That is why we aren't doing it so much.

This reluctance stems in part from the meanings being given to genetic material in this context. Because gametes carry a copy of a person's genes, they are thought of as embodying part of oneself. The embryo, an already-formed combination of two gametes, is even more readily identified with. Viviana Suárez, the program manager at RMI explains her aversion to donate gametes, much less embryos:

I'm very surprised by people who donate eggs or who donate semen because it seems to me that they aren't conscious of what they are donating. So imagine a person who donates embryos...It's like well, I am a mother, I have three children and I say, 'how can you calmly donate sperm, eggs? Because for me they are part of me, they are my children.

For Suárez, not only the in vitro embryo, but even the egg alone is thought of as *her* "child." This position relates to a particular notion of genetic identity, and the view that your genetic material defines who you are. From this viewpoint, giving someone else your genetic material is necessarily passing on part of yourself to someone else.

This construction of genetic material is pervasive. Indeed even those professionals who agree with gamete and embryo donation—and recommend it to their patients—

impart their own genetic material with a sense of self-identity. Julieta Moretti, a biologist, is a case in point. Though she is in favor of gamete and embryo donation and would accept donor eggs if necessary, she is uncomfortable with the idea of donating her own eggs:

One thing is to have in your uterus, something that genetically isn't yours, that doesn't matter to me because it wouldn't change the love that I would have for the baby that is born. But to have my half-child...I would see it as my half-child walking on the streets without knowing, I think that would make me, it would make me a little anxious. No, I don't think so. [Kelly: But you know that they are cells, that it isn't a child.] No, I know that, but it has the potential to be something, and if it did become something I wouldn't know if it was or not, I would keep going around the ghost of the question, 'was it born? Was it not born? Do I have [a child]? Do I have [a child] or not?'

Moretti, even though she knows that her eggs are only cells that carry her DNA, would not donate her eggs because her eggs are imbued with a sense of “belonging” and personhood. She personifies her eggs to the point of imagining a child created out of them as being half-way “belonging” to her because of the genetic tie. Similarly one andrologist, when speaking about gamete donation also emphasized genetic identity:

The problem is that if you start thinking about it, they are half-way your children. Part of your genetics is dispersed in the world. That is very strong. And I don't know if I would be so calm donating sperm, knowing that part of my genetics is out there, no? Part—they are your half-children. That is powerful.

From this perspective, the genetic material that you give to someone else is still a part of you—and therefore any resulting children from your donated sperm or egg will be halfway “you.” Given the meaning that gametes alone take on, even for these professionals, it is not surprising that in vitro embryos are an even weightier substance for patients to donate.

Because of this strong identification with genetic material, to give an embryo for research purposes, rather than to someone else to make a family, becomes the more tolerable option. Rovere, one of the directors of Conceive, speculates on this preference:

The funny thing is that, statistically, when patients save their embryos made with their own gametes, in general when they do not want to use them, they prefer to give them for research and not to donate to other women. Because it is a fantasy of having...It is logical, you start imagining that you have in another place, in some place, there is someone who has a child with the characteristics of the two of you. It is not the same to donate eggs or sperm separately, than an embryo that is already made. That is why. I don't know exactly why, but I think it has a lot to do with that. And that happens in the whole world. Also in the United States. They say that 80% decide to donate to research, and there are few people who want to donate to someone else.¹³⁷

Since the embryo has already been conceived as part of oneself, donation lends to the idea that your "child" is being raised by someone else. The lawyer Ana María Picolotti, who has triplets from an ICSI procedure, also explains that she would rather give her remaining cryopreserved embryos to research than to another couple. She explains her preference is based on two things: her understanding of the moral status of an embryo, and the meaning her own genetic material has, particularly when there is no law that protects her rights:

I would have more tendency to give it to research in [center] than to donate it. [...] And on the other hand, I think that you create a certain tie with your genetic part that is there inside, that I don't know if I would be able to separate that in order to give it for adoption. In all respects, the existence of a law would help me. I think that in this moment, to give an embryo is risky. [...] There is nothing that protects it, there is no law, there is nothing that says that you are not going to be able to claim from me my maternity, that this child once born, is going to be able to do a DNA [test] and is going to be my child...and my husband's child. It doesn't give me legal security.

The potential that giving this embryo that is "part of you" to someone else, and then later to be made legally responsible for the resulting child implies a high legal risk. In contrast,

¹³⁷ See Parry 2006 for a discussion of patient opinions concerning embryo research and donation in England.

embryo research would absolve the donor of all potential responsibility, since that embryo will never become someone else's child. However, as I discuss in chapter four, embryo research is not as of yet a permissible practice for ART centers in Argentina.

On the other hand, under the construction that embryo donation is a form of “prenatal adoption” of a potential child, it becomes acceptable to those who would otherwise disagree with a “third-party” intervention. For instance, Fernando Pérez, who because of his Catholic principles advises couples against the use of gamete donation, and recommends adoption instead to his patients. As mentioned earlier, his center, RMI, does not provide gamete donation and only allows cryopreservation in exceptional circumstances. However, he is in full agreement with embryo donation:

I think it is acceptable. I think it is one of the possibilities where...it is a mature and concrete possibility, in which the person who decided to freeze embryos and is not going to use them, permits those embryos to evolve towards life. That is with respect to the embryo. With respect to the couple, I think it is...I don't know the statistical results of how many people accept to do it, but I know that there are very few people who accept donating their own embryos. In practice the technique evolves...the concept of donor embryos evolves very slowly, because for the people that already had a pregnancy and already have children it is very difficult to accept donation of their own embryos. [...] It seems to me like a—as it is called in some cases, prenatal adoption.

Pérez supports embryo donation for two primary reasons. The first is that it allows the frozen embryo the chance to be born, and the second reason is because he views it as a form of ‘prenatal adoption’—the couple ‘adopts’ an embryo, and therefore gives it life and parents. However he also realizes that the very construction of the frozen embryo as already someone's ‘child’—which facilitates the view that it is an adoption—also makes it more difficult for couples to choose to donate their embryos. For some ART professionals, the characterization of embryo donation as “prenatal adoption” creates a complicated situation with regards to the embryo. The term prenatal adoption confers a

status of “personhood” on the embryo, which has implications for other ART practices, as I discuss in the following chapter. In contrast, for the recipients of an embryo, the concept of “adoption” can be a powerful incentive. For instance, in November 2006 *La Nación* ran a series of related pieces on a Catholic couple from Buenos Aires who received a donor embryo from an ART center in Barcelona, and are now expecting a child. The woman is quoted as referring to this as an adoption: “For us an embryo is a person. What we did was to adopt a child who was waiting, in the cold, for the opportunity to live” (Pisani 2006).

Conclusion

In the context of valorized heterosexual reproduction in Argentina, assisted reproduction practices are calling into question the meaning of genetic material while also reproducing and reflecting certain values of family. Rather than belonging to a neutral zone of reason, specialists in assisted reproduction are not separate from the social worlds they serve. The very practices of assisted reproduction themselves enact and reproduce power dynamics and social hierarchies, in which “scientific” values vie for prominence alongside and in relation to other influences, like market conditions, ideologies of family and biological inheritance, and Catholic ethics. In controlling gamete donation, the medical doctor as double-mediator neutralizes and replaces the alternative of a more social (personal and market-based) relationship between donor and recipient. Taken as a whole, medical intervention in reproduction appears to follow a continuum of acceptability, in which blatant market-derived practices—like surrogacy—are less favored than both more “technological” (clinical) and “naturalistic” ones. In this way, the

“technomedicine” apparatus of ART mediates between society and nature—at times standing in for nature as the neutral absolver of unacceptable social relations, at others enabling a “more natural” process to take place (as with embryo donation). The fundamental key in this case, is that medical professionals prevent society—in the form of market-driven values—to determine the conditions for human reproduction.

In the following chapter I look at the problematic of the unresolved and ambiguous moral and legal status of the embryo in Argentina. In particular I examine how this ambiguity plays out through the practice of two ART techniques: embryo cryopreservation and preimplantation genetic diagnosis (PGD).

INTERLUDE IV

“I Would Not Freeze My Children”: Cryopreserved Embryos and a Legal Guardian in Buenos Aires

“Rabinovich belongs to the Opus Dei. He is tremendously Catholic. It is all madness, that an embryo be considered a child, that a judge appoint him as a guardian from those children, that no one listens to the ‘voice’ of the parents or of those that have created the embryos. It is all madness. It’s not only Rabinovich, there are a lot of crazy people. [...] Rabinovich is not a reflexion of Argentine society. Rabinovich is a reflection of a sector of the Church who is against assisted reproduction techniques and wants to define the embryo as a child. Society in any part of the world divides into those who have an infertility problem and those that don’t have an infertility problem. The vision of the techniques, or of what is an embryo, or of what is permitted or not, is very different for those who have infertility problems and those who do not. And usually what is heard from the least is the opinion of patients who have infertility problems. They are the ones who should have the most ‘voice’ in this.” Nicolás García, gynecologist and clinic director, August 2005

In November 2004, a judge in Buenos Aires appointed the Catholic lawyer Ricardo Rabinovich-Berkman—a member of the Catholic group Opus Dei—to be a legal guardian over the cryopreserved embryos stored in ten ART centers in Buenos Aires.¹³⁸ Rabinovich, who believes that these cryopreserved embryos are *children* who have been abandoned, has been petitioning the court since 1993 to protect the human rights of all fertilized eggs and embryos that are created using assisted reproduction. In his view, human life and personhood begins at fertilization, therefore fertilized eggs and in vitro embryos have the same human rights as a person already born. In requesting the appointment as legal guardian, he claimed that the embryos need a “special guardian” to

¹³⁸ Opus Dei is a global organization of the Catholic Church (a personal prelature), founded in Spain in 1928, that “helps people find God in daily life.” (see website www.opusdei.org).

ensure these rights, and offered to be their legal protector (he also said that the Advocate for Minors (*Defensor de Menores*) was too busy to take on this responsibility). According to Rabinovich, people should not be frozen, therefore neither should embryos. In an interview with *Clarín* after he was appointed guardian, Rabinovich declared, “I would not freeze my children” (Giubellino 2005). Rabinovich then made clear he favored a widespread “prenatal adoption” program to give these frozen embryos to women who would give the stored embryos a chance at life, as soon as possible. What is most striking about this legal guardian case is not that Rabinovich wants to protect the human rights of embryos, as that perspective follows from his traditional Catholic beliefs. Nor is the fact that the courts in Argentina finally agreed with Rabinovich so surprising. Rather the remarkable side of this story is that through a united refusal to cooperate, the reproductive medicine community in Buenos Aires essentially rendered the power of the court system ineffectual.

The ineffectuality of the courts in this matter has a ten-year history. Rabinovich began appealing for human rights protections for embryos in 1993, and a judge (Miguel Ricardo Güiraldes) agreed with him in 1995. Several of the ART centers, working together, appealed the lower-court decision. In 1999 the Civil Appellate court of Buenos Aires (*Sala I*) upheld the judicial decision. As I discussed in chapter two, this appellate ruling gave embryos personhood rights, explicitly pronouncing that: personhood begins at conception, even if outside the uterus; all rights begin at conception (while implying that conception is when the sperm penetrates the egg); fertilized eggs and embryos are prohibited from being destroyed or used for experimentation. In addition to outlining the moral status of an embryo, this ruling further demanded the following actions: 1. that

within 30 days of the ruling (which would have been by the beginning of January 2000) the secretary of public health of Buenos Aires city must conduct a census of how many cryopreserved embryos exist (up to December 1999) in all public and private centers within the city (also that once this census is made, all interested parties must be informed); 2. the identity of the contributors of the gametes must be revealed; 3. that any action other than the transfer of embryos to the original genetic contributors (cannot be donated) must be approved and decided by the lower-court judge; 4. the Ministry of Justice of the Nation must be informed that a law is necessary. Though this 1999 appellate decision—which applies only to the city of Buenos Aires— would seem to clarify the legal and moral status of the embryo, it has never been complied with by the reproductive medicine community in Buenos Aires. None of the actions demanded by the ruling were ever carried out, in part due to passive resistance on the part of the ART centers.

