

INTRODUCTION

CULTURE MEDIUMS

We are in the hospital lift, leaving the clinic after a day of interviews. One of the women we had interviewed that morning is in the lift with us. During the interview she revealed that she had started bleeding and was in the clinic to get a blood test on the viability of her pregnancy. She was waiting for her results and while talking about it had become very upset, weeping quietly. We stopped the interview and comforted her and waited with her before she went in to see the doctor. The test was negative, another unsuccessful transfer. She had come alone to the clinic, so my Thai research assistant, Som, sat with her a while until she was calm.

We had been surprised to see her among the crowd of people in the lift, and cautiously smiled at her. She was looking intently at a young woman who was cradling a newborn baby in her arms. The baby was swaddled with a warm bonnet on its head and little gloves on its hands. She turned to the woman and asked, 'Is the baby *tham-machaat* [natural]? Did you get it naturally?'

The woman looked quizzically at her, not sure what this odd question meant. She smiled in return.

'Is it a *dek lord kaew* [glass tube baby] or is it natural, did you get it naturally all by yourselves?' she asked.

'No, naturally, by ourselves', the young mother replied, a little uncomfortable at this intrusive question.

'Oh, you are clever', she admired sadly. The new mother smiled faintly and looked at the door.

This uncomfortable moment in the lift exemplifies the everyday tragedies endured by couples wanting children in Thailand who are undergoing assisted reproductive treatments. This book is about assisted reproductive technologies in Thailand, the people who use

them and the industry that maintains their use. My aim in this book is to explore how assisted reproductive technologies have been introduced and incorporated into Thai understandings and practices surrounding reproduction. I provide insight into the particularities of assisted reproduction in Thailand and the history and use of assisted reproduction from the perspectives of patients and providers.

The term ‘assisted reproductive technologies’ refers to the range of biomedical technologies used in noncoital reproduction in which gametes are manipulated or embryos are created outside of the body. It includes techniques such as intrauterine insemination (IUI) through to high-tech in vitro fertilization (IVF) techniques and newer technologies such as preimplantation genetic diagnosis (PGD) of embryos before transfer to a woman’s uterus, and intracytoplasmic sperm injection (ICSI) (see glossary for definitions). They are used to assist people who are involuntarily infertile to have children and form families. They can also be used for genetic screening when there is no medical diagnosis of infertility. There is a huge range of techniques that can be used in assisted reproduction. In this book I concentrate upon IVF techniques involving egg extraction, sperm collection and preparation and fertilization, including the use of ICSI. I also include the use of surrogates undergoing in vitro procedures to carry a pregnancy for another woman. I concentrate upon Thai users of these techniques. Although Thai clinics also provide assisted reproductive services for foreign couples, within this book I am interested only in how Thai users and providers approach reproduction through these technologies.

Assisted reproductive technologies have spread across the globe. They can be considered one example of the impact of global flows of technologies upon the experiences and understandings of our bodies. The Thai use of reproductive biotechnologies I present in this book is a case study of similar effects happening throughout the world, albeit with localized variations. An abundant anthropological literature now documents the uses and practices of these technologies in diverse settings.¹ They demonstrate how the intimacies of reproduction – the ways in which we form families and reproduce – are being profoundly impacted by the movement of technologies of assisted reproduction, the sharing of biomedical information and expertise, the production of new forms of knowledge about reproduction and the body, the growth of biosocial identities and the travel of patients, gametes and reproductive assistors (surrogates, ova and sperm donors) (see discussion in Inhorn and Birenbaum-Carmeli 2008).

Assisted Reproduction in Thailand

It is estimated that 10–15 per cent of Thai couples in the reproductive age range have infertility problems and that there are around 10 million infertile couples in Thailand (Boonkasemsanti et al. 2000, cited in Chiamchanya and Su-Angkawatin 2008). Since the first IVF baby was born at Chulalongkorn Hospital in 1987 (see chapter 1), assisted reproductive technologies have quickly spread throughout the country. All major public tertiary hospitals offer assisted reproductive technologies, but the majority of providers are in private hospitals or specialist clinics. According to the National Assisted Reproductive Technology (ART) registry of the Royal Thai College of Obstetricians and Gynaecologists, in 2010 there were thirty clinics licensed to provide assisted reproductive treatments in Thailand, evidence of the rapid global penetration of new reproductive technologies into Thailand. Three-quarters of these clinics are clustered in Bangkok while other centres are located in the major regional towns.

The assisted reproductive industry in Thailand is highly sophisticated with overall success rates comparable with those of overseas clinics. Results from the National ART registry found the average pregnancy rate for in vitro fertilization was 28.9 per cent per retrieval or 33.8 per cent per embryo transfer – comparable with clinics elsewhere (Vutyavanich et al. 2011). Their data confirmed the findings of overseas clinics that clinics with higher cycle volumes achieve significantly higher pregnancy rates than smaller clinics, probably due to differences in clinical or laboratory expertise.

