

# Introduction

## SPERM CRISIS

In the early months of 1981, Lu Huilin received a letter at his office in the bustling, river-laced city of Changsha, capital of China's Hunan Province. The letter was from a patient who said he suffered from azoospermia, the severest form of male infertility. He had read somewhere that farmers were creating sperm banks for cows and pigs, prompting him to write to Lu, a prominent medical geneticist at Xiangya Medical College: "Why can't you build one for humans? I could be your first experiment!"

Lu had developed a keen interest in reproductive technologies ever since news of Louise Brown, the world's first so-called "test tube baby" had filtered through to Changsha, some months after her birth in England in 1978. Conditions were harsh for scientists in the years following the Cultural Revolution; clinical and laboratory facilities were dilapidated and access to equipment and the latest scientific findings all but nonexistent. Nonetheless, moved and perhaps also intrigued by the man's plea, Lu had an idea. He placed the letter into a new envelope together with a cover note and posted it to his daughter, Lu Guangxiu, in Beijing, who recounts:

My father forwarded this letter to me in Beijing. At that time, I had just finished three months of study in Beijing, so I thought about it and asked my teachers at the Chinese Academy whether there is a sperm bank in Beijing.

They said there is a sperm bank for cows in the countryside, so I rode two hours by bicycle [laughter] to the countryside to have a look at the sperm bank. Only one whole afternoon, I got to know how to freeze the sperm, how to use yolk and glycerol to freeze the cow sperm, only in this afternoon. I learned quickly! After that I came back to Changsha. I figured that we can get oocytes through our clinical work, but if there is no sperm, we still won't be able to do any research on in vitro culturing. So if we establish a sperm bank, this is one way we can treat the patients with this kind of disease while at the same time also being good for our research. So that's how we started our first human sperm bank in 1981.

Fast-forward to 2011. It's a sunny day in May, the relentless kind that sees people scurrying for the shade of roadside trees and the borrowed air-conditioning of corner shops. I jump off bus 405 as it stops along Furong Road, a congested six-lane thoroughfare, which, much like the Xiangjiang River, splits Changsha north to south. Just off Furong, Xiangya Road is its usual bustling self as cars honk and pedestrians push past pharmacies, food stalls, clothes shops, vegetable stands, shoe-shiners, and fortune tellers. It is my first day of fieldwork on a project about sperm banking in China, although not my first time on Xiangya Road. Indeed, I know what to expect as I approach 84 Xiangya Road where the fifteen-story CITIC-Xiangya Reproductive and Genetic Hospital lies, home to one of the world's largest sperm banks and fertility clinics. Even so, I'm astounded. Hordes of people are milling around the entrance, a much larger crowd than I had seen on previous visits. Most of them are there to seek fertility treatment, clutching their queuing tickets as they wait their turn to be called to the triage desk that manages inquiries from new patients. I squeeze my way through the crowds outside and enter the hospital lobby. The cacophony is thunderous. Patients are impatiently asking when their turn might come while white-coated doctors and pink-coated nurses somehow go about their daily routines, weaving through the throngs as they do. Two men are wheeling a large tank of liquid nitrogen toward the elevator, pleading for headway as they inch forward. Nothing stands still as I ponder how best to make my way to the sperm bank on the fourth floor. Let one of my sperm donor informants take it from here:

You know this hospital . . . it is full of infertile couples . . . actually they are ten times more than we donors. We could also see their faces and that would



*Figure 1.* Crowds congregate outside the CITIC-Xiangya Reproductive and Genetic Hospital.

make us feel anxious. Ehh, usually I get upstairs by foot not elevator because the elevator is always full and cannot hold me. . . . When I arrived here [on the fourth floor], I thought this place is not exactly what I thought the donor room would be. First of all, this is too small, too crowded and full of people. I thought there would only be a few boys who would want to be a donor but I . . . what I found was a room especially for donors but I couldn't find a seat, it was too full! (twenty-one-year-old student, Changsha)

From crude and uneasy beginnings sperm banking has become a routine part of China's pervasive and restrictive reproductive complex within the space of thirty years. Today, there are twenty-three sperm banks spread out across China's twenty-two provinces, the biggest of which screen some two thousand to four thousand potential donors each year.<sup>1</sup> Those who qualify donate ten to fifteen times over a six-month period in return for the satisfaction of being able to help involuntarily childless couples as well as monetary compensation for their inconvenience. The first baby conceived from frozen donor sperm in China was born in 1983 in Changsha, but the provincial government in Hunan prohibited the practice of artificial

insemination in 1989. This ban has since been overturned, and in 2003 it was superseded by national legislation, which, for the first time, legalized and regulated the provision of assisted reproductive technologies (ARTs), including sperm banking and assisted insemination by donor (AID). It is thus especially in the last ten years that sperm banking has become routinized in China with the closure of “rogue” banks and the establishing of strict licensing requirements and operating procedures. Routinization notwithstanding, with an estimated one to two million azoospermic men in China (men who are unable to produce their own sperm), the demand for donor sperm remains insatiable. China’s twenty-three sperm banks simply cannot keep up, spurring the directors to publicly lament chronic shortages and even warn of a national “sperm crisis” (*jingzi weiji*). As we will learn, this crisis is related firstly to an apparent national decline in sperm quality. The possible causes—lifestyle changes and the toxic effects of environmental pollution—have become matters of concern and objects of scientific research in China and elsewhere. And secondly, the crisis is related to chronic national shortages of donor sperm (amounting to a “state of emergency”) despite the efforts of sperm banks to mobilize potential donors on university campuses throughout the country. Faced with such a crisis, sperm banks in China have their work cut out for them.

The routinization of sperm banking in China has by no means been inevitable, fraught as it has been with paradoxes, hurdles, setbacks, crises, injunctions, taboos, limits, and reservations. To begin with, the condition for which sperm banking and AID were being developed to address in the 1980s, namely infertility, was and remains contested in China. As Judith Farquhar has argued, in many Chinese *fu ke* (women’s medicine) clinics in the early 1980s, infertility was not seen to result “from a permanent structural abnormality of the body but rather from an (often subtle) deficiency of normal physiological functions” (Farquhar, 1991, p. 374). An inability to conceive children was of course nothing new in China in the 1980s and various treatments aimed at redressing such diagnosed deficiencies were available from practitioners of traditional Chinese medicine. And so, when the likes of Lu Guangxiu in Changsha and Zhang Lizhu in Beijing began developing reproductive technologies in the early 1980s, biomedical interpretations of infertility had to contend with deficiency interpretations treated by practitioners of Chinese medicine in *fu ke* clinics. Some

doctors resisted “the hegemonic medical models” (Handwerker, 1998, pp. 193–97) and encouraged patients to visit traditional Chinese practitioners.<sup>2</sup> To this day, couples’ quests for conception often include visits to both Chinese and biomedical clinics, just as practices in these clinics often combine diagnostics and/or therapies from both versions. Moreover, while the subspecialty of *fu ke* within Chinese medicine has an ancient history and a normative focus on the reproductive body, Everett Zhang has shown that the first *nan ke* (men’s medicine) clinic did not emerge in China until 1983, thanks not so much to a biomedical concern with male infertility, as with the newly biomedicalized problem of impotence (Zhang, 2007; 2015). Notwithstanding the availability of microscope-aided sperm count tests since the early 1980s, childlessness was (and remains) exceptionally gendered with women more often than not bearing its burdens even when male factor infertility is the more likely culprit.