Since the ruling in 1999, every year a statement has arrived at the centers of assisted reproduction, requesting them to fill out a census of how many embryos they have and to whom they belong. From the beginning, the centers tacitly agreed among themselves not to fill out this information—if any one of them had complied, they would have all had troubles. Nor did any of the centers inform the judge of procedures done the embryos. To give an idea of how many embryos are at stake, suppose that in 2005 CREAR had roughly 5,000 “preembryos” cryopreserved (for each case of IVF/ICSI there are on average three embryos frozen for later transfer). Other centers that follow a similar freezing policy must have equivalent numbers of frozen embryos, making the total in Buenos Aires close to 15,000 frozen and stored embryos. In 1995, the Argentine Society

of Reproductive Medicine reported that there were 1,333 fertilized eggs frozen in Buenos Aires (from 295 patients) and since this was the last reported figure, this is the number that the media continues to cite. For five years the situation did not change: the census form was ignored, the ruling stood on the books, and the professionals continued to follow their own self-imposed protocols of practice. However when Rabinovich was made guardian at the end of 2004, circumstances became more complicated for the centers. Suddenly the frozen embryos had a vociferous legal guardian who pledged to protect their rights. Over the next year, and amidst sensationalist media attention, the centers continued to resist compliance with any of the court's demands. In February 2005, the same judge who appointed Rabinovich guardian, ordered the ART centers once again to reveal how many embryos were stored, and the identities of the patients who had consented to cryopreserve them (directives based on the 1999 ruling). This time judge Güiraldes also applied a fine of 2000 pesos per day (approximately \$700 USD) to begin in February 2005. Despite the imposing fine, the centers appealed the decision, citing the patient's right to privacy and the preservation of the physician-patient privilege.

By mid-2005, with the centers not cooperating with the judicial decree, and Rabinovich unable to act on his long-awaited legal status as guardian, the fate of the frozen embryos was still unknown. The entire situation, particularly the unresolved controversial status of the embryo, became the center of a series of newspaper articles published from June to August (see Cappiello and Bossi 2005a; Cappiello and Bossi 2005b; Chillik 2005; Giubellino 2005; Lafferiere 2005; Peker 2005; Román 2005). In these articles, the clinic directors repeatedly reject both the notion that embryos have personhood rights, as well as the characterization that the stored embryos are unwanted

and abandoned. For instance, in his position as president of the Argentine Society of Reproductive Medicine (SAMeR), Claudio Chillik declares to the public:

‘The pre-embryo is a product of an egg with a sperm and until implantation in the uterus it cannot in any way be considered as a child, like Rabinovich claims. The pre-embryo has the potentiality to implant in the uterus and be an embryo that eventually will give origin to a child and that potentiality gives it an ethical status that prevents it from being thrown out or used for research, but to consider it a child is completely far from the reality. But, in addition, if the judge considers the pre-embryos children, then what corresponds to that decision is an intervention on the behalf of the judge for minors. Because of that, it is even more absurd to designate Rabinovich as a guardian of the preembryos.’ (Peker 2005)

Chillik refutes the notion that the embryos have the same rights as a child, as well as the judicial declaration of Rabinovich as their guardian. In another newspaper piece, the director of Halitus, Sergio Pasqualini counters the notion that the stored embryos are unwanted, saying, “‘It is an absurd decision. The frozen pre-embryos have their progenitors. They were not abandoned, so they do not need a special guardian’” (Román 2005). The perspectives of some of the patients who have cryopreserved embryos stored at the centers are also included in these newspaper articles—not surprisingly these couples do not agree with the appointment of a guardian, nor for their identity to be revealed (Cappiello and Bossi 2005b). In addition, *Clarín* ran a series of interrelated position pieces examining the rights of embryos, written by a philosopher, a director of bioethics at the Catholic University of Argentina and a bioethicist at FLACSO (Bochatey 2005; Cohen Agrest 2005; Vattimo 2005). Also in 2005 the centers notified their patients with cryopreserved embryos in storage of Rabinovich’s appointment, but in all respects work carried on as usual.

Nearly a year later, and with little explanation as to why, Rabinovich resigned as the guardian of the cryopreserved embryos on April 28, 2006.¹³⁹ He also apparently withdrew his license to be a lawyer for 5 years (it is not clear whether he did this before or after resigning as guardian from the media reports). A few months later, in October 2006, after little public attention to the matter for many months, the debate was touched off once again with the report of a pregnancy in Argentina using embryos that had been cryopreserved for 10 years (Román 2006). The woman, who lives in Buenos Aires, had eight embryos stored since 1996, and a nine year old son. At 47 years old, she decided to have a second child, and through a frozen embryo transfer, she became pregnant. This case caught the media's attention once again over the unresolved "destiny" of frozen embryos, their ambiguous rights, and the lack of a completed census. With Rabinovich no longer in the picture, the Advocate for Minors stood up to bring attention once again to the unfulfilled appellate court decision of 1999, and its reissuing in 2005. The centers finally responded, and a series of meetings were conducted over several months between the counsel and directors of the major clinics in Buenos Aires.¹⁴⁰ *La Nación* announced an agreement on Christmas Eve of 2006: the clinics consented to give a census of how many embryos they had in storage by the end of the year, though the identity of the patients would remain undisclosed and private (Cappiello 2006). Until a law is in place to regulate ART, the centers agreed to continue to report this information every six months (every May and November). In addition, starting in June 2007, the centers must report for each six month period how many embryos are transferred; how many new embryos were

¹³⁹ I was not able to find out why Rabinovich resigned, those in the reproductive medicine community that I spoke with had no additional insight on this.

¹⁴⁰ According to *La Nación* the centers are Fecunditas, Fertilab, Fertimed (CEGyR), Halitus, Hospital Italiano, IFER and Procreate (Cappiello 2006).

created; and what the new total of embryos is. Furthermore, the Advocate for Minors was named guardian of the cryopreserved embryos.

However despite this long-awaited cooperation between the law and the assisted reproduction centers, little appears to have changed as of this writing. As of February 2007, no further media articles have reported on whether the centers did in fact comply with their agreement to provide the number of frozen embryos in storage. The legal and moral status of the embryo in Argentina remains ambiguous and controversial, and in the absence of a specific national law, ultimately up to each clinic director to decide.

CHAPTER FOUR

THE GENESIS OF EMBRYOS AND ETHICS IN VITRO: EMBRYO CRYOPRESERVATION AND PGD

Introduction

When does human life begin? What protections should be afforded a Day Three human embryo created in an embryology laboratory? Should an in vitro embryo be frozen and stored, given for a “donation,” or used for research purposes? What should be the fate of an in vitro embryo diagnosed with chromosomal defects? Who has ownership and responsibility for an in vitro embryo? Who has the right to decide these matters? These questions and the ways in which they are approached and resolved point to a fundamental problematic of doing ART in Argentina today: the ambiguous legal and moral status of the in vitro embryo. In this chapter I examine this problematic as it relates to the debate in Argentina over two controversial ART procedures: embryo cryopreservation and preimplantation genetic diagnosis (PGD). First developed in Australia in 1983, embryo cryopreservation, which is a method of viable freezing, has become a basic and common means for storing embryos in assisted reproduction laboratories around the world.¹⁴¹ Argentina is no exception where despite debate over the

¹⁴¹ First report of successful human embryo cryopreservation in 1983 in Australia, though pregnancy ended in miscarriage (Trounson and Mohr 1983). First birth after embryo cryopreservation one year later in 1984, also in Australia (see Downing et al. 1985).

protection due to frozen embryos, the majority of centers cryopreserve at some stage of embryonic development. On the other hand, preimplantation genetic diagnosis, a technique which identifies genetic abnormalities in the in vitro embryo, is among the most recent and cutting-edge developments in the field, and as such is not (yet) widely practiced. In Argentina, over the last six years the largest centers have incorporated PGD into their repertoire of techniques, amidst an on-going controversy over the rights of the embryo.

As I have discussed throughout this ethnography, part of the dilemma of doing ART in Argentina is the lack of a *legal* consensus on the rights and protections due to an in vitro human embryo. In the absence of specific instructive national legislation, the proper legal and ethical treatment of an in vitro human embryo is undefined and open to interpretation. However, alongside this legal vacuum is the influential Roman Catholic position that unequivocally requires the protection of human life from the point of conception. How to define and treat the in vitro embryo is therefore a matter of moral weight as well as of medical practice. At the center of this negotiation is the apparent incongruity between (religious) valuation of the embryo as sacred human life and advanced scientific techniques that permit the creation and manipulation of the embryo. This chapter examines these professionals' attempts at reconciling this conflict, focusing specifically on cryopreservation and PGD, revealing that technology in practice is both messy and contradictory.

(Not So) Strictly Science

"In the beginning I thought that those embryos were going to die because they weren't going to implant. If I put three embryos [in the uterus] maybe only one will implant, or

two, but the most probable is that at least one of them will die, right? So, I had the idea that if I baptized them with the culture media then it was a form of...Are you Catholic? [Kelly: No.] Well, in the Catholic Church when a good person dies, that person goes to heaven. When an unborn child dies, because there was a miscarriage, then the child goes to limbo. Limbo is something that exists, that is a type of heaven for the unborn. [...] Then I changed my mind about many things, including the fact of thinking that a four-cell embryo is a human person, which I don't believe anymore. I think it is a project. I think it is a serious matter, it isn't the same as just any type of cell, but it isn't a person either."
One of CREAR's clinic directors

The ways in which Argentine reproductive experts approach this responsibility for defining the treatment and rights of the embryo correspond to particular understandings of the process of embryo development, largely based on religious and scientific convictions. Those professionals in Argentina who hold more orthodox Catholic beliefs argue that human life begins at conception, and personhood rights begin at the moment of fertilization. On the other side of the spectrum, are those who view the life potential of a human embryo as a sequential, gradual process of biological development, in which the embryo implanted into the uterus at Day 14 deserves different moral considerations than the in vitro "pre-embryo" and of course, of the child born after 9 months gestation. Granted there are also many gradations in between.

Inside the ART center, this variability in definitions of at what stage an embryo is viable, human life, or when it should be considered a human person, translate into differences in actual laboratory practices with the human embryo. Those who believe human life begins at fertilization are thus opposed to doing any potentially damaging techniques after insemination of the egg, including the cryopreservation of embryos. On the other hand, a position based on biological ontology allows for various embryo manipulation procedures, including cryopreservation of blastocysts. However all

professionals—whether in agreement with the Catholic Church or not—must conform to a certain extent with the social and moral norms in which they work and live.

In Argentina, most centers attempt to strike a balance between appeasing the Catholic Church and conducting the work of ART in a profitable and modern manner. One way of doing this is by compartmentalizing their “scientific” practice as separate from complicated “philosophical and religious” matters. For instance, SAMeR guidelines specifically caution that the “moral status of pronuclear eggs, pre-embryos and embryos is a criterion that can not be deduced from a scientific analysis” and insist that from a *scientific* point of view an embryo is neither a child, nor a person (SAMeR 2005). These SAMeR guidelines closely follow those proposed originally in the *Consenso*, which include a declaration that personhood, and its commencement, is not a definition that can be arrived at through biology and the scientific community. In a conciliatory move, the *Consenso* like SAMeR, also concedes that “the path to becoming a person” begins from the point of fertilization, and for this reason in each stage of development the embryo must be treated with respect. However despite these formal guidelines, being “modern” continues to be a lived concern for these specialists, who struggle with the seepage of religion into their scientific and medical practices (Latour 1993). Tomás Navarro, an andrologist and a practicing Catholic, explains how he views the conflict between science and religion as related to embryonic development:

You can't argue with religious faith. But if you don't have faith, you can say scientifically, for me, life begins here, or here...If religion is in the discussion, there is no discussion, because you believe or you don't. If you take religion out, then you can argue and think of [personhood as beginning with] either two pronuclei, syngamy, cleavage or implantation.

This statement underscores what this specialist sees as an invisible boundary between “biology”—what medicine is concerned with— and “society,” here presented as religious conviction—which is outside the realm of science and medicine, and in fact is disruptive if let in. Navarro resolves the possible contradiction between his work and his religious faith by attempting to contain the two in separate domains. In this divisible world, only scientific discourse allows for a debate over the beginning of personhood, based on “biological facts.” However, the local morality within which Navarro works is perceptible in his science, as Navarro’s “religion-out” characterization still places personhood at very early stages of embryonic development. By proposing to separate out the work of “science” from that of “faith” these professionals strive to perform modern medicine without raising objections from the conservative and religious sectors of society. As I describe in this chapter however, in practice these black-and-white boxes become shades of ambiguous grey, in which science and morality are thoroughly mixed. I begin with the case of cryopreservation.