Secondly, Zhang Lizhu and Lu Guangxiu began experimenting with reproductive technologies at exactly the same time that an unprecedented effort to engineer national fertility was being rolled out across China. Over the course of the late 1970s and 1980s, China’s reproductive complex was configured to resolutely restrict fertility (Greenhalgh, 2008; Greenhalgh & Winckler, 2005). Indeed, China’s so-called “one-child policy” is one of its most internationally recognizable features today, even if it has since been tweaked into a “two-child policy.”<sup>3</sup> Launched in the late 1970s by late chairman of the Communist Party, Deng Xiaoping, China’s family planning policies enforced birth control through a series of targets set at regional and local levels aimed at lowering China’s high fertility rate, which was considered a hindrance to economic development. Family planning authorities were charged with meeting such targets through the provision of contraception, sterilization, and abortion services as well as through the fining of couples who exceeded their quota of children—targets that have at times been forcibly realized. Attempts to develop reproductive technologies in order to *promote* fertility in the 1980s were predictably seen by some state officials and scientists as conflicting with ongoing efforts to stringently prevent births (see Handwerker, 2002; chapter 1). In the chapters that follow, we will learn how assisted reproductive technologies, including sperm banking, eventually settled alongside litigation operations, abortions, and maternal and infant health care as

technologies of *birth control* within China's restrictive reproductive complex. Indeed, the perceived contradiction between the one-child policy and ARTs is so great that I shared my sperm donor informant's sense of astonishment at the vast numbers of infertile couples and potential donors upon visiting the sperm bank in Changsha for the first time in 2007.

Thirdly, as already noted, the decade-long Cultural Revolution (1966–1976) had had a destructive impact on scientific research in China, with scientists and teachers among those elite groups that were persecuted by the Red Guards (see Dikötter, 1998). Conditions for carrying out laboratory research in the early 1980s were crude, just as access to national or international research findings was sparse. And, as if these challenges weren't enough, the fact that requisite research experiments required the soliciting and collection of sperm and eggs made matters more complicated. While eggs would eventually be medically procured in connection with certain forms of surgical procedures carried out in hospitals, “manual” sperm collection was surrounded by taboo, considered “dirty,” immoral, and harmful. Indeed, the one proverb I would hear repeated most often during my fieldwork was “one drop of sperm is the same as ten drops of blood” (*yi di jing shi di xue*), albeit more often than not by donors laughing at the “old-fashioned” views of their parents and grandparents. The proverb has its origins in Chinese medical texts, which conceptualize semen (*jing*) as a vital essence that should be preserved to maintain health (Shapiro, 1998). In the early years of sperm banking, finding voluntary donors was a constant struggle and scientists had to delicately negotiate already scarce laboratory access from skeptical and disapproving colleagues in order to carry out all but clandestine research on gamete fertilization and embryo development. The 1980s were truly trying years for experimentation with reproductive technologies in China.

And finally, during the 1990s, improvement of population quality became an equally important demographic goal for the Communist Party in China (Greenhalgh, 2010). Family planning slogans, commonly seen displayed on billboards throughout the country, were adjusted accordingly to proclaim “Control population growth, raise the quality of the population” or “In raising the quality of the population, family planning is of vital importance.” This time it was medical doctors in charge of genetic counseling and prenatal care who were given the task of “improving the quality

of the newborn population” (P.R. China 1994, Article 1) through premartial health checks as well as prenatal screening and testing as means to prevent the birth of children “suffering from a genetic disease of a serious nature” or “a defect of a serious nature” (ibid., Articles 18 and 19; see also Sleeboom-Faulkner, 2010a & b; Zhu 2013; chapter 2). With this law, family planning in China expanded its responsibility beyond limiting the number of children being born to assuring the quality and health of newborns. When ARTs were legalized in 2003, regulations stipulated that fertility clinics “must obey national population and family planning legislation and policies,” which included “promot[ing] population quality” (MoH, 2003a, pp. B1, E1). As a result, sperm banking in China is today an ART and an SRT (selective reproductive technology), by which I mean a technology used not only to assist involuntarily childless couples to conceive, but also to prevent or promote the birth of certain kinds of children (Gammeltoft & Wahlberg, 2014). In the face of a looming national “sperm crisis,” sperm banking has been seen as a way to achieve better population quality through the selective recruitment of “high-quality” (*suzhi gao*) donors.

At the same time, however, fears about the detrimental impact of consanguineous marriage on population quality have emerged as a hindrance to the business model of Chinese sperm banks. Chinese regulations strictly limit the number of women who can give birth to a child with sperm from a single donor to five. The most common explanation I heard for this “restrictive” limit is that it reduces the risk of unwitting consanguineous marriage (which in turn is seen to increase the risk of birth defects) while also reducing the risk of unwittingly spreading a genetic disease (should a sperm donor turn out to have a late-onset genetic disorder that was not caught through standard screening procedures). China’s five-women’s-pregnancies limit coupled with the sheer demographic and epidemiological scale of male infertility has generated unique and arduous daily routines in Chinese sperm banks, which need to recruit and screen substantially more (potential) donors than Western sperm banks do to serve similar numbers of families.<sup>4</sup> At the same time, infertile couples will often have to wait two to three years before being able to access donor sperm because of a chronic “state of emergency” at sperm banks.

And so, to get to grips with how a medical technology like sperm banking came to be an established practice in China over the past three decades

or so, we need to understand how this practice has been shaped by (among many other conditions) the crude laboratory conditions available in China throughout the 1980s (and indeed into the 1990s), the co-circulation of deficiency and biomedicalized interpretations of infertility in clinics and among infertile couples, a family planning program designed to prevent rather than promote birth, taboos around sex and masturbation, and anxieties about possible unwitting consanguineous marriages between donor siblings. Only then can we account for the unique form of sperm banking that we find in China today.

#### SPERM BANKING IN CHINA

In what follows, I will show how sperm banking came to be a routinized part of China's restrictive reproductive complex. It is the making of sperm banking rather than the experience of donors or couples undergoing AID that is the object of my ethnography. As such, *Good Quality* is what I would call an assemblage ethnography, combining not so much multisited (Marcus, 1995) as a site-multiplied tracking strategy with a cartographic partiality toward, again not so much "the world system" that multisited ethnography was originally proposed as a methodological response to,<sup>5</sup> as the *configurations* found within infrastructures, assemblages, complexes, or *dispositifs* on the part of the ethnographer. These interrelated concepts have been proposed by social scientists in recent decades to try to capture the ways in which particular juridical, medical, social, economic, cultural, and institutional configurations are consolidated over time and in particular places. Michel Foucault spoke of what he called a *dispositif* or apparatus: "a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral, and philanthropic propositions. . . . Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements" (Foucault, 1977). As examples, we have, a decade later in 1989, and invoking American president Dwight Eisenhower's notion of a "military-industrial complex" from 1961, historian of science David Turnbull arguing that the development



of a malaria vaccine through an Australia–Papua New Guinea collaboration in the 1980s could only take place as a “consequence of a complex of technical, social, economic, and political factors” (Turnbull, 1989, p. 283). Within the field of contemporary American health care, anthropologist Sharon Kaufman has likewise mobilized Arnold Relman’s (1980) writings on America’s “new medical-industrial complex” to examine the “increasing encroachment of the private sector into research, technology development, therapeutics, and insurance reimbursement” (Kaufman, 2015, p. 54). Similarly, in her analysis of the development of a repro-tech sector in Israel, Sigrid Vertommen has charted the “emergence of a reproductive-embryonic industrial complex in which the interests of a pronatalist Jewish state and a biomedical establishment—consisting of academic entrepreneurs, venture capitalists, biotech companies, and pharmaceutical giants—have coalesced” (2016, p. 5).

On a global scale, Brian Larkin has recently reignited anthropological interest in infrastructures that he defines as “built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space. . . . They comprise the architecture for circulation, literally providing the undergirding of modern societies” (Larkin, 2013, p. 328). In a similar vein, Stephen Collier and Aihwa Ong proposed the term *global assemblages*, which they see as “specific technical infrastructures, administrative apparatuses, or value regimes,” which facilitate the transportation of global phenomena that “have a distinctive capacity for decontextualization and recontextualization, abstractability, and movement, across diverse social and cultural situations and spheres of life” (Collier & Ong, 2007, p. 11). Building on their work, Marcia Inhorn has described a global reproductive assemblage as “involving the global diffusion of IVF and its underlying technoscience; international circuits of travelling people and, increasingly, their body parts (gametes, frozen embryos, and other biological substances); systems of administration involving both medical and tourism industries; increasing regulatory governance, on the part of both nations and professional bodies; and growing ethical concerns about various forms of licit and illicit exchange, including unprecedented evasion across national and international borders” (Inhorn, 2015, p. 22).

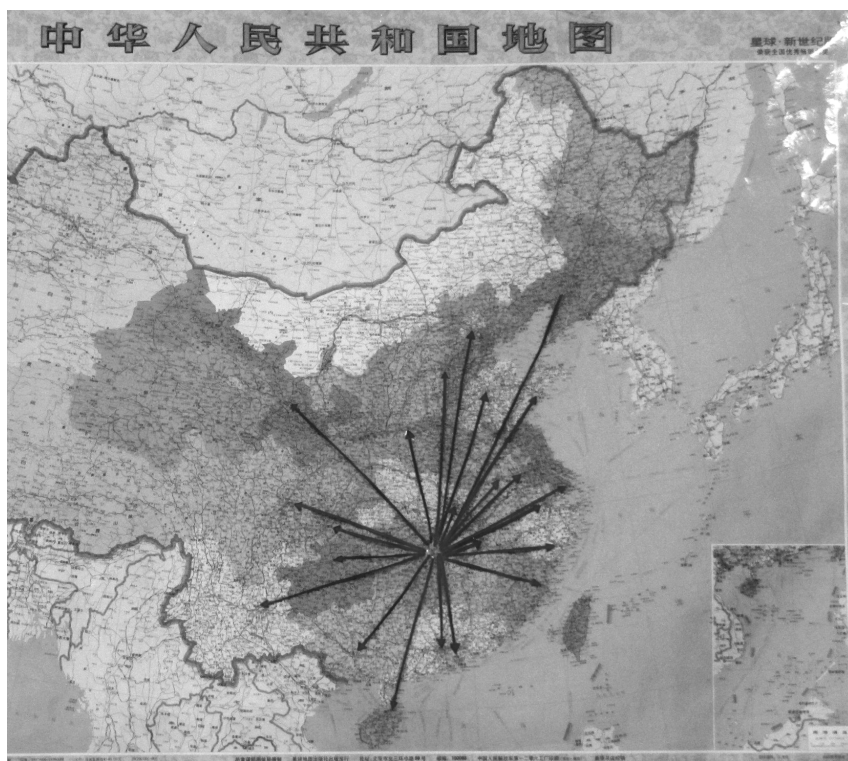
Although their terminology differs, each of these scholars has worked to articulate some kind of a whole comprised of an ensemble of interconnected

parts that, when configured in specific ways, allow for the deployment, circulation, movement, and organization of specific forms of goods, people, capital, and/or ideas in specific ways. As such, these concepts allow us to think about and analyze historically and ethnographically situated governmental configurations (cf. Foucault 1991). A complex, then, as I define it, is a domain—systems of relations—within which we can discern heavy accumulations of patterned knowledges and practices around a distinct “aggregate problem” such as infertility, overpopulation, or low fertility. What I am calling a reproductive complex is thus in no way transient. Rather, reproductive complexes are very often nationally circumscribed (albeit with regional, if not global, overlaps), emerging over decades and involving scientists, doctors, nurses, hospitals, policy makers, laws, media, laboratories, techniques, secretaries, janitors, drivers, and more. Consequently they are rarely reconfigured overnight. Moreover, as Barbara Prainsack and I argued in “Situated Bio-Regulation,” “certain regulatory configurations [are] tied to what [i]s thinkable and sayable” (Prainsack & Wahlberg, 2013, p. 341) in a given place, at a given time. In China, over the course of the last three or four decades, a reproductive complex has coalesced around the dual objectives of controlling population growth and improving population quality. It comprises a total set of laws, regulations, family planning institutions, quotas, information campaigns, experts, hospitals, clinics, pharmaceutical companies, premarital counseling sessions, prenatal screening services, and more. Medical procedures and techniques related to birth control (population quantity) include contraception, sterilization, and abortion as well as ARTs, while those related to the health of newborns (population quality) include genetic counseling, fetal education, prenatal screening, and abortion as well as SRTs. It is within such reproductive complexes that what anthropologists Lynn Morgan and Elizabeth Roberts have called *reproductive governance* takes place as “legislative controls, economic inducements, moral injunctions, direct coercion, and ethical incitements . . . produce, monitor, and control reproductive behaviours and practices” (Morgan & Roberts, 2012, p. 241).