A Cold Calculation

“The Argentine Society of Reproductive Medicine [SAMeR] considers that conception begins with the implantation of the pre-embryo in the uterus (6 or 7 days after fertilization). Although, in agreement with this definition, the pre-embryo should not be considered a human person, its eventual potential to become one prevents it from being discarded even if the couple decides not to receive it. In such case the only alternative is donation.” Claudio Chillik published in *Clarín*, November 10, 2006 (Chillik 2006)

According to the field of reproductive medicine, during a spontaneous reproductive cycle, approximately 75% of eggs fertilized inside the ovarian tract are not viable and stop embryonic development before they reach implantation stage, a situation

that also occurs inside the laboratory. Because of this low rate of spontaneous human reproductive efficiency, several methods are employed inside the embryology laboratory to increase the chances of pregnancy. To begin with—as described in Interlude II—the biologist can inseminate a handful of eggs at once. The greater number of eggs that are inseminated, the higher the chances that at least one of them will develop into a healthy embryo, implant in the uterus, and continue through to a normal gestation and birth (the desired result of an ART procedure). For instance, if a biologist inseminates nine eggs, perhaps by Day Two, five embryos will have formed. The biologist can then select the two or three “healthiest” ones—those with four non-fragmented cells—for transfer. To reduce the risk of multiple pregnancy (as discussed in chapter two), more than three embryos will not be transferred (depending also on the age of the woman and quality of the embryo). This leaves the problem of what to do with the two embryos that remain in the laboratory incubator. Hypothetically the options are to freeze them, let them continue to develop to blastocyst, use them for research, or discard them. In actuality, the destination—and creation in the first place—of those embryos depends largely on the definition of the personhood and rights of the embryo in place at the given ART center.¹⁴²

The majority of centers in Argentina do not confer the status of “personhood” on the fertilized egg that forms one day after insemination. Not until after at least 48 hours of cell development, are the developing group of cells considered a “pre-embryo” or an “embryo,” and regarded in terms of their *potentiality* to become a human person (see Table 2). The crucial demarcation point in Argentina is thus designated as between the fertilized egg, which has two separate pronuclei, and the pre-embryo, which is a diploid

¹⁴² If the laboratory with those two “extra” embryos is located in the United States, any of those methods may be employed, as both disposal and research on day 2 embryos is common practice.

DAY	STAGE OF (Normal) IN VITRO EMBRYO DEVELOPMENT
Day 0	Egg aspiration day; Insemination of the egg using IVF or ICSI
Day 1 (24hrs)	Fertilization checked: two pronuclei (2pn), called “ pronuclear stage ” or “ zygote ” or “ fertilized egg ” (2 sets of 23 chromosomes separate) Note: approx. 20% of total inseminated/injected eggs are arrested by this point: 15% do not fertilize at all and 3-5% fertilize abnormally (e.g. 3pn)
Day 2 (48hrs)	Embryo cleavage and cell division checked: called “ pre-embryo ” or “ embryo, ” has 2-4 cells (46 combined chromosomes) Note: approx. 3% of the normally-fertilized eggs on Day One have arrested by Day Two (still at 2pn)
Day 3 (72hrs)	Embryo cleavage and cell division checked: called either “ pre-embryo ” or “ embryo, ” has 5-8 cells
Day 4	Do not check development: called either “ pre-embryo ” or “ embryo, ” in the morula stage and very sensitive to environment
Day 5 (morning)	Differentiation checked: called “ early blastocyst ” looks for the first time like 2 different types of cells, not like a clump of 8 cells
Day 5 (afternoon)	Differentiation checked: called “ blastocyst ” growth in mass, zona pellucida thinner
Day 6	Hatching checked: called “ hatching blastocyst ”

Table 2. Biological developmental stages of the in vitro embryo

cell made up of a unique combination of the egg and sperm cells. As such, the pre-embryo is classified as a “potential” human person, deserving of respect and protection. (After the formation of the zygote, the terms “pre-embryo” and “embryo” are often used interchangeably within most reproductive medicine centers in Argentina). Under this rubric, inside the embryology laboratory, a fertilized egg of *one* day may be manipulated or destroyed or used for research as appropriate for the particular procedure at hand, while the life potential of an embryo of *two* days or more will be treated with care—above all not discarded. This position is promulgated by the Argentine Society for Reproduction (SAMeR), in their guidelines for cryopreservation. Issued in 2005 and created with the intention that they be used by local reproductive medicine professionals, these guidelines define a “pre-embryo” as the biological stage that begins after formation of the zygote (Day Two) and ends with implantation into the uterus.¹⁴³ Therefore, among those that follow this definition, any procedure that directly jeopardizes an embryo’s ability to continue developing—like disposal—is not allowed, while those that present “minor” risk or damage—like cryopreservation—are usually permitted.

To return then to the example of the two “extra” embryos in the laboratory that are not transferred, the options at most centers in Argentina are therefore (self) limited to either cryopreserve at this Day Two stage, or to wait to see if the embryos develop to blastocyst stage, and cryopreserve them at that point (see Table 3). Because of the designated personhood potentiality of the viable embryo, neither research nor disposal are regarded as a permissible. In this instance, cryopreservation thus presents a suitable

¹⁴³ In an attempt to clarify the nomenclature, SAMER defines the “pre-embryo” for all stages prior to implantation in the uterus, after implantation it is an “embryo.” However this convention of the “pre-embryo” is not commonly followed by Argentine professionals. The most important differentiation is that between the fertilized egg/pronuclear stage (day 1) and the embryo (day 2).

“solution” for protecting the life potential of the embryo, while also permitting the creation of multiple fertilized eggs, and the selection of the best embryos for immediate transfer. Because of the embryo’s potentiality, a key component of the legitimization of embryo cryopreservation is also the intention that the frozen embryos will be transferred in a future cycle—either to the original couple or donated. However as I discussed in chapter three, this “intended transfer” often does not become a reality, hence the issue of “excess” stored embryos.

Indeed SAMeR justifies the method of embryo cryopreservation for the following reasons: to avoid discarding a pre-embryo that is not transferred immediately; to reduce the probability of a multiple pregnancy; to offer the patient maximum efficiency in the treatment (SAMeR 2005). This rationale is similar to that of the *Consenso* created ten years earlier. However there is a slight difference in emphasis between the two guidelines. The two primary objectives for cryopreservation outlined in the *Consenso* are that: it allows for an efficient treatment—the patient can do a new transfer cycle without going through stimulation and aspiration; it reduces the risk of multiples because not all the fertilized eggs will be transferred at once. The “efficiency” of cryopreservation in the *Consenso* is therefore centered on the “considerable economic, physical and economic savings” that having frozen embryos to transfer brings (Consenso 1996: 13). In contrast, today in Argentina the main rationale for cryopreservation is the other way around—the “efficiency” provided is framed in terms of being able to select the best embryos for immediate transfer and thereby avoid a multiple pregnancy. A secondary benefit presented is the potential for frozen transfer without the need for a full-blown cycle of hormone stimulation and egg aspiration. This shift in emphasis most likely has to do with

increased international attention to the risks of multiple pregnancy, and the worsening problem of excess embryos saved in frozen storage. In a short statement published in *Clarín* (quoted above), Claudio Chillik, then-president of SAMeR, responds to the problem of the “unwanted” frozen embryo. He presents the scenario of a couple no longer wanting to transfer a frozen embryo—because they already have one through ART, because the couple split up, or because one of them have died—and suggests that in such case embryo donation is the best solution for these frozen embryos (Chillik 2006). He also emphasizes the principal advantage of cryopreservation as providing a way to only transfer two embryos and thus reduce the risk of a multiple pregnancy. In Argentina the alternatives to cryopreservation of embryos are thus presented as either a high risk of multiple pregnancy (because once created the multiple embryos must be transferred, they cannot be destroyed), or low success rates (because selection won’t be possible, fewer eggs will be inseminated from the beginning with a lower chance that one will fertilize and implant). Cryopreservation of embryos—always with the intent of eventual frozen transfer—is thus validated as a beneficial and morally-licit procedure.¹⁴⁴

¹⁴⁴ In contrast, in Chile personhood is regarded as beginning at the pronuclear stage and therefore cryopreservation beyond Day One is not morally-condoned or accepted. This is a self-imposed restriction, as like in Argentina, in Chile there is no national legislation. However, the Catholic Church has much influence in Chile, and some centers do not allow any cryopreservation at all. A biologist at one of the centers in Santiago explains the practical disadvantages of this moral protection of the Day Two embryo: “I think that it is pretty fair for the patient to be able to choose embryos and freeze embryos. What I find unfair is to throw away embryos. But yes, to give the possibility that in the first instance they are using their best embryos. Unfortunately, in pronuclear stage we don’t know enough to choose well. [...] It is a limitation. Because we...we have done a study, we have seen what possibilities there are in the characteristics of a zygote, of a pronuclear stage, that permits us to extrapolate on what is a good embryo, but it doesn’t give us the results. Therefore at least up to now, as we work here we can’t choose the best embryo, by choosing the best pronuclear stage. For us the two don’t coincide. And more than anything, because in the majority of cases we have very good embryos, but if I am going to cultivate to the third day, up to eight cells, and I can choose at that point the best embryo, I think that would be easier for me than choosing on the first day. But what I do not agree with is if I have a embryo that isn’t very nice, that I throw it out. Because you also have to give that not very nice looking embryo the opportunity to get to the uterus.” As this biologist explains, given the limits of biological understanding of embryo development, it is a clear disadvantage practically-speaking to choose day 1 fertilized eggs for transfer and cryopreservation. Though

DAY	LAB PROCEDURES ACCORDING TO IN VITRO EMBRYO STAGE
Day 0 (morning)	Egg aspiration, sperm preparation and capacitation
Day 0 (afternoon)	Insemination of the egg using IVF or injection of the egg using ICSI
Day 1	Pronuclear stage: transfer (rarely), cryopreserve, discard , research, or place in special sequential media to continue to develop
Day 2	“Pre-embryo/Embryo”: cryopreserve, transfer, or leave to continue to develop
Day 3	“Pre-embryo/Embryo”: cryopreserve, transfer, leave to develop to blastocyst (day to take biopsy of blastomere for PGD)
Day 4	Morula: leave alone
Day 5	Blastocyst: cryopreserve, transfer (PGD results ready)
Day 6	Blastocyst: cryopreserve, transfer
Day 7	Hatching blastocyst: transfer (rarely)

Table 3. Laboratory procedures in Argentina based on the biological stages of embryo development

objecting to this limitation, this biologist also upholds the idea that any embryo created should be given the chance to implant in the uterus.



Figure 39. Day One: 2pn (pronuclear stage), normal fertilization. One pronucleus is from the egg, one from the sperm, each contains 23 chromosomes. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 40. Day One: 3pn, abnormal fertilization. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 41. Day Two (morning): Normal embryo, good quality, Class IV, two cells. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 42. Day Two (afternoon): Normal embryo, 10% fragmentation, Class III, four cells. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 43. Day Three: Three Embryos, good quality, all Class IV. From bottom, clockwise: six cells; eight cells; eight cells. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 44. Day Three: Embryo, good quality (Class IV), eight cells. "Lindo." Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 45. Day Three: Embryo, good quality but because of fragmentation (<5%) and granulation is Class III, eight cells. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 46. Day Three: Embryo, 10% fragmentation, granulation, Class III. Eight cells. Photo courtesy of Sabrina de Vincentiis, 2006.



Figure 47. Day Three: Embryo, multinucleated (five nuclei), arrested; has not evolved from this stage since Day Two. Not viable. Photo courtesy of Sabrina de Vincentiis, 2006.

Social Conventions and Laboratory Pragmatics

May 2003, conversation about embryo cryopreservation with a biologist at one of the centers in Buenos Aires:

Biologist: I calculate that it [frozen embryo storage] is going to be a problem, but I don't know very well how to solve it because I recognize, especially from working inside the laboratory, that cryopreservation gives you the opportunity to better select the embryos that you are going to transfer. Because as I have several to select from, I can elect the best ones, and then I transfer those.

But maybe what I would do is to be more selective in what I cryopreserve and cultivate more to the blastocyst stage. What happens is that it is a double-edged sword, because to cultivate to blastocyst implies being more dependent on the laboratory conditions. If the laboratory is not good, the embryos that have good potential to develop, you are giving them over to death. So, you have many things up in the air. That is why if they are good quality, what we do is to freeze in Day Two, or in Day Three and if they are bad quality, since we don't discard embryos, we take them to blastocyst stage and if they make it, we freeze them at that point. We know that if they arrive [to blastocyst] it is because in reality their bad quality

has an effect, it but not a serious one. What is going to be a problem is going to be a problem. We have a lot of frozen embryos, with a lot of patients who some don't respond, others don't know what to do, others know what to do but they don't want to do it...

Kelly: What is going to happen with those?

Biologist: We have them there. We can't take...

Kelly: But for how long?

Biologist: Oh, no, indefinitely. We can't do anything because of the mentality that exists here. For the country that is...for example England discarded 5,000 embryos because they said, 'if after a month they don't respond, we will throw them in the trash,' and so they threw them away. We can't do that, because everyone will come after us. Maybe you want to, I don't know, but maybe there are people that say, 'look, if it has been eight years and the person has not taken responsibility, why do I have to assume responsibility?' But we wouldn't ever do it because the media, everyone, would come after you, here in Argentina.

Kelly: And neither is anyone paying for the storage...

Biologist: And in fact they don't pay. There are many that we lost contact with. Many. And they [the embryos] are there, stored...

Kelly: And you can't use the embryos for research purposes?

Biologist: No, you can't, because the consent form authorizes you, [the center], to transfer them to the patient herself, or to transfer them in an embryo donation. That is the only thing that the consent form authorizes you to do. Because it isn't that you can research the human embryo, it almost isn't even that you can touch the embryo, you see? To do research with embryos would be spectacular because you have a lot of material that, in reality, no one wants and some are of bad quality, in other words you could use them. But here you can't because the patient would have to sign a consent form, and I don't know, actually, maybe many would accept it because in the survey that we did with [psychologist] on PGD, 'what would you do if...?' the majority said, if they [the embryos] were abnormal, they would give them to research or they would discard them without any problem. But the issue is that what the patient would do is one thing, and it is another thing what the institution does and stays tied to, you understand? Because you are in a sociocultural, religious environment where the Church has a lot of weight and if they find out that you are doing research with human embryos you will end up...you will more or less have to close the clinic.

Like other ART practices, embryo cryopreservation is an artifact of laboratory pragmatics, social conventions, and moral values. As outlined earlier, there are tangible benefits for both the professional and the patient to using embryo cryopreservation. These benefits are drawn on to rationalize the technique. However, since the legal rights and personhood of the embryo are not defined or regulated in Argentina, embryo cryopreservation is not without drawbacks. For instance, the Rabinovich-guardian case described in Interlude IV provides a preview of the difficulties that centers could encounter in the future if embryos are legally given full human rights protections. For now, in order to make embryo cryopreservation palatable, the centers promise that all frozen embryos will someday be transferred—patients sign a consent form agreeing to this. Despite this transfer-intention though, the accumulation of unwanted embryos in nitrogen tanks—discussed briefly in chapter three—is cause for concern. Manuel Giordano, a biologist at Fertility Institute, explains, noting the implicit contradiction in “saving” the unselected ones:

Yes, we select them...we select the best quality ones to transfer. And the rest we freeze. It is like discarding them. It is another means of selection, you don't discard them, but you freeze them. [Kelly: And then you have the problem of many frozen embryos?] Yes, exactly, a super-population of frozen embryos.

Giordano admits that in some ways, cryopreservation is akin to a socially-acceptable method of “discarding” low-quality embryos that no one will want to transfer—they will be safeguarded in liquid nitrogen indefinitely. There are no agreed-upon time-limits for embryo storage in Argentina, unlike in other countries. I examine again this deferment-aspect of cryopreservation with respect to PGD later in the chapter, but here it shows the negotiations between scientific efficiency and social mores that are implicit in producing assisted reproduction practices. ART professionals work within—and reproduce—certain

social boundaries between science and (religious) morality. As such, ART procedures follow a continuum of acceptability, and it is up to the professional to optimize social and material constraints to their advantage. One such method of “optimization” is the technique of cultivating the embryo to blastocyst.

To cultivate an *in vitro* embryo to the blastocyst stage, the biologist first places the Day One fertilized egg in a specially-designed nutritive media called P1 until Day Three, then the embryo is transferred to a new dish of (expensive) blastocyst medium to develop until Day Five (see Figure 2). These five days of incubated development are in effect a screening-test, as poor-quality embryos that may have endured up to Day Two or Day Three with minimal cell divisions, will not survive two more days in the less-than ideal laboratory conditions, and will arrest along the way. On the other hand, a viable embryo—one with potential to implant— *will* develop inside the incubator and reach the differentiated blastocyst stage on Day Five.¹⁴⁵ Blastocyst cultivation thus serves as an additional method of selecting the best embryos—either for transfer or for cryopreservation—while still conforming to the principle of protecting the life potential of the embryo.

For professionals and patients, cryopreservation at the blastocyst stage provides distinct advantages over earlier-stage freezing. Waiting until Day Five to cryopreserve allows the biologist to only save the few embryos that reach blastocyst—a much smaller proportion than those that develop to Day Two or Day Three—and thus reduce the numbers of embryos that are being frozen every day. Centers that are concerned about how many embryos they have in storage are therefore employing blastocyst cultivation as

¹⁴⁵ If laboratory conditions are not controlled—for example, if the CO₂ level or temperature in the incubator are not regulated—then even otherwise-viable embryos will not survive to blastocyst. This can happen in mediocre laboratories, as pointed out in the conversation quoted above.

a form of “embryo-bank” prevention. This is the case at CREAR where by January 2005, the laboratory started cultivating to blastocyst all poor-quality embryos not immediately transferred. Many of these embryos arrest along the way and therefore qualify to be discarded since they are no longer developing. This allows the laboratory to continue to select the best embryos out of many, while also reducing the overall numbers of embryos cryopreserved. There are also advantages for the patient in cultivating to blastocyst. At CREAR for example, patients pay a one-time fee of \$500 USD to cryopreserve viable embryos, and a yearly maintenance fee of \$100 USD to keep them in frozen storage, regardless of the embryo’s quality. Therefore it is to the patient’s benefit to freeze a viable blastocyst that can be transferred at a later date, rather than a poor-quality Day Two embryo that might not survive the cryopreservation and thawing process.

Though an “optimization” strategy in many ways, blastocyst cultivation is also a costly alternative, and is not a procedure that can be adopted by any laboratory, at any time. To begin with, the blastocyst media needed is more expensive than that used for Day Two or Day Three embryos. In addition, because the embryo stays in the laboratory longer, it takes up valuable space in the incubator. If there are not enough incubators to comfortably fit the number of cases on a given day, the incubator will become over-full. Four aspiration cases in one day is the comfortable limit for one incubator, provided the laboratory uses compartmentalized glass doors for each inner shelf (see photograph x below). To develop in the incubator, an embryo needs stable conditions, particularly to pass through the morula stage at Day Four. Constantly opening and closing the incubator doors to attend to different-stage embryos from different aspiration cases puts all the embryos at risk. Transfer and cryopreservation of embryos at Day Two or Day Three

allows for a quick turn-over in the incubator, a more efficient method for resource-squeezed laboratories.¹⁴⁶ Blastocyst cultivation is therefore only practically-beneficial for those laboratories that have few cases (and therefore a relatively empty incubator), or those with many incubators that can be designated for distinct purposes.



Figure 48. Incubator in IVF lab. Photo courtesy of Sabrina de Vincentiis, 2006.

Frozen Life

“In the first version of Ratzinger’s document, he said that in reality it begins to be a human being at syngamy. As such, in the pronucleus the paternal genes have not yet joined with the maternal, and so naturally it is not yet an embryo. The pronuclear eggs are pronuclear eggs, they are not embryos. And what I believe is that one must not harm the embryo, which is a human being but does not have any rights given to it. It doesn’t have any rights protecting it nor can it defend itself. So it’s at the mercy of an individual who can do what he wants with it.” Augustín Ortiz, scientist at Laboratory for Reproductive Medicine

As this cultural analysis makes clear, the limits of acceptable ART practice follow a continuum, subject to shifts in social and personal moral values and practical requirements. Though cryopreservation of Day Two or Day Three embryos, and blastocyst cultivation have become standard practices in Argentina, it hasn’t always been

¹⁴⁶Many laboratory differences in procedures that I observed in Argentina are based on a combination of practical calculation and moral preference. For instance at CREAM, where no moral distinction is made between a day 2, day 3, or blastocyst embryo, practical considerations come first: 95% of their transfers are done on day 2 because their results for pregnancies are very similar between day 2 and day 3 transfers, and transferring on day 2 frees up the incubator sooner.

that way and in fact, there are still some reproductive medicine professionals who disagree with exposing the embryo to any type of potential damage, regardless of its practical benefits.¹⁴⁷ Cryopreservation first began in Argentina around the same time as IVF, in 1987 at CREAR. At that time only Day One pronuclear stage were frozen, not embryos, mainly because the center's directors at the time did not want to subject the embryo to any type of potential harm. In 1996, CREAR began cryopreserving Day Two embryos—a decision that represents a potent mixture of practicality, “scientific reasoning,” and changes in personal moral values. Romero, a biologist at CREAR and a practicing Catholic, explains this continuum:

...as the years passed I became more open-minded, I matured or whatever you want to call it. I realized that in reality an embryo with four cells is not a baby. Potentially it is a baby, but it is not a baby. So I began to accept cryopreservation. In the beginning we were freezing—the same thing more or less happened to Tomás [Navarro], but over a longer time because he began working earlier—but we were freezing pronucleus stage eggs, not embryos, and then we began to freeze embryos, and then we began to cultivate embryos up to the blastocyst stage. In other words, there were stages over time and I think that we matured not only professionally but also personally, and we began to see things in another way.

Romero explains that over time and through laboratory work, she—and her Catholic colleague in the lab, Navarro, have learned to define the early stages of the embryo differently, making embryo cryopreservation more acceptable than before. Though she does not mention the practical benefits of cryopreserving at Day Two or Three (discussed earlier), they undoubtedly also factor in to this shift in laboratory policy.

On the other hand, there are some ART specialists who despite the practical benefits and increasing social acceptability of embryo manipulation, refuse to put the embryo's viability in jeopardy. These specialists concur with the normatized moral and

¹⁴⁷ For 2003, the Latin American Registry reports a total of 2,024 transfers of frozen embryos—this is 11% of all transfers (Zegers-Hocschild and Galdames 2004: 25).

scientific differentiation made between the pronuclear stage and the Day Two embryo in Argentina (explained earlier). However, they also insist that the embryo, beginning on Day Two, deserves utmost “respect” and protection. The scale of acceptable procedures performed on an embryo therefore varies, usually by degree of religious convictions.

For instance, at RMI, where the directors are strictly-practicing Catholics, there are strict limits on cryopreservation. Cryopreservation is reserved for exceptional cases, and only done at the blastocyst stage. Guillermo López, one of the directors, believes that fertilized eggs are human life and that personhood begins at Day Two in a 4-cell embryo. He therefore prefers to fertilize fewer eggs from the beginning, and to transfer all that reach blastocyst stage. The idea is to avoid freezing embryos—human life—and committing them to indefinite storage. In López’s mind, the morally-appropriate alternative is to inseminate four or five eggs in a given case, out of which perhaps two will develop to blastocyst, and be transferred immediately.

Gabriel Ferrari, a Catholic biologist at a public hospital, also believes that human life begins from the moment of fertilization, and agrees with the approach taken at RMI. In his mind, cryopreservation should be avoided in all cases, as it is “frozen life”:

I think that for me there is no room for the idea of having a life frozen. If I start from the concept that life begins at the moment of fertilization, then evidently I do not agree with this, where the embryos stay stored in a ‘freezer’ for years, or they are thawed and thrown out. Because for me they are life from the moment... [Kelly: And if they are thawed and transferred?] Well, I think that the current technique is to transfer three embryos, because statistically it is seen that of the three that they transfer, in general one, or at the most two, progress and transform into children. It seems okay to me to limit the number of embryos that you can transfer. But it also seems okay to me to limit the number of embryos that you can try to have in the first place. Because, if three are going to be transferred and five go to the freezer, I don’t like that. I would like for all that are formed to be transferred, with everything that that implies. That is why it is a delicate area where the moral, the religious and daily medical practice collide.