Empirically attending to how sperm banking came to fit within China’s reproductive complex has required what I have called a site-multiplied assemblage ethnography,<sup>6</sup> which is to say a site-specific, in-depth ethnographic study of the Hunan Sperm Bank in Changsha from where I none-

theless followed and participated in national and global flows and exchanges of knowledge, people, equipment, and regulations related to sperm banking. The siting of this assemblage ethnography was essential, as it is in particular sites that we see how the knowledge-practice configurations that characterize China's reproductive complex are manifest in the daily routines and practices that make up sperm banking. While by no means mutually exclusive, it can be helpful to contrast assemblage ethnographies with ethnographies of lived experience on the one hand and laboratory ethnographies on the other. If ethnographies of lived experience generate insight into the ways in which individuals and communities experience, navigate, negotiate, or relate (for example, to infertility and insemination with donor sperm) and laboratory ethnographies examine how specific forms of knowledge, truth, or fact are produced through practice, assemblage ethnographies generate insight into the ways in which certain problems, or better yet problematizations, take form.<sup>7</sup> This is not to say that I have been uninterested in the experiences of sperm donors and couples undergoing AID or in the laboratory practices that generate knowledge about sperm, but rather it is to point out that the task of my ethnography has been to provide an account of *the making of sperm banking in China* through a heavy accumulation of patterned knowledges and practices, enmeshed within a very particular reproductive complex.<sup>8</sup> As a result, readers will note that I have not set myself the task of explaining what is particularly *Chinese* about sperm banking or male infertility in Hunan;<sup>9</sup> instead, I have been concerned with how *sperm banking* is practiced on a daily, routine basis *in China*. Mine is an assemblage ethnography of sperm banking in China rather than an ethnography of Chinese sperm donors or infertile couples. As such, throughout the book I will attend to the central questions of: How has routinized sperm banking become possible in China? What forms of problematization have allowed sperm banks a legitimate place within China's restrictive reproductive complex? What style of sperm banking has emerged in China as a result? How has AID become an acceptable reproductive technology in China?

When it comes to medical technologies I define "routinization" as a socio-historical process through which habituated regimes of daily micro-practices coalesce, thereby shaping a medical technology and its uses. Routinization indexes the transformation of a technology from frontier to



*Figure 2.* Site-multiplied, Hunan Sperm Bank provides donor sperm to fertility clinics around China.

mundane, as “new technologies must traverse this continuum, changing from a status of pure experiment to the standard of care” (Koenig, 1988, p. 466). Barbara Katz Rothman (1993), Marcia Inhorn (1994; 2003), Lisa Handwerker (1995a; 2002), Sarah Franklin (1997), Rayna Rapp (2000), and Gay Becker (2000) have been pioneers in the social and ethnographic study of new reproductive technologies, showing us how the development and routinization of technologies such as in vitro fertilization (IVF), amniocentesis, or prenatal genetic diagnosis (PGD), on the one hand, resulted from complex intersections within and between biomedical research, healthcare services, social policy, social movements, popular media, and more in a particular country; and on the other, turned them into an impor-

tant part of the daily lives of providers, donors, patients, and family members alike. Hence, building on their work, with the term routinization I point firstly to socio-historical processes whereby certain forms of medical technology come to be (re-)produced and entrenched within particular juridical, medical, social, economic, cultural, and institutional configurations. Not only were there technical, cultural, and logistical obstacles to sperm banking in a post-Cultural Revolution China, but sperm banking also had to mold into a suitable form to fit within a reproductive complex that was otherwise configured to strictly restrict fertility. Following initial resistance, sperm banking (together with other forms of reproductive technology) has gone on to be championed by scientists, doctors, and administrators as a national project that can help not only infertile couples, but also the nation itself. Also at stake have been the multiple ways of knowing infertility that continue to circulate in China today, often leading to pluralist medical practices and therapeutic itineraries.

Secondly, I refer to all those daily practices through which certain medical technologies become an established and habituated part of health delivery, which is to say a standard of care for a given condition provided in a fixed setting. As Barbara Koenig has argued, “perhaps the most important change during routinization is the change in who actually *performs* the [...] procedure” (1988, p. 476) once its novelty has worn off and standardized protocols have enabled a hierarchized division of laborious and repetitive tasks in hospitals and clinics. There is what I would call a “daily grind” to the emergence of any medical technology, and in the case of sperm banking in China this has involved donors, doctors, andrologists, laboratories, egg yolks, chemicals, cryotanks, regulations, paperwork, computers, medical files, money, recruiters, leaflets, patients, university campus dormitories, social media, and more. Buildings have to be maintained, cryotanks need to be procured, liquid nitrogen stocks have to be replenished, staff must commute to work, rosters have to be planned and monitored, workflows developed and managed, students recruited and screened, telephone calls made, accreditations maintained, straws of sperm shipped to clinics, activities assessed, and so forth. While this is true of any sperm bank, the particular ways in which these daily practices play out in different sperm banks are never the same, not least because of the reproductive complexes within which they operate. In

China, a five-woman's-pregnancies limit coupled with family planning policies have resulted in a unique style of sperm banking, which requires mass recruitment and appropriate logistics to achieve that. The largest sperm banks in China assess the sperm quality of up to 100 men per day, which profoundly shapes workflows, socialities, and donation processes.

Thirdly, and finally, for a medical technology to become routine it must also be a normalized part of daily life, in the sense that it is available to and used by its (un)intended users in a routine manner. As Gay Becker observed, "When a specific medical technology is no longer viewed by medicine as experimental, that technological innovation may be increasingly accepted by the public and may eventually be viewed as commonplace" (Becker, 2000, p. 13). New reproductive technologies have tended to go through variegated patterns of "acceptance": starting from pioneering "breakthroughs," surrounded or followed by a period of concern and resistance, then by normalization through regulation and eventually by routinization as particular procedures are scaled up and made available (Wahlberg & Gammeltoft, 2017). Today in China, artificial insemination with donor sperm (AID) from a sperm bank has become a realistic and accepted option, albeit for those involuntarily childless couples (where the man is azoospermic) who are able to afford it and who are willing to accept a wait of up to three years. As the cases that will be discussed in chapter 6 attest, engagement with donor sperm is not somehow restricted to a middle-class elite; rather, knowledge of it has become commonplace and a shadow black market exists not least because of China's chronic donor sperm shortage. And although use of AID continues to be shrouded in secrecy—sperm banks operate according to strict "double-blind" principles that keep donor identity secret from both doctor and patients and vice versa, just as many patients insist on keeping their use of AID a secret from all but their most trusted relations—donor recruitment is an open practice on university campuses, sperm bank directors are regularly in local and national media appealing for more donors, and clinics have lengthy waiting lists for donor sperm. In short, as we will see, the pursuit of conception through ARTs including AID has become a "way of life" (Franklin, 1997) for the increasing numbers of couples in China who look to and can afford medical technology in their quests to overcome infertility (cf. Inhorn, 1994).

I propose to insist that sperm banking practices cannot be detached from the reproductive complexes within which routinization is unfolding. Sperm banking and AID are medical technologies that, like others, are constantly in the making, and as such we must, as scholars, relentlessly attend to the productive and often unintended effects of their making. Through my assemblage ethnography I have set out to identify the contours of the configurations that allow for sperm banking in China today (chapters 1, 2, and 3), to track the “daily grind” practices that constitute it (chapters 4 and 5), and to examine how sperm banking comes to be used in the treatment of infertility (chapter 6). This requires attendance to the styles of knowing and rationalities of governing that shape and are shaped by regimes of reproductive practice on the ground, in the clinics and laboratories currently developing and scaling up individual techniques, from IVF to AID. Hence, akin to the analytical work that has been done around the emergence of particular “styles of thought” in biomedical science (Fleck, 1979), my central argument in this book is that—as the cryopreservation and insemination of third-party sperm have come to be translated into routinized medical practice over the last thirty years—a certain *style* of sperm banking has emerged in China that is unique because of the ways in which it has been shaped by the particular cultural, juridical, economic, and social configurations that make up China’s restrictive reproductive complex.

In making this argument, I want to mobilize Ludwik Fleck’s insights into how thought collectives can form in biomedical research settings. However, the sciences of sperm cryopreservation and artificial insemination have long since been translated into the medical technology of sperm banking–AID in China and elsewhere. Sperm banking is a routinized medical technology and as such the primary task of the sperm bank is to deliver quality-assured donor sperm to fertility clinics that provide regular AID treatment to couples living with male-factor infertility. And so rather than a thought collective, I will show how the sperm bank in Changsha (and in other cities) is better conceived of as a *practice collective* within which we find routinized and protocolled daily procedures as well as socialities of lab workers, nurses, recruiters, doctors, donors, and administrators. Fleck argued that “like any style, the thought style also consists of a certain mood and of the performance by which it is realised” (1979, p. 99),



and indeed in what follows we will gain insights into the mood and performance within the practice collectives that make up sperm banking in China today.<sup>10</sup> For, while each sperm bank in China can be analyzed as a practice collective in its own right, I will show that there are commonalities linking each of these practice collectives in China together to the extent that it makes sense to talk about a specific cyclic and high throughput *style* of sperm banking. This style of sperm banking manifests itself in the ways in which daily routines are organized around tasks of recruitment, screening, semen analysis, record-keeping, cryopreservation, and distribution, which, in turn, shape the ways in which donor sperm is made available to and accessed by certain bureaucratically circumscribed infertile couples who can afford AID cycles in China.

In carrying out the research for this book, I have been guided by two overarching analytical and methodological objectives. Firstly, I have wanted to broaden the empirical scope of social studies of sperm banking beyond America and Europe. Research from this part of the world has often pointed to and been critical of an ongoing commodification of the body and its substances. In a global reproductive bioeconomy, gamete procurement, fertilization, implantation, gestation, termination, and birth have each become specialized fields of laboratory-clinic practice. Rene Almeling and others have shown how “the practice of clinically transferring eggs and sperm from body to body is now part of a multi-billion-dollar market” in countries like the United States and Denmark (Almeling, 2011, p. 2; see also Adrian, 2010; Kroløkke, 2009; Mamo, 2005; Martin, 2017; Mohr, 2016; Moore, 2008; Tober, 2001; Waldby et al., 2013), a market that is but one subfield within ever expanding exchanges of human biological material—from organs to blood, bone, and cadavers—across the globe (Hoeyer, 2013; Scheper-Hughes, 2000). Sperm banks, egg agencies, and commercial fertility clinics recruit and screen donors, pay for their eggs and sperm, and market extended profiles of “super donors” to infertile couples, single women, as well as gay and lesbian couples who can “click-a-donor” as they shop around. What we have yet to see, however, are social studies focusing on the development and routinization of sperm banking outside of a Western setting.

In the following chapters, I will argue that while ARTs in general and sperm banking in particular are certainly being commercialized in China



today (they are seriously big business); alongside health care in general, the analytical traction that commodification provides in accounting for the daily routines of sperm banking in China is limited (cf. Hoeyer, 2007). First of all, Ministry of Health guidelines in China specify that “it is prohibited to market sperm [which] shall not be treated as a commodity in market transaction” (MoH, 2003b, p. F3), even if a case can be made that it to some extent is, not least in the form of a shadow black market for sperm. Moreover, in accordance with family planning regulations, only married couples in China with “qualification of pregnancy” certificates can access donor sperm. Single women and lesbian couples (the only real “growth segment” in America and Europe these days, I was told by one sperm bank director from Europe) are barred from using sperm banks, even as sperm banks have their work cut out for them just to meet demand from infertile couples. Chinese regulations prohibit the import and export of sperm, thus restricting the operation of sperm banks. On their part, infertile couples in China have little choice when it comes to sperm donors in the face of chronic shortages. There are no websites that would allow them to click through extended donor profiles. Instead, couples most often wait two to three years before donor sperm becomes available and are then advised by doctors when looking at a list of perhaps four to six different anonymous donors on an Excel sheet with fifteen columns of basic information. And finally, restricting the number of women’s pregnancies per donor to five, as I have pointed out, has resulted in an arduous and costly high throughput style of sperm banking, which bank administrators see as “constraining” for their operations, however much they might agree with the reasons for it. Costs per donor are much higher in China because one qualified donor can be used by only five couples, compared to as many as 30 to 100 offspring from a single donor in Europe or America.