Ferrari himself does not do high-complexity treatments, and so does not have to confront the practical results in the laboratory of “protecting” embryos from the pronuclear stage. Ferrari’s perspective on cryopreservation echoes that held up in the Rabinovich case, where frozen embryos are discussed as human persons, rather than as “potential” human life.¹⁴⁸

The ambiguity of the embryo’s rights therefore creates a situation in which Argentine medical professionals are de facto responsible for articulating philosophical and ethical positions that most Argentines deem as fundamental regarding when human life begins and what moral status an embryo holds. In the following section I look again at this ambiguity, this time in terms of the advanced technique of preimplantation genetic diagnosis.

Preimplantation Genetic Diagnosis

“...what do we do if...you know, what do we do with an embryo that has abnormal chromosomes? Do we throw it away? And you know, there’s all this sense of the Catholic Church being involved in every step of Argentinean life and that’s, people are afraid of that.” Alberto Ruiz, gynecologist at Fertility Institute (May 2003)

Positioned at the meeting point of ART and medical genetics, preimplantation genetic diagnosis (PGD) is an advanced laboratory technique used to analyze the chromosomal makeup of the in vitro embryo. The primary application of PGD is

¹⁴⁸The media often also promotes the view that embryos are children, as exemplified in a story that ran in November 2006 in *Clarín* (Iglesias 2006). The article discusses a Catholic couple’s use of IVF and embryo cryopreservation, and their subsequent transfers of the seven frozen embryos over a period of seven years resulting in four children (the last transfer resulted in twins). The journalist quotes the woman as saying that after having the first two children, she didn’t want to leave the remaining three embryos in storage because: “Morally we had to do it. They had the same rights as the other two siblings.” The couple also profess to not have any conflict between their Catholic beliefs and doing ART, in much the same manner as Catholic professionals. The woman says that in their case, science gave nature a helping hand: “We turned to science so that it would give us a hand. In our case science gave nature a push, nothing more. We used science in an absolutely responsible manner.”

therefore as a pre-pregnancy screening test for genetic disorders, in which chromosomally normal embryos can be selected for use in subsequent pregnancy attempts. The PGD International Society estimates that there have been 7000 cases of PGD performed in more than 50 centers around the world since the technique was first successful in 1990, with approximately 1,000 babies born after its use.¹⁴⁹

Following this international trend, over the last six years, five private assisted reproduction clinics in Buenos Aires have also begun offering PGD to the public. The first clinic in Buenos Aires to perform PGD did so for research purposes in 1998, implementing the technique as a clinical service about one year later. Indicative of their palpable desires to provide the latest innovations in reproductive medicine, four more centers in Buenos Aires have incorporated PGD into their repertoire of ART services as of late 2006. However legitimizing PGD as a valuable and recommended service has been a complicated, and as yet unresolved, process for Argentine reproductive medicine practitioners. Several factors make the acceptance of PGD difficult in Argentina, including the high cost of necessary equipment and training. But the principal reason is again, the problematic legal and moral status of the in vitro human embryo in Argentina. PGD by nature of the technique requires not only embryo manipulation, but also a protocol for what to do if that embryo is chromosomally abnormal. In this section I examine professionals' attempts at "resolving" this problematic.

¹⁴⁹ See <http://www.pgdis.org>, accessed November 29, 2006. The European Society for Human Reproduction (ESHRE) reports even higher numbers of PGD procedures around the world than the PGD International Society. According to its most recent report, there are 66 centers registered with the ESHRE consortium, with 45 centers reporting data for 2002-2003 (Harper et al. 2006). The only Latin American center to report procedures to ESHRE in this report is from Argentina.

The Problematic of PGD

“I wouldn’t do the diagnostic testing, because in the case of an abnormal embryo, I wouldn’t destroy it.” Fernando Pérez, gynecologist and one of the directors of RMI (July 2004)

After more than two years of laboratory preparation and training, in May of 2003, the Center of Reproduction and Gynecology (CREAR) became the third clinic in Argentina to provide PGD as a routine clinical service. These two years entailed a considerable investment of capital and training time. The laboratory equipment and materials necessary to do PGD, as well as the actual technical knowledge and skill required, are not those used in day-to-day ART services. The requisite equipment includes a fluorescent microscope (for fluorescent in-situ hybridization (FISH) analysis), Hybrite warming machine, probes, special slides and filters.¹⁵⁰ In Argentina, this equipment is all imported, with minimum costs to begin the service totaling between \$33,400 USD and \$90,000 USD, depending on if the clinic already has the micromanipulator microscope used for ICSI, which most centers in Argentina do.

Once the equipment is properly set up, technical mastery of PGD calls for months of practice, as it is a complicated technique that involves much skill with the microscope and specialized knowledge of chromosomes. There are four essential stages of PGD following the initial in vitro fertilization process (creation of the embryos). Learning to correctly perform each of these steps requires three to four months of daily practice in the laboratory. The technique begins with an embryo biopsy, performed on a Day Three in

¹⁵⁰There are two main techniques for chromosomal analysis: FISH (fluorescent in-situ hybridization) and PCR (polymerase chain reaction). Since only one clinic in Argentina uses PCR, and the rest use FISH, I discuss only FISH in this chapter. A different (and more expensive) set of equipment is needed to do PCR.

vitro embryo that will ideally have developed eight cells.¹⁵¹ Each of these cells, called blastomeres, contains a complete set of the chromosomes. A small hole is carefully made in the outer covering of the embryo and one cell (blastomere) is extracted, leaving the other cells in the embryo to continue development. The second step is the fixation of the blastomere onto a special slide. The third phase is the FISH process, the hybridization of the probes with the blastomere DNA. Finally, the tagged chromosomes are analyzed under the fluorescent microscope, known as “reading” the fluorescent probes. Only five chromosomes can be analyzed at a time using FISH, usually in the following combinations: 13, 18, 21, X, Y *or* 13, 16, 18, 21, 22. These sets of five chromosomes are identified as the most frequent carriers of abnormalities, however testing both sets encompasses only a total of 7 chromosomes out of 46 total (using 2 rounds of FISH).¹⁵² Because of this technical constraint on the number of chromosomes that can be tested, the “normal” embryos identified through the use of PGD may also carry undetected *abnormal* chromosomes. Among reproductive experts, this limitation is regarded as par for the course; it is not part of the debate over PGD in Argentina. The entire process of PGD takes 2 days to perform; therefore results are available at the maximum point of viable in vitro incubation, when the in vitro embryo has developed into a blastocyst at Day Five after fertilization.

To ensure proper laboratory set-up and training, CREAR sent a biologist first to Sao Paolo, Brazil to learn the fundamentals of laboratory preparation, embryo biopsy and

¹⁵¹ An alternative to doing PGD on an embryo is to instead biopsy the polar body of the fertilized egg on the day of fertilization (this is done in Chile where embryo manipulation is prohibited). However since only the chromosomes from the egg are analyzed, this technique only reveals information from the female side.

¹⁵² In Argentina only 7 chromosomes are tested, however some centers in the world test 2 additional chromosomes, numbers 15 and 17 (using FISH twice), bringing the total to 9 chromosomes tested.

fixation of the embryo from a specialist (now practicing in the US). A year later, with the laboratory ready and equipment in place, CREAR flew in an expert embryologist from Italy for a week of hands-on laboratory instruction in the technique, after which CREAR's biologists and embryologists continued to practice on their own. This second training session focused specifically on chromosome analysis and "reading" the fluorescent probes, skills previously more familiar to geneticists than embryologists and biologists in a traditional ART lab.

The cost of doing PGD is not only one of finances and training, but also requires a shift in thinking about the embryo. At CREAR, resistance to "paying this fee" and revising notions of embryo manipulation delayed the introduction of PGD for several years. Julieta Moretti, the biologist at CREAR who trained in Sao Paolo, explained this reluctance to me in September 2003:

PGD for a long time was on hold because some of the associates didn't agree with it, specifically with doing something that would invade the embryo... When I came back from Cornell in 1999 I brought the techniques of fragment removal and assisted hatching [techniques that are similar to PGD in manipulating the embryo]. Only recently we started using these because before, they had objected. A few had the philosophy that the less you do to an embryo, the better.

These objections to "invading the embryo" represent a key conundrum of PGD in Argentina, and ART in general, with respect to the in vitro embryo: religious/social morality vs. technical efficacy. While doing "less" to the embryo translates as preserving the sanctity of human life, doing "more" holds the promise of selecting a 'better quality' embryo, improving success rates of pregnancy, and preventing genetic disease. Though CREAR's board of directors had finally approved PGD as a clinical technique, the problem of the embryo was far from resolution. Indeed, over the next year the process of accepting PGD as a valuable procedure entailed an entire revision of the center's policy

on the moral status of an embryo, a modification which has implications not only for other assisted reproductive practices at this clinic, but wider social and cultural ramifications as well.

In Argentina, the centers that are providing PGD as a clinical service do so according to specific medical criteria. The medical rationale for offering PGD corresponds with three objectives: 1. To reduce repeat miscarriage rates; 2. To increase the implantation (and therefore pregnancy) rates of IVF/ICSI; and 3. To prevent inheritable genetic diseases from being passed on in families with known genetic risks. Some of the genetic disorders that PGD can be used to identify are Down's Syndrome, Tay-Sachs, cystic fibrosis, Duchene muscular dystrophy, hemophilia, and Huntington's Chorea. However as mentioned earlier, doing PGD does not guarantee the development of a healthy fetus. Indeed, reproductive specialists in support of PGD internationally and in Argentina also recommend prenatal testing for post-PGD pregnancies.

At least for now, practitioners in Argentina are careful to advocate using PGD only for specific cases, given the debate it provokes and the financial expenses that come with it. Therefore PGD is not recommended to all couples who are referred for infertility problems, but rather confined to a target population of those who have a family history of genetic disease, repeat miscarriages, failed implantation attempts, azoospermia (lack of sperm), or where the woman is over 37 years of age. The utility of PGD for this specific group of potential patients is emphasized, as Nicolas García, gynecologist and one of CREAR's directors, told me in August 2005:

For patients with genetic disorders, without a doubt PGD is fundamental. It is fundamental to assure the birth of a child that won't have a genetic disorder, that's what PGD is for. But I don't think, and I might be wrong, that in the future PGD will

be done routinely...because it doesn't make sense to do that...It will instead be done according to specific indications.

Most proponents of PGD in Argentina do not foresee PGD becoming a widespread technique, available to all ART patients in Argentina. They agree with García about its utility for a select population, and in doing so underscore that this is a technique for preventing the expression of a genetic disease, not for enhancing “choice” or improving the embryo beyond a standard of “normal.” Indeed, at present, the professional debate over the technique dwarfs the actual number of PGD clinical cases that these centers perform. For this technique in transition, the patient caseload is still light, ranging between 6 and 15 cases *per year* at most of the clinics.¹⁵³ In Argentina, the international prestige of PGD as a cutting edge technique is such that to be recognized as a center that provides PGD is, for now, reason enough. Public demand is sure to follow.

In the international reproductive medicine community, controversy over PGD focuses primarily on defining the appropriate uses of the technique.¹⁵⁴ In contrast to Argentina's restrictive clinical rationale, some tout PGD as beneficial for improving the efficiency of ART in general, claiming that it is “surely evolving to become the standard” (Verlinsky et al. 2004a: 294). In recognition of the growing use of PGD around the world, these international ART specialists have convened international symposiums on the ethical issues of PGD, as well as task forces and ethical committees to provide

¹⁵³ As of 2007, there are no published data on exactly how many PGD procedures are being performed in Argentina, most likely due to the recentness and rapidity with which it has been taken up by the infertility clinics. The most recently published Latin American registry on ART, with data from 2003, makes no mention of PGD practices in Latin America. Numbers on PGD given here are thus based on personal communication and observation by author.