My second overarching objective has been to shift analytical attention away from globalization, exportation, importation, and technology transfer, toward routinization and making when studying reproductive technologies in non-Western parts of the world. Lisa Handwerker (1995), Marcia Inhorn (2003), Aditya Bharadwaj (2003; 2016), Viola Hörbst (2012), and Elizabeth Roberts (2012) have been among the first ethnographers to study the burgeoning use of ARTs outside Europe and

America—in China, Egypt, India, Mali, and Ecuador respectively. Common to their studies has been an analytical emphasis on “rapidly globalizing technologies” (Bharadwaj, 2003, p. 1868) through the “wholesale exportation of Western-generated new reproductive technologies into . . . pronatalist developing societies” (Inhorn, 2003, p. 1837). As such, their ethnographies have examined “the importation of Western reproductive technologies” (Handwerker, 2002, p. 310); the “arrival of assisted-reproductive technologies in a developing nation” (Roberts, 2012, p. 39); or the “dissemination of ARTs to Mali” (Hörbst, 2012, p. 194). Although each of these scholars meticulously demonstrates the complex ways in which such a global form as ART becomes recontextualised and reshaped in their specific countries of study, globalization has nevertheless been one of the key ethnographic tropes in studies of reproductive technologies in the so-called Global South. In the case of China (and beyond), I argue that we need to (re-)orient our analyses toward routinization processes, regardless of where sperm banking and insemination treatments were invented.

As will become clear, while global flows and interactions have figured throughout the making of ARTs in China, it would be misleading at best to suggest that they have been imported into, arrived in, or disseminated into the country.<sup>11</sup> ARTs are not products; rather, they are assemblages of skills, petri dishes, needles, microscopes, protocols, regulations, patients, donors, clinics, recruitment flyers, advertisements, and more. Hence, accounting for the birth and routinization of ARTs like sperm banking or IVF in China requires a recentering of our analyses. Ethnographic and historical attention is shifted to the ways in which these technologies have followed routes of experimentation, development, and routinization *within* the nation, in the same way that, for example, Sarah Franklin (1997) and Rayna Rapp (2000) have tracked the routinization of IVF in the United Kingdom or amniocentesis in the United States respectively. It is by focusing on routinization that we can get a sense of how a particular style of sperm banking has emerged in China. As I will show, to the extent that there have been global connections, these have been components rather than drivers of the making of sperm banking in China, just as we know that the development of reproductive technologies in Europe and America have also been facilitated by global connections.

## ASSEMBLAGE ETHNOGRAPHY

What follows, then, is not an account of the commodification of bodily substances in China as an inevitable effect of globalization, standardization, and commercialization. Instead, we will ethnographically follow how the “daily grind” of sperm banking is currently unfolding in China. If we are to understand how a medical technology like sperm banking could become routine in China, we must attend to the ways in which sperm banks are used by infertile couples who pursue artificial insemination with donor sperm, the daily micro-practices of sperm banking (from recruitment to quality assessment, storage, and distribution), and the socio-historical processes that mold it. The book is based on eight years (2007–2014) of episodic fieldwork (Whyte, 2013)<sup>12</sup> primarily in Changsha but also in Beijing, Shanghai, and Guangzhou, consisting of ten trips lasting between three months and a couple of weeks. Through this fieldwork I have amassed a rich dataset consisting of field notes, interview transcripts, medical journal articles, media reports, regulations, guidelines, conference reports, “gray literature” in the form of brochures and leaflets, informed consent forms, donor screening criteria, standard operating procedures, and more. My research has involved participant observation, interviews, and the collecting of documents in equal measure and I consider the resulting materials as of equal importance for the task I have set myself, that is, accounting for the routinization of sperm banking in China. Let me describe how I was able to carry out the research for this book.

In January 2007 I was lucky enough to be awarded a research fellowship on a European Commission-funded project called BIONET (2006–2009) based at the BIOS Centre on the tenth floor of Tower 2 at the London School of Economics. The project was a Sino-European collaboration on the ethical governance of biomedical research, which aimed to explore some of the challenges that increasing cross-continental research collaboration in the life sciences had brought in its wake: In which country should ethical review take place in collaborative research? What were some of the differences in how informed consent procedures were carried out and understood? Can researchers from two countries collaborate if their laws conflict? and so on (see Wahlberg et al., 2013). One of the

partners in the project was Lu Guangxiu, who guided our work on reproductive technologies and stem cell science through a series of workshops and conferences held in Beijing, Shanghai, and Changsha. It was through this project that I began the research that has culminated in this book. Having developed a productive working relationship with Lu and her team in Changsha, I asked toward the end of the BIONET project whether she would support an ethnographic project that focused specifically on sperm banking carried out by me based at her hospital in Changsha. She agreed enthusiastically and I then prepared a research grant application, which, having failed first time around (my proposed methods were not sufficiently aligned with my research questions) in 2009, was eventually successful in 2010, when I received generous funding from the Danish Council of Independent Research to carry out a three-year ethnographic project on sperm banking in China. The research project was designed as a Sino-Danish collaboration from the outset, and further to my own research costs we had also agreed to budget for two conferences (one in China and one in Denmark)<sup>13</sup> as well as researcher exchanges between China and Denmark.

### *Fieldwork*

How then does one carry out an assemblage ethnography of the routinization of sperm banking in China? As site-multiplied research I have carried out in-depth ethnographic fieldwork in China's largest and oldest sperm bank in Changsha as my primary site while also following connections to sperm banks and fertility clinics in Beijing, Shanghai, Guangzhou, and indeed Denmark. Fieldwork has comprised observations and participation during recruitment visits to university campuses, reception of potential and qualified donors at the sperm banks, medical screening of potential donors, analysis of sperm quality in the laboratories, cryopreservation of qualified donor sperm, the filing of donor and sperm sample information as well as consultations with infertile couples. My main sites of observation were the donor reception and waiting rooms on the one hand, and on the other, sperm bank laboratories where analysis of sperm samples is carried out and qualified sperm is prepared for cryopreservation. I also joined a mobile sperm bank crew on three of their weekly visits to collect donor

sperm in cities outside of Hunan Province's capital, Changsha. This fieldwork, recorded in my field notes, was essential to get a sense of the "daily grind" at the sperm bank, how the routines, rosters, and workflows shaped practices and socialities. I have used pseudonyms for all the persons referred to in those chapters that use material from my observations.

### *Interviews*

Interviews were carried out with some of the pioneers of ART in China as well as around twenty staff members at the different sperm banks and fertility clinics I visited (many of them repeatedly). Over a period of eight years (2007–2014) I had the opportunity to speak to and interview Lu Guangxiu on numerous occasions in Changsha. Four of these interviews were recorded and transcribed. My requests for interviews with Zhang Lizhu in Beijing were gently declined because of her advanced age. I was, however, able to spend time at, and speak to staff members of the Third Hospital in Beijing where she had worked. Moreover, a series of TV, radio, and journal interviews with Zhang, publicly available online, were transcribed and translated. I have numbered these interviews; the websites where they can be found are included in the reference list. For further insights into the daily workings of sperm banks I interviewed sperm bank managers, doctors, laboratory technicians, nurses, and recruiters. Finally, I interviewed over fifty (potential) sperm donors as well as ten involuntarily childless couples to get a sense of how donors and recipient couples reasoned about sperm donation and the processes of donation and insemination respectively. Interviews provided me with a chance to follow up on some of the impressions that I got through fieldwork, while also at times functioning as expert interviews that helped me in my own reproductive science education. Most interviews were carried out in Mandarin, and despite my best efforts to improve my Chinese over these eight years I relied on help from a group of dedicated research assistants (see the acknowledgments) throughout when interviewing informants and for translation and transcription of interviews.<sup>14</sup> Interviews were transcribed into Mandarin first and then translated into English. When full names are used in the chapters that follow these are the real names of interviewees; whereas when only a first name is used this is an anonymized pseudonym,

just as I at times attribute a quote to a “donor,” “doctor,” or “administrator” generically.