¹⁵⁴ In referring to the “international community” I do not mean to present a monolithic version of this community, but rather refer to a group of reproductive medicine professionals from around the world who meet regularly at congresses such as the European Society for Human Reproduction (ESHRE) to share expertise and create guidelines for practice (e.g. ESHRE Ethics Task Force and ESHRE PGD consortium).

guidelines for the proper application of the technique (ASRM 1999; Edwards 2002; Hudson 2006; Klipstein 2005; Shenfield et al. 2003; Thornhill et al. 2005). In many other countries the legal status of the in vitro embryo has already been resolved by state legislation, and the principle concerns about PGD have been the potentially eugenic and discriminatory undertones and uses of PGD. In Japan for instance, PGD is prohibited on the grounds that it enables a form of genetic discrimination by selecting out only those embryos that are “genetically” normal, thereby discriminating against individuals with chromosomal disorders (Munné and Cohen 2004). Disability rights groups are also wary of the potential genetic discrimination implicit in PGD, as it extends pre-natal testing even earlier in embryonic development (Parens and Asch 2000). There is also debate over whether PGD should be allowed for human leukocyte antigen (HLA) typing, in which an in vitro embryo is selected for its ability to be an HLA match able to provide haematopoietic stem cells to a child who suffers a serious congenital disease (de Wert 2005; Edwards 2004; Verlinsky et al. 2004b). In addition, PGD can also be used for sex selection of the embryo for non-medical reasons, sometimes known as “family balancing.” Preference-based sex-selection is widely controversial both because of its discriminatory potential and also because it entails the possibility that a chromosomally normal embryo will be discarded if not of the preferred sex (Edwards 2002; Malpani and Malpani 2002; Shenfield et al. 2003).

Taking these international concerns over PGD into consideration, what is most striking about the case of PGD in Argentina is that the controversy is focused almost entirely on the nebulous status of the human embryo itself. In this sense, the debate in Argentina over PGD shares much in common with the global debate over stem cell

research and cloning, which also calls into question the protections due human life. In Argentina where fundamental anxieties over assisted reproduction and the status of the embryo have yet to be resolved, concerns surrounding genetic testing and the proper use of PGD are not yet as pressing. The circle of inquiry in Argentina is therefore drawn around what rights and protections should be afforded to an in vitro human embryo of eight cells whether chromosomally normal or not, rather than on potential genetic or sex discrimination. Genetic testing issues are undoubtedly potential concerns in Argentina, but the *critical* issue for objection to PGD in Argentine clinics—what to do with the abnormal embryo—at present precedes the resulting conflict in other places. As this chapter illustrates, in the unregulated private market of ART in Argentina, the ambiguous status of the in vitro embryo is a source both of anxiety and promise for practitioners who support the practice of PGD.

Modernizing Practices in Argentina

“Technology progresses much faster than our thinking does. You don’t know if that’s good or bad. Even more than that, you don’t know the consequences.” Manuel Giordano, a biologist at Fertility Institute (June 2004)

For a couple undertaking ART in Argentina, PGD costs an additional \$500 USD per IVF-ICSI cycle. In this scenario, consumer “demand” for a given technique is often created by the centers themselves through physician referrals, and subsequently through patient familiarity and desire for the procedure. This is precisely the situation with PGD. By 2005, all five of the principal clinics were providing some form of PGD, and yet the actual number of *patients requesting* PGD was negligible (especially compared to those asking for IVF). For the time being, PGD is being performed only at these larger

infertility clinics in Buenos Aires. It is not viable for the smaller clinics in Argentina, because they do not perform enough patient cases of assisted reproduction treatments in general, to make it worthwhile to invest in the high-priced training and equipment required for PGD.

The incentive to begin offering PGD is not only a market-based competitive one, but perhaps more importantly is related to the appeal of this technology as a scientifically advanced technique for professionals in Argentina. As discussed earlier, Argentine specialists are participants in an international community of reproductive medicine experts, a milieu in which it is of utmost importance to be perceived as “modern” and up to date with the latest medical technology and procedures. These include basic embryo cryopreservation as well as advanced embryo-manipulation techniques like PGD and assisted hatching. Successfully providing high-tech reproductive technologies including PGD, can therefore be read in Argentina as vital to maintaining this highly desired and at times precarious modernity.

In the unregulated market environment, some ART procedures are done quietly, while others are not even discussed. For example, until PGD made the issue unavoidable, the disposal of an in vitro embryo was considered a question too taboo for dialogue within the medical community. The fear of generating negative commentary from the Catholic Church on assisted reproductive practices in general imposed a code of silence. Indeed, in May 2003, as public debate over PGD was just stirring, Navarro spoke to me of the caution necessary to deflect negative public attention and misunderstanding:

When it [*PGD*] becomes more public I think that there could be people that would denounce us and [*name of a clinic in Buenos Aires*] and other institutes that do PGD, because of what we do with abnormal embryos, which are “sick children” according to them. And as you can’t murder a 5 year child that has Down’s Syndrome, neither

can you murder a 6-cell embryo because it carries Down's Syndrome. That's the idea. I think that you have to be very careful.

As this statement exemplifies, the ambiguity of existing legal statutes and the lack of state oversight therefore places the responsibility for laboratory and clinical actions on reproductive medicine professionals. This legal uncertainty is therefore experienced by these professionals as both a liability and an opportunity: it does not provide any safeguards for ethical anxieties, but it does allow practitioners the flexibility to decide the extent of embryo manipulation they wish to pursue.¹⁵⁵

Ethical and Embryonic Developments

"It is an expensive technique. The truth is that in Argentina the technique is still being tinkered with to perfect it. And apart from that, imagine how doing PGD implies the selection of embryos to transfer. Imagine how here [at this clinic] they don't even want to cryopreserve, even less will they want to select in order to discard the rest of them [embryos]. Because they tell you, 'yes, we are cryopreserving them for the day in the future, in 30 or 40 years, when a therapy is made for these embryos and we will unfreeze them.' It's a little...It's a chimera, isn't it?" Diego Ramos, a biologist at RMI (March 2004)

As mentioned earlier in this chapter, by May 2003, proponents of PGD at CREAR were able to convince the center's directory board that the value of the technique offset its financial costs. However the moral "cost" of PGD—what to do with the abnormal in vitro embryo—was not resolved for another year. It is the process and product of this "resolution" and its implications for understandings of science and morality that are of interest here.

At the time PGD was first being considered as a treatment service, CREAR upheld a within-clinic policy of protecting all in vitro embryos after the pronuclei stage,

¹⁵⁵ As far as I can tell, this legal uncertainty has not resulted in the prosecution of any cases of negligence related to ART procedures in Argentina.

regardless of their chromosomal normality. While not as stringent as the Catholic Church's decree that life begins at conception, the directors at this clinic define an embryo as a minimum of 48 hours or 2 days of development post-fertilization, as I discussed earlier in the chapter. At two days post-fertilization, they consider the developing cells to be viable life that requires protection. According to this principle, a fertilized gamete of *one* day is a group of undifferentiated cells, and may be destroyed or manipulated as necessary for the particular procedure at hand. The human life potential of an embryo of *two* days or more will be protected. In not discarding or damaging an embryo, CREAR viewed itself as compliant with a liberal interpretation of a person's legal right to life.

As discussed earlier, the results from PGD are available after the 5-day in vitro embryo has already differentiated into a blastocyst. CREAR's embryo policy therefore created a problematic situation with respect to PGD: the obligatory protection of a potentially chromosomally abnormal embryo. In the event that PGD revealed the tested embryo as abnormal, the only morally acceptable option was to protect the life potential of this embryo by cryopreserving it. Discarding an embryo was prohibited by the clinic's policy, and transferring it to the uterus would defeat the purpose of PGD in the first place.¹⁵⁶

To resolve this technical dilemma, CREAR's professionals initially agreed, as an institution, that the abnormal embryos would be cryopreserved and stored, either until gene therapy was feasible, or until a national law defined an embryo as not requiring

¹⁵⁶As with other clinic protocols, patients were not involved in the decision-making process of what to do with abnormal embryos. Before undertaking any ART procedure, patients must sign consent forms agreeing to the clinic's policy on embryos and cryopreservation. Though relevant, the patient perspective on the dilemma of PGD in Argentina is beyond the scope of this chapter.

protection (therefore overruling the clinic's prohibition against discarding an embryo).

One of the gynecologists at CREAR, Matías Serrano, whose personal position was to discard a chromosomally abnormal embryo post-PGD, explained to me in 2003 that CREAR couldn't do that out of fear of negative public opinion:

It's a question of... We are afraid that the newspaper will publish that we are throwing away abnormal embryos, given the idiosyncrasy of this country. I would discard them, but the idiosyncrasy of this country and the religious question influences public opinion a lot. We can avoid this type of problem, of the sensational press in this way [by cryopreserving the embryos].

Though to freeze these embryos was a form of deferral rather than a solution, it was easier to for CREAR's professionals to agree on than any other option at the time.

Cryopreservation of an abnormal embryo avoided negative press, but it was a short-term solution at best, and one that cost the center approximately \$300 USD per patient.¹⁵⁷

Marta Romero, a biologist and practicing Catholic, recognized the limited value of cryopreservation as a solution, but unlike her colleague at CREAR, she did not agree with the disposal of an abnormal embryo, as she told me in June 2003:

The issue is what to do with the abnormal embryos. Depending on what the disorder is, if it is a disorder that is going to take away quality of life. For example, Down's Syndrome, I wouldn't throw away an embryo carrying Down. But they end up on the streets, poor things. Obviously if you ask me, do I prefer to have a healthy child or a child with Down's, a healthy child. But the disorders that involve a life or the quality of life as being terrible, or that they live a few years and then die, for those things, I wouldn't transfer them. I wouldn't transfer a Down's Syndrome embryo either but I wouldn't discard the embryo, I would cryopreserve it. And the act of cryopreservation, it is postponing the problem for the future.

Marta raises a whole host of issues here, one of them being the fact that the controversy of PGD is in part a controversy over "undesired" embryos that no one actually wants to

¹⁵⁷ During the time that CREAR mandated the cryopreservation of abnormal embryos post-PGD, the center did not charge patients for cryopreservation post-PGD.

transfer, but that everyone wants to protect (for different reasons). In fact, the very technique of PGD—opening a hole in the zona pellucida of the embryo to take out the chosen blastomere (the biopsy)—leaves the embryo vulnerable to the cryoprotectant used in cryopreservation. This direct contact between the exposed cell and the cryopreservation medium is very harmful and causes cell degeneration in the embryo, thus damaging the embryo’s viability. This is not a secret for those who advocate cryopreservation of the abnormal embryo. One of CREAR’s biologists, Julieta Moretti, assured me in August of 2006 that:

Everyone who cryopreserves a biopsied embryo knows that the chance is very low that this embryo will be viable after thawing, because of the cryo-damage due to the removal of a piece of the zona pellucida.

Cryopreservation therefore may have been an easier moral solution for CREAR to adopt, but in technical terms the “protection” that it affords the post-PGD embryo is not very great. The solution of cryopreservation can be seen as just one more means of postponing the inevitable choice that must be made in doing ART between embryo manipulation and the inviolability of human life.

In August 2004, after one year of providing PGD to patients, CREAR’s directors approved a change in clinic policy on the moral status of an in vitro embryo. Partly in response to the impracticality of protecting abnormal embryos through cryopreservation, the directors agreed to a recommendation from CREAR’s ethics committee. This committee, which provides the clinic non-binding counsel from ethical, legal and psychological perspectives, devoted several months of debate and inquiry to the status of the embryo, resulting in a written and published formal statute on the moral status of the embryo. According to this document, the beginning of human life is a process, and

cannot be pinpointed to a particular stage in development. Therefore regardless of having 2, 3 or even 5 days of development, an in vitro embryo has the potential for human life, but does not merit the full rights of an actual person. The committee's assessment is that an in vitro embryo's life potential should be respected, but that a reason of serious moral consequence (*"una razón moral de peso"*) can override this protection. This conclusion is necessarily ambiguous, in that it allows for a subjective decision regarding the treatment of the embryo to be made according to the particular situation at hand. In terms of PGD, this judgment can be interpreted to mean that a chromosomal abnormality is a reason with significant moral consequence, and therefore discarding an abnormal embryo is morally acceptable. Although public backlash from the Catholic Church is still a possibility, with this bioethical ruling, and in the continued absence of a law saying otherwise, the official policy at CREAR is now that discarding an abnormal embryo post-PGD testing is morally permissible.