### *Scientific Articles and Reports*

Scientific articles and reports were collected with a focus on infertility, andrology, and epidemiology in China. I have in particular collected studies that were designed to assess infertility rates, aggregate sperm quality, and the toxic effects of pollution on sperm quality. As a supplement to these studies, I participated in a total of seven workshops and conferences on assisted reproduction in China held in Beijing, Shanghai, Guangzhou, and Changsha, which gave insights into some of the challenges facing fertility clinics and sperm banks in China as ARTs are scaled up on hitherto unimaginable numbers. I listened to talks, participated in discussions, and collected PowerPoint presentations at these events while also organizing site visits with contacts that I met. Thanks to my research grant, together with the Hunan Sperm Bank, we were able to organize the first ever national conference on social and ethical challenges in sperm banking in China in 2012, at which representatives from all of China’s (at the time) fifteen sperm banks as well as from Europe attended and presented. These conferences and workshops have been important fieldwork activities for me as well, since the discussions and debates that I participated in provided further insights into the daily workings of sperm banking. Finally, thanks to my grant I have been able to organize a series of researcher exchanges with Chinese sperm bank staff visiting Europe and vice versa, allowing me to spend more time with them than is often possible within the constraints of hectic daily life in a sperm bank or fertility clinic.

### *Laws, Regulations, and Guidelines*

As became clear to me from the very outset of my study, ARTs are inextricable from the laws, regulations, and guidelines that have shaped reproduction in China in so many fundamental ways. China’s Marriage Law, Law on Maternal and Infant Health Care, Regulation on Assisted Reproductive Technologies, to name a few, have each played a pivotal role

in the molding of sperm banking into the particular form it has in China. At the level of the clinic or sperm bank, guidelines, regulations, standard operating procedures (SOPs), and protocols shape work practices and daily routines. I therefore spent a considerable amount of time collecting a complete set of repro-regulations in China, as these provided crucial information on how certain practices are permissible while others are prohibited.

### *Newspaper Articles and Media Stories*

Finally, I also put together a database of newspaper articles and media stories specifically on sperm banking, sperm donation, and infertility in China. While not systematic, I have nonetheless amassed a comprehensive collection of news stories from both Chinese-language and English-language news outlets. News reports can help us understand how certain issues emerge as matters of concern in a given setting. I have read these media reports not to gain some kind of “accurate” picture of sperm banking in China, but rather to see which kinds of issues have surrounded routinized sperm banking and donation in China today. I use the full names of reproductive scientists who are cited in media reports while also attributing the quote to the appropriate news story. Thanks to my grant I was able to enlist my research assistants to help with the task of translating some of the central scientific, legislative, and media documents that I have amassed.

The resulting dataset of field notes, interview transcriptions, scientific articles, media reports, laws, regulations, as well as laboratory protocols forms the basis of the analysis that follows in this book. It is this data that has allowed me to piece together the routes of routinization that sperm banking has followed in China. All of this has been necessary for me to get to grips with the socio-historical processes, the daily micro-practices, and the uses of donor sperm that have shaped the routinization of sperm banking in China (and vice versa), which is to say the emergence of a certain style of sperm banking in China. What I have learned over the last years is the importance of mapping out and analyzing country-specific (indeed at times clinic-specific) routes of routinization when it comes to medical technologies. As I have already underscored, sperm banking is not a medical

technology that was imported into China through processes of globalization; rather, it was developed and routinized *in* China through the work of scientists, laboratory technicians, infertile men, donors, doctors, nurses, and many others, just as it has been in other countries around the world. To be sure, this routinization has of course engendered and worked through global flows of expertise, equipment, standardized protocols, and people (my own research included). However, in China, it is as components of such routinization that global flows must be accounted for rather than the other way around. Regardless of where sperm banking was “invented” or how much technology is “transferred” across borders, the processes by which it became routinized have been far from inevitable, highly localized, very experimental to begin with, and fraught with specific obstacles, constraints, and challenges. Even in countries where the building up of ART sectors has relied extensively on international expertise (see Hörbst, 2012; Inhorn, 2015), I maintain that further analytical traction can be gained from asking how ARTs are routinized within as opposed to imported into a particular country. In China, sperm banking, AID, and other forms of ART have traversed the continuum from experiment to standard care practice as arduously as they have in any other place.

#### GOOD QUALITY

Very early on in the research process it became apparent to me that the concept of quality—in various guises—would be central to my study (see Wahlberg 2008; 2010; 2014a). Sperm banking is saturated with vital assessment, a task that would not be possible without the concept of quality. In China, sperm banks must promote population quality (*renkou suzhi*); they recruit high-quality (*suzhi gao*) donors from university campuses; assess the sperm quality (*jingzi zhiliang*) of up to four thousand individuals per year; adhere to good laboratory practices (GLPs) and standard operating procedures (SOPs) in order to assure a good quality (*zhiliang hao*) supply of sperm; and provide donor sperm to infertile couples with the aim of improving their quality of life (*shenghuo zhiliang*) and happiness. As my research wore on, it also became clear that it was not only the vitality of men and their sperm cells that were on



trial, so too was the vitality of the nation, not least against a backdrop of national crises and perceived anthropogenic threats to this vitality (see also Dow, 2016). I have tracked these various notions of quality as ethnographic tropes in my efforts to understand and map out the style of sperm banking that has emerged in China over the course of the last three decades. Vital quality is that which makes good life possible in China today, yet it is this same vital quality that is considered to be under constant threat in a time of compressed modernization (cf. Kyung-Sup, 1999) and “sperm crisis.”

Each of the chapters that follow addresses some aspect of the vital assessments that organize sperm banking in China today. In some respects, my assemblage ethnography was guided by attempts to follow the concept of “quality” around as it circulated in different forms—as imaginary, technical specification, interpellation form, regulatory requirement, or marker of vitality. What the concept of quality does is allow for classifications along good–bad continuums, which in turn are stabilized through the guidelines, procedures, and practices that keep sperm banks operating. Yet these same classifications are open to contestation and query, for example, when donor screening criteria are debated; when negotiations about sperm quality standards are initiated; when quality assurances are questioned; or when quality assessments rely on the judgment of individual laboratory staff working at the bench (see also Mohr & Hoeyer, 2012).

The first chapter chronicles the difficult birth of ARTs in China through the 1980s and 1990s, showing how ideas of improving population quality acted as a persuasive “alibi” for those pioneers working to develop fertility technologies at a time when contraception rather than conception was at the top of the political agenda. From difficult beginnings in the 1980s, ARTs have now settled firmly *within* China’s restrictive reproductive complex, which in turn has allowed it to grow into a thriving sector. China is now home to some of the world’s largest fertility clinics and sperm banks. Since 2003, it has also been one of the most strictly regulated ART sectors in the world, as it has had to conform to national family planning regulations. As always in China, the sheer scale of operations is astounding. When keeping in mind that an estimated 10 percent of couples have trouble conceiving “naturally” in China, the potential demand for ART is hardly matched anywhere else in the world.

In the second chapter, I examine how sperm banking has been shaped by one of the defining governmental objectives found within China's reproductive complex today, namely the improvement of population quality (*renkou suzhi*). Further to the treatment of infertility, albeit in far fewer cases, donor sperm is also made available to couples where the male is considered to suffer from a genetic disease that is deemed "not suitable for reproduction" because of a risk that the disease will be transmitted to future offspring, thereby negatively affecting the quality of the newborn population. In chapter 2, we learn how AID both purports to contribute to the improvement of national population quality while at the same time introducing a potential threat to this quality in the form of possible unwitting consanguineous marriage of donor siblings. As we will learn, sperm banking in China is inextricably bound to national family planning objectives to improve the quality of newborns.

The looming images of smog-choked cities, cancer villages, and contaminated food have become iconic of a modernizing China, the tragic, perhaps unavoidable, side effects of a voracious economy. In contemporary China, urban living has become toxic living in many ways. In the third chapter, I examine how the sperm bank—*jingzi ku*—in China has emerged quite literally as a sanctuary of vitality amid concerns around food safety, air and water pollution, rising infertility, and declining population quality. As a twist on Margaret Lock's concept of "local biologies," I suggest *exposed biologies* have become a matter of concern in China in ways that have created a place for hi-tech sperm banks within China's restrictive reproductive complex. Exposed biologies are a side effect of modernization processes, as industrially manufactured chemicals are increasingly held culpable for a range of pathologies, from cancers to metabolic diseases, disorders of sex development and infertility. Amid concerns that pollution and modern lifestyles are deteriorating sperm quality in China, the sperm bank stands out as a repository of screened, purified, and quality-controlled vitality and consequently sperm banking can be seen as a form of reproductive insurance, not only for individuals but also for the nation.

In the fourth chapter, I turn my attention toward the mobilization of sperm donors on university campuses. As I have already noted, a limit of five women's pregnancies per donor in China has spawned "high throughput" sperm banking, which requires getting great numbers of potential

donors to show up at the sperm bank for screening. Sperm banks will usually only accept between 10 and 30 percent of those who come in for screening in a given year. For this reason, sperm banks in China are dependent on the efforts of their young recruiters (often former donors themselves) to bring potential donors into the bank. Chapter 4 shows how novel strategies of recruitment have been devised and adjusted to address the chronic shortage of donors in China. Such strategies involve recruiters who seek out male university students through university web message boards and social networking platforms as well as through direct dialogue, especially in men's dormitories on university campuses. In particular I show how recruitment strategies are designed to appeal to the national and personal pride of university students while also highlighting the financial compensation and free health checks that donors are entitled to. The chapter also shows how daily life in a Chinese sperm bank stands in stark contrast to that in a European or American sperm bank. It is not uncommon for larger sperm banks to receive and assess the samples of up to 100 university students in a single afternoon session, which in turn has great bearing on the donation process for donors.

Donor screening in sperm banks has become increasingly medicalized through the last few decades. Potential donors must submit to physical examinations and blood tests as well as provide detailed medical histories in order to minimize the risk of transmitting infectious or hereditary diseases. In line with international guidelines, sperm samples must be assessed, and those considered suitable for banking quarantined for six months, at which point the donor must be retested for HIV before his "straws" are made available to prospective recipient couples. In chapter 5, I suggest that practices which take place within the sperm bank's facilities and laboratories can helpfully be analyzed as technologies of assurance (*que bao*). To "assure" means to render safe or secure, but it also means to ensure. For a sperm bank to be licensed in China it must adhere to family planning laws as well as medical technology regulations, which require it to ensure the safety and quality of its sperm.. Sperm is a vital yet potentially dangerous substance. To improve its quality, sperm banks advise potential donors on how best to prepare themselves prior to donating. To mitigate the dangers sperm poses, sperm banks screen potential donors as a way to prevent transmission of genetic and infectious disease from donor to

recipient. They comply with auditable good laboratory and manufacturing practices in order to prevent transmission of bacterial infections between qualified donor samples as well as from qualified donor to recipient. Essential to such practices of assurance are numbers: sperm cells per milliliter, motility grades, percentage of normal morphology, milligrams of fructose per milliliter, and chromosome counts. Such numbers are what make sperm quality auditable and thereby amenable to assurance.

Once quality controlled, donor sperm is “released” to the thousands of couples who are involuntarily childless. In the final chapter, I examine how donor sperm is made available to these couples. For those infertile couples who “borrow” sperm in China, secrecy is vital because male infertility is stigmatized. Indeed, sperm donation operates through a double-blind system where recipients consult with doctors who make their requests to sperm banks, which anonymize donors. When making a decision about which donor to use, doctors and infertile couples cannot know the identity of the donor. Through fertility clinics, AID emerges as an opportunity to achieve a visible pregnancy, a pregnancy that couples are in pursuit of and expected to achieve by family and friends. The chapter examines how in one-child policy China, recipient couples and donors mobilize strategies of “hearth” management and trouble-avoidance even as third-party conception has become acceptable for increasing numbers of involuntarily childless couples who are living with male infertility.

*Good Quality* is a book about the routinization of sperm banking in China. It is at the same time an exploration of how vitality, which is to say both life (*shengming*) and living (*shenghuo*), is assessed and valued in China today. In a country currently beset by enormous transformations, it is little wonder that questions of what good life is abound (see Kleinman et al., 2011; Zhang, Kleinman, & Tu, 2011). In the pages that follow, we will see how an assemblage ethnography of sperm banking in China can provide insight into the ways in which good life emerges out of a heavy accumulation of patterned knowledges and practices around the problem of male infertility, which are calibrated to constantly assess and intervene into that very vitality.