Yet this change in policy remains largely symbolic. As of October 2005, the clinic had had no opportunity to practically implement this change of policy. This is due to some extent to technical aspects of the procedure. Despite technical know-how, a center's caseload of PGD depends partially on the morphological quality of the embryos to be tested. At times PGD is not a possible technique for an indicated case—as when an embryo has very few cells or when the cells are fragmented and granulated, conditions which make embryo biopsy not feasible. From the initial week of training in 2003 (during which time six cases were performed by the Italian expert), until October 2005, only six additional patient cases of PGD were performed. Only one of these cases came up after the bioethics committee's recommendation. In that instance, the embryos arrested in

development before reaching the blastocyst stage, at which point the decision to cryopreserve or transfer would have been made. In other words, by the time the results of the preimplantation testing were available and a decision on whether to discard the abnormal embryos would have been taken, the embryos were no longer “viable” and no decision was required.¹⁵⁸

In contrast to CREAR’s first adopting the technology and second resolving the moral dilemmas it poses, other centers in Argentina are resolutely against providing PGD until the status of the abnormal embryo is resolved legally, on a national level. This is the case at a smaller clinic in the greater Buenos Aires area where one of the gynecologists explained to me that he considers PGD to be a great advance of science as it brings the technological ability to prevent the inheritance of genetic diseases. However, this gynecologist is a practicing Catholic and considers embryos, even abnormal ones, to be human life with the potentiality to become a person. Because PGD creates the potential situation of an unwanted embryo, without a chance for transfer and development in the uterus, he will not advocate for a PGD program at his clinic. Following this logic, he is also against cryopreservation of embryos without the intent to transfer them, and only offers this service for exceptional cases.

Indeed, the option of cryopreserving the embryos diagnosed with chromosomal abnormalities is not viewed as a solution by many in this community, but rather a postponement of dealing directly with the issue. Manuel Giordano, a biologist at Fertility

¹⁵⁸At the time of this writing, it is unlikely that CREAR has yet needed to enact their policy on the abnormal embryo. In late 2005, some of the laboratory staff skilled in PGD (the head of the embryology lab and one of the PGD-trained biologists) left the center, taking their expertise with them. Though CREAR continues to claim to provide PGD as a patient service, as of early 2007 it is doubtful that they have performed many (if any) cases in the last year.

Institute here provides a common criticism to this deferred approach to PGD, though he is an avid supporter of the technique:

We don't even know what we're going to do here [at this clinic], we still have to discuss it. They are going to cryopreserve them [embryos], probably they will be cryopreserved. But no one wants to transfer them, you know. And neither can they fix or cure them, not now, not now or in 50 years. Not even in 100. The truth is that I don't see that happening. Besides, who is going to cure an embryo 100 years from now, it seems ridiculous. So to cryopreserve them is synonymous with discarding them. It is like sweeping the dirt under the rug.

Projecting into the future, Giordano in June 2004, concludes that the frozen storage of these undesired embryos today is “synonymous with discarding them”—given the likelihood that even if gene therapy does exist in one-hundred years, it would not be used to “cure” this population of highly-defective embryos. Even so, at many of these centers, cryopreservation represents a more socially and morally acceptable option than outright disposal. Such dilemmas and “resolutions” highlight the intimacy between medicine and morality, revealing that the tensions of doing PGD are experienced here as a mutually exclusive choice between the sanctity of human life and scientific modernity. The delaying tactic of cryopreservation allows an avoidance, if only temporary, of this conflict-charged “choice.”

Conclusion

In this chapter I argue that performing both cryopreservation and PGD in Argentina signifies much more than providing patients access to ART techniques. The practice of both clearly exposes one of the problematics at the core of ART in general in Argentina: the legal and moral status of the human in vitro embryo, and by extension the definition and value of human life. As such, this is a local dilemma that reaches far

beyond the borders of Latin America, and speaks to widespread concerns over “global human rights” and the “ethical uses” of biomedical technologies.

This variation in the interpretation of the embryo’s life potential also exemplifies how complex the adoption of a new medical technology can be, regardless of the high standards of scientific development in place. For instance, although the machines may be in order and the scientific procedures mastered, the local context—in the form of social and moral values and codes of practice—can impede “technological progress.” The techniques of cryopreservation and PGD illustrate this precisely. Embryo cryopreservation in Argentina, while a fairly common practice today, continues to be at the center of a public debate over the personhood rights of the *in vitro* embryo—decisions that could prevent the cryopreservation of Day Two embryos in the future. In addition, given the dilemmas that PGD raises for Argentine providers and consumers, its incorporation into the repertoire of assisted reproduction services has been much slower in Argentina than in countries like the United States where such uncertainty doesn’t exist.

In Argentina, the techniques of cryopreservation and PGD require confronting and resolving the apparent contradictions between wanting to “do less” to the *in vitro* embryo and desiring to perform and provide the latest in ART techniques, which invariably entail embryo manipulation. Providing these services to the public therefore is not just an issue of adding another laboratory technique to the list of possible options for infertile couples, but is also an important stake in Argentine practitioner’s claims to modernity and scientific rationality. Reproductive medicine is a rapidly advancing field, and new techniques bring new knowledge. This chapter illustrates that with this “new

knowledge” also come contemporary applications of familiar deliberations over human life, science, morality and modernity.

The application of PGD in particular also highlights concerns over genetic discrimination and the medicalization of difference. PGD, like other technologies that identify genetic risk, scans for potential “defects” in the embryo. What is a “normal” embryo and consequently what is a “normal life worth living” is therefore being decided by a group of authoritative experts creating PGD protocols and performing the technique. However definitions of “normal” vary, and are slippery at best. This ambiguity is exemplified with the hypothetical case of a deaf couple who desire PGD in order to select an embryo carrying the genes for deafness, a situation which is opposed by many in the international reproductive medicine community. Indeed, many medical professionals disagree with using PGD to select *for* (rather than against) an affected embryo, and the European Society for Human Reproduction ethics task force disallows it (Edwards 2004; Shenfield 2003). In Argentina the potential discriminatory tones of using the technique are not yet part of the current discussion, as the overriding concern is for the moral ambiguity of the embryo. Though not the focus of this chapter, the potential global use of genetic technologies as “preventative” methods—employed to lessen the weight of a “global burden of disease” that chronic illnesses and conditions place on nations around the world—is a prospect that requires further examination.

Like other medical techniques, cryopreservation and PGD are embedded in social relations that are activated and transformed in the practice of the technology and as such involve a myriad of competing desires, choices and requisites. The variability in resolving this problematic in Argentina is a revealing example of how cultural matters,

such as the “right to life” of an embryo, are both governing of, and negotiated through,
medical technologies

INTERLUDE V

“God Answered Our Prayers”: The Miracle of IVF at a Reduced Cost

In this final interlude, I give voice to a woman, Marcela, who tried in vitro fertilization once at one of the principal ART centers in Buenos Aires, and failed to become pregnant. Although she wanted to make another attempt, Marcela, who lives in the northern province of Salta in Argentina, could not financially afford another treatment. She applied to the clinic’s non-profit foundation for financial assistance, and was granted a second treatment, this time at a minimal cost, to be paid in quotas over six months. I learned about Marcela through talking with the woman in charge of the foundation at this particular clinic, Graciela Martinez. Graciela told me that her relationships with these low-income couples become very personal and intimate at times, particularly because Graciela experienced infertility herself and went through GIFT twice at this same clinic. She now has a 12 year old son. Graciela shared with me a thick stack of hand-written letters, written to her by grateful patients over her fifteen years of (voluntarily) overseeing the foundation’s assistance program. Marcela’s letter of gratitude gives us a glimpse into the hope, faith, and sadness that accompany a patient’s experiences of infertility and in assisted reproduction treatment.

Buenos Aires, November 21, 2003

Dear Mrs. Graciela Martinez:

I am writing this letter even without having the pleasure of knowing your face, but I feel that I know something even more important about you: your heart. I don't know if I will be able to express what I actually feel with words—personally I don't think so—but I would like to be able to convey to you with these very simple words the profound gratitude that my husband and I have in our hearts for everything that you have done for us, and continue to do.

Our entire lives have been dedicated (as much mine as my husband's) to working on behalf of children, we live surrounded by children whom we love deeply, children who need God in the first place, and also a hug, affection, caring, and support. We feel and hope we are able to give them that.

We feel a deep joy in knowing that we are fulfilling the “mission” that God gave us in life. Even so, when we come back home or when we sit on Sundays in the park and we see children with their parents, we feel that deep pain of knowing that there is a wide emptiness in our hearts, which is destined to be filled only by a child.

My husband and I are like every married couple (I'm sending you a photograph so you can meet us), of course after eight and a half years of marriage we carry around more kilos and have less hair. But our God has united us for life, that is our belief and desire,

and we love each other deeply. We know that we have many things to be grateful for and we still have a very very long path ahead of us. Nevertheless we have prayed to God so much for a miracle and we give thanks to God for having permitted us to receive it. We believe this is God's answer to our prayers. I know Mrs. Graciela that as you told us, everything is in God's hands and we really believe that, but we are convinced that we want 'to fight for the dream of having the privilege to carry our child in our arms, to see him grow, to take his first steps, to wake us up at night (even though we haven't decided who goes first), to give him a bottle, to change his diapers, in summary that he be a living extension and expression of the love that unites us.

There is an author that I like very much, Paulo Coelho. He once wrote, "our path is full of tests. To fulfill our Personal Legend and our dreams requires courage, steadiness and faith. It is natural to feel that we are weakening. But it is also natural for our interior strength to carry us forward."

Thank you Mrs. Graciela for your call, for your words at a time in our lives so difficult and sad. And from my experience as a woman, thank you for caring for and supporting me, cheering me up, and making me feel that it is possible to dream again, above all thank you for concretely giving me the possibility today of doing it [dreaming again: through doing an ART treatment]. Thank you because without knowing me personally, you gave me your hand. And you know what? I believe that all of life is a feedback and I pray to God that all your generous consideration and help will be multiplied and returned to you through God. Thank you for letting me hear your son's tiny voice on the

phone, you can't imagine how precious and encouraging that was for me, please give him a kiss from me. Talking to him made me believe that some miracles aren't just dreams, they become real.

Well Mrs. Graciela, I do not want to give you a letter so long as to be like a testament but you know that this comes from my heart and I wanted to share it with you.

In these moments, my husband and I are left to believe and hope in God's will for our lives. But yes, we are going to fight for a little child, until in our hearts we feel that God has whispered to us, that it is enough.

As you will see, we are common people in search of a fulfilling a dream, a dream that will make us feel happier and more complete. Thank you for giving us this opportunity. God bless you and your family, and do not ever stop encouraging people who like us must pass through these moments (I do not know why, but that is not for us to know, but is in the hands of God).

If you allow me, I would like to leave you with a short piece from the Bible that gives me much encouragement at this time, after my first failed in vitro. It says the following:

“For which cause we faint not; but though our outward man perish, yet the inward man is renewed day by day. For our light affliction, which is but for a moment, worketh for us a far more exceeding and eternal weight of glory; While we look not at the things which

are seen, but at the things which are not seen: for the things which are seen are temporal; but the things which are not seen are eternal.”

Letter from apostle Saint Paul to the Corinthians, chapter 4, verse 16 to 18.

God bless you,

Marcela R.

I am giving you my business card and my address. You will always be welcome to Salta, to visit “La Linda” and to eat our famous empanadas¹⁵⁹, my house is your house Mrs. Graciela.

¹⁵⁹ “La Linda” refers to the beautiful city of Salta. *Empanadas* are a traditional food in Argentina, savory filled pastries that vary slightly by region.

CONCLUSION

LIFE BEYOND THE MICROSCOPE



Figure 49. The city and the Pampas: Sunset over Buenos Aires, Photo by Kelly Raspberry, May 2003.

“The first photo of my children, in the album, is from when they were embryos, before they were in my uterus.” Ana María Picolotti, family lawyer in Buenos Aires who works on ART issues and gave birth to triplets in 2000, after her third ICSI attempt¹⁶⁰

My intention throughout this ethnography has been to render visible a local culture of assisted reproduction practices in Argentina, in order to better understand how assisted reproductive technologies are transformed according to local conditions of practice, as well as how they are transformative of the societies they newly inhabit. I

¹⁶⁰ When the biologist checks the quality of the embryos under the microscope in the laboratory, a digital picture is taken of each developing embryo. The patient is later given an information form that includes these black and white photographs of the embryos that were transferred.

suggested that the entire process of assisted reproduction—which includes embryology laboratories, clinical tools and encounters, religious faith, scientific protocols, and a myriad of embodied desires, motivations, and aspirations—is fundamentally cultural and contingent on local histories, understandings and practices. My aim in these chapters has therefore been to illustrate the slew of competing interests and ethics involved in practicing ART, and to elucidate the many entities that are created as a result. Ana María's statement quoted above points to the variety of entities produced through the performance of ART, in this case the transformation of a microscope's gaze at a developing in vitro embryo into a cherished photograph in a baby album. Throughout this ethnography I argue that reproductive medicine experts in Argentina are producing not only embryos and babies in their infertility centers, but also reproducing and reflecting particular ideologies of family, health, modernity, morality, and life.

Modern Hybrids of Technomedicine

In previous chapters I illustrated how these reproductive medicine specialists perceive the social worlds of their practice as a hindrance to the medical and scientific modernity they are capable of in a purely rational and modern world. In particular they cite economic pressures, orthodox Catholicism, and geographical marginality (i.e. not being in the US or Europe), as impinging on their ideal strategies of practice. To make sense of this repeated assertion, I find it useful to think of ART practices in Argentina as a local strand of “technomedicine”—kinfolk of Haraway's (1997) “technoscience”—which produces certain narratives of modernity and progress, and relies upon the complicity of practitioners and patients for its enactment. The historical and political

circumstances of Argentina as a “subordinated West” make this a particularly revealing site to examine such juxtaposed and hybrid creations of “modern” and “traditional” ideologies and practices. I suggest that health professionals in the infertility clinics of Argentina are daily attempting “purification” processes to keep medicine and science separate from—and inoculated against the effects of—society and religion. However through engaging in this modernist project of “technomedicine,” professionals also optimize nature for the benefit of the social order—they “trick” the sperm to fertilize the egg under the microscope, and the embryo to develop in the incubator, and in so doing, make possible the formation of the traditional nuclear family. As they strive to distill a modern rationality out of intimately-felt desires, uncooperative reproductive systems, and deeply entrenched traditions of Catholic social morality, these professionals also produce local hybrid entities and networks.

As players in a transnational game of professional prestige and pregnancy success rates, these reproductive medicine experts attempt to protect and purify their medical and scientific practices from the “mess” and conflict of society, and in doing so, develop a view of their own culture as something regrettable—a “drag” on progress. The local translation of the global apparatus of ART is one in which Argentine professionals are constructing bodies, health, and the very *technique* of assisted reproduction in ways that are dependent upon a local genealogy of high-tech medicine. This translation is thus inseparable from the specificities of Latin American Catholicism, a “Third-World” economy, the absence of ART regulation, and pronatalist values.

In Argentina, ART is defined as a biomedical treatment for the diseased infertile body, which thus provides the means by which nature’s “failures” can be bypassed, and

the traditional social order preserved. At the crux of this paradigm is the assertion that infertility is a biological *disease* that requires the medical intervention of ART. In defining ART in this manner, health professionals actively engage in the modernist project of purification (Latour 1993). These professionals attempt to reduce ART to a medical treatment for a purely biological disorder—removed from a bounded social order where religious beliefs, economic considerations and social values carry weight. The “healthy” body becomes as much a social as a medical designation, as infertility specialists attempt to separate out social deviants (single women, lesbian couples, women over 50 years old) from those “worthy” of biomedical fertility care. Professionals in Argentina thus entertain a contradiction between containing the social order and its obstacles to modernity, and preserving it. Within the clinic, traditional social values are thus protected and reproduced, out of fear of public critique and the dismantling of the entire modernist project of ART.

Through their purification attempts, these reproductive medicine experts move between modern and traditional orders, producing science-society hybrids. This model depends upon the “double purification” of science as neither social nor natural, but as a mediator between the two. In other words, like Latour’s “modern” scientists, these clinicians and biologists conceive of assisted reproduction in its purified form as the mastery of nature, and separate from all that is social. As this ethnography illustrates, the very problems of this specific “translation” of assisted reproduction in Argentina depend fundamentally on the specific varieties of “modernity,” “nature,” “culture,” “science,” and “religion” that are in play. For example, this local culture of ART includes certain assumptions about the “modernity” of medical technology, the “sacredness” of life, and

the “naturalness” of heterosexual nuclear families. The very negotiation of which ART practices *are* and *are not* “medically” acceptable, generates hybridity, in which tangible contradictions and conflicts reveal the confluence of categories in practice. As productive actors who move within this confluence, Argentine reproductive medicine professionals are themselves hybrid products of science-society.

Specific Narratives

I began this research with the objective of examining the local specificities involved in producing the global apparatus of assisted reproduction in Argentina. In her recent book examining upper-class consumption of reproductive technologies in Egypt, Marcia Inhorn writes: “The examination of these Western reproductive technologies in non-Western societies offers a heuristic case study of local-global intersections and elucidates the importance of interrogating what is ‘local’ in an increasingly ‘global’ world” (Inhorn 2003: 273). Based on my cultural analysis of assisted reproduction practices in Argentina, I would add that the local/global is not an exclusive binary of opposites, but is itself also a hybrid creation of interactions, like nature/culture and science/society. Specifically, I suggest that the local culture of assisted reproduction in Argentina is located at the intersection of the local and the global—straddling both the local and the global, and again mediating between the two.

To historically situate current ART practices in Argentina, in chapter one I first located today’s Argentine infertility specialists within a transnational network of training, scientific prestige, innovation and competition. I argued that within this network, assisted reproductive technologies are not neutrally transferred, but rather *translated* into local

idioms—and hybrids—of practice. The historical mapping of the global network that these Argentine professionals participate in divides along predictable correlates of status and modernity, with the United States and Western Europe at the “center” and Latin America, including Argentina, on the “periphery.” Within this peripheral site of Latin American production, Argentina holds a privileged position of local influence and recognition. The reproductive medicine professionals in Argentina that I focus on in this ethnography both contest and reproduce this “hegemony of the north.” Though they actively work to overcome their marginality, they also tacitly reaffirm it by using northern sites of ART production as the standard model of “successful ART.” I argued that like their Northern colleagues, health professionals in Argentina are well-versed in the biomedical modern lingo of “science as rationality,” which they struggle to reconcile with deeply-held Catholic beliefs.

In chapter two I examined more closely the production of local hybrids and translations created through ART practices in Argentina. As I discuss throughout this ethnography, the majority of practitioners within the reproductive medicine community in Buenos Aires attempt to purify their “science,” one way of doing this is to frame their professional practices purely in medical and scientific terms. Therefore assisted reproduction is defined as a medical treatment for the *biological disease* of infertility. This medical treatment is therefore produced in the service of a “universal right to reproduce.” However as I discussed in chapters two and three, these same professionals impose social criteria on this (not so) “universal right.” In chapter two I discussed how single women and lesbian couples are denied access to ART on the grounds that they are not “biologically infertile,” while heterosexual couples are encouraged to have biological

children. I argue that this insistence on assisted reproduction as a “disease treatment” also represents a means of “treating” the social order by ensuring the reproduction of normative values of heterosexual, nuclear families. As visible players within a conservative milieu, reproductive specialists promote traditional values of family and health in part in order to legitimize their work in assisted reproduction. They are also careful of preserving the traditional social order so as to prevent forceful public outcry—particularly from the Catholic Church—that could lead to an upset in the whole enterprise of ART.

I also looked at how high the stakes are for these professionals to achieve their much-desired credentials of scientific modernity in chapter two. These reproductive medicine experts in Argentina must carefully choreograph their dance of modernity, taking stage cues from the Catholic Church, traditional social values, economic shifts, and international clinical protocols. In order to be enlightened doctors and scientists of ART, these specialists downplay traditional Catholic ethics towards reproduction and family in the wider Argentine society. In the absence of national legislation, they strive to establish an “orderly” world of medicine and science, through self-regulations such as clinic protocols, RED accreditation, ethic committees, and more recently, ISO certification. Yet they can not push the traditional boundaries too far, for fear of negative legal and social repercussions. They also contend with practical difficulties not experienced in the North: the instability of the national economy and the unsteadiness of a patient population who can afford the private services; the costly importation of all high-tech equipment and laboratory supplies; and the lack of national funding for research and development. As a point of comparison, I also briefly examined the extreme

side of practical difficulties to producing ART in Argentina, illustrated by the presence of only one assisted reproduction program—which does not offer IVF or ICSI—provided at a public hospital in Buenos Aires.

In chapter three, I examined the intersection of options to make a family, beliefs about genetic inheritance, and the market-side of assisted reproduction through an analysis of the practice of gamete donation in Argentina. The preference for using gamete donation with ART over adoption derives from a privileging of genetic inheritance (at least one person will share their genes with the child) and the pregnancy experience. I also argued that the practice of gamete donation illustrates the commodification aspects of ART, even while professionals work to contain market influences—for example by placing the limit at surrogacy arrangements. However the market in Argentina now includes paid egg donation—a practice disparaged seven years ago—though all exchanges remain anonymous and overseen by the clinician. Gamete donation is made acceptable under the theory that so long as health professionals carefully control and mediate the process of gamete donation, the practice is confined within the acceptable boundaries of modern medicine and scientific rationality. However, as the examples of gamete donation and embryo donation evocatively illustrate, the arena of reproductive medicine is not itself a “purely rational” space, but a hybrid of conflicting desires, motivations, and demands.

To further examine how medical and scientific protocols are translated to fit local conditions of practice, in chapter four I focused specifically on two problematic techniques in Argentina’s ART centers: embryo cryopreservation and preimplantation genetic diagnosis. In these clinics, the legal and moral status of the in vitro human

embryo is one of contested ambiguity. Whereas infertility specialists are able to navigate around this ambiguity to provide cryopreservation, the procedure of PGD necessitates the direct confrontation of the meaning of the in vitro embryo in order to proceed with the technique. With neither legal guidelines, state regulation, nor a medical consensus on what is permissible, practitioners are left to sort out amongst themselves the thorny issues of viability and personhood of a human embryo, and the value of human life. These scientific definitions of when an embryo is viable and what that means in terms of respecting the potential for “the right to life,” are by no means absolute. These differentiations between Day One pronuclear stage and Day Two embryos, Day Three embryos and Day Five blastocysts, in turn dictate the limits of acceptability of different procedures that manipulate the in vitro human embryo. For now, practicing cryopreservation and PGD in Argentina requires the deferral of a decision that cannot be made, a conflict that is without resolution. As the examples of cryopreservation and PGD illustrate, the production of these technologies are shifting deeply rooted beliefs about the sanctity of human life and the role of technology in manipulating that life.

Moral Guardians at the Gates of Argentine Modernity

Who stands at the gates of these critical junctures of modern medicine and morality is a matter of some consequence. Currently in Argentina the reproductive medicine professionals who provide ART to the public are society’s moral guardians, diagnosing the healthy body and family, defining when personhood begins, and dictating what protections are due human life. Rather than through a social process of discussion, these cultural, philosophical and ethical matters in Argentina are being decided in private,

behind the closed doors of medical consultation rooms. To date the Catholic Church in Argentina has not stirred up extensive controversy over ART, nor even over the potentially-inflammatory technique of PGD. Over the twenty years that ART has been practiced in Argentina, the legislature has dawdled over various proposed legislation to regulate ART. The absence of a national law regulating ART in Argentina therefore places the reproductive medicine practitioner in a powerful moral position. This is experienced as both a burden and an opportunity for these professionals working in reproductive medicine. Though clinical and laboratory assisted reproductive practices are not “protected” under a law, neither are they prohibited. Thus professionals can decide for themselves what falls under the rubric of “ethical” and acceptable procedure, often on a case by case basis based on clinical circumstances and economic incentives. As I discussed throughout this ethnography, such decisions are dynamic and based on many factors, including desires to be “modern,” fears of inciting the wrath of the Catholic Church, competitive market concerns, and anxieties about missing out on the progress of science.

However the issues that ART practices like embryo cryopreservation and PGD raise in Argentina are not limited to that part of the globe, and indeed share much in common with current controversies over stem cell research and abortion around the world. At the center of inquiry in these “embryo debates” is “the ontological and moral status of the embryo and the uses to which it may be put” (Halliday 2004: 40). Such questions over when human life begins and its inviolability raise the specter of global “human rights.” If human life is conflated with personhood, the “human rights” of in vitro embryos will merit protection, regardless of whether the practice in question is

cryopreservation, PGD, abortion, or stem cell research. However, just as Lock (2002) compellingly argues that the end of life is a threshold that “will not be pinned down once and for all” so too is the beginning of life. With respect to assisted reproductive technologies, any limit placed on when life begins will be an intrinsically *social* designation, developed through the local conditions of medical technology practice.

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