The use of assisted reproductive technologies is associated with a risk of multiple pregnancies. Thai clinics have a multiple pregnancy rate of 11.4 per cent (Vutyavanich et al. 2011). Triplet or higher-order multiple pregnancies account for around 3 per cent of live births. The ART registry reports that elective single embryo transfer is not practiced in Thailand and that the driving force behind transfer of multiple embryos is the fact that the cost of cycles is borne by the infertile couple.

Assisted reproductive technologies advance rapidly with consequent shifts in techniques offered at clinics. For example, over a seven-year period the more invasive gamete (GIFT) and zygote intrafallopian transfer (ZIFT) techniques decreased from 10.6 per cent of all fresh cycles in 2001 to only 1 per cent in 2007 as advances in embryo culture techniques have improved the success rates from IVF (Vutyavanich et al. 2011). As a technology offering the pos-

sibility for infertile men to become biological fathers, ICSI has become increasingly popular. By 2007 ICSI accounted for 63 per cent of all cycles undertaken in Thailand, with some clinics routinely performing ICSI regardless of sperm quality, despite (or perhaps because of) its higher cost and longer laboratory time required and the fact that it has not been shown to increase success rates in couples with nonmale infertility. The advent of PGD and preimplantation genetic screening (PGS) is likewise rapidly expanding in Thailand. By 2006, ten centres were offering PGS (many for nonmedical sex selection) and four centres were offering PGD (primarily for thalassemia) (Vutyavanich et al. 2011).

The introduction of high-tech conception comes at a time of increased medicalization of birthing and wide public acceptance of technological interventions. As I witnessed in the early 1990s (Whittaker 1999) hospital-based birthing has replaced older styles of birthing formerly practiced at home with birth attendants or midwives. This 'birthing transition' (Haora 2013) is characterized by a high level of interventions such as episiotomies and caesarean sections (with a rate over 50 per cent in private hospitals since 1996), well over the World Health Organization's (WHO) recommended rate of 10–15 per cent (Chanrachakul et al. 2000). Although critics within Thailand view the current status of birthing as overmedicalized (Tangcharoensathien et al. 2002) as will be seen later in this book, caesarean births are widely believed to be safer and the dominance of technologized births reflects the pre-eminence, prestige and trust placed in biomedicine within Thai society. Faith in 'modern' technology and willingness to accept biomedical interventions in reproduction has also characterized the Thai public's approaches to assisted reproduction.

Access to Assisted Reproduction

One issue that forms a subtext to this study is the differential access to assisted reproductive treatments. In developing countries, assisted reproductive treatments remain inaccessible for most couples experiencing infertility. Only 48 out of 191 member states of the World Health Organization have IVF facilities (Inhorn 2009; Akande 2008). There is a high demand for biomedical interventions with an estimated 56 per cent of infertile couples worldwide seeking some form of care (Boivin et al. 2007). Globally, it is estimated that less than 20 per cent of people requiring in vitro fertilization and associ-

ated technologies are actually using it, even in developed countries (Vayena et al. 2009). In vitro fertilization costs are approximately 50 per cent higher than the yearly annual income per capita of citizens in many developing countries, including India, Indonesia, China and Malaysia (Ombelet et al. 2008; Vayena et al. 2009). In 2001 the WHO called for innovative approaches such as the development of low-cost ART for low resource settings (Vayena et al. 2009); yet at the same time that those strategies are being implemented to improve access in developing countries, a number of those countries, including Thailand, are now involved in a global ART trade, while their local populations still struggle to afford access to these same technologies. Helena Ragoné and France Winddance Twine (2000: 6) note that the privileging of elites in this fashion 'can be considered neo-eugenic to the extent that they privilege the reproduction of educated and upper-class women over that of other women'. This poses a new example of 'stratified reproduction' (Ginsburg and Rapp 1991) whereby inequalities empower certain categories of people to reproduce and nurture, but disempower others.

Most people who would benefit from these technologies in Thailand are unable to access them. Terapron Vutyavanich et al. (2011) estimate that given the Thai population of 65 million, the total number of IVF cycles required annually to meet need would be 97,605 cycles. However, fewer than 4,500 cycles were undertaken in Thailand in 2007, less than 5 per cent 'optimal' IVF utilization. As the Thai national health policy and private health insurance makes no provisions to cover infertility treatment, the cost of treatment is borne by patients.

The majority of women and men who I met through this research are middle class to upper class elites (see appendix). Most have the financial resources to undertake 'high-tech' treatments. As such, this book provides only a partial view of how people deal with infertility in Thailand. It needs to be remembered that in Thailand in the absence of publically funded IVF, the vast majority of peasant farmers cannot afford access to IVF and so are only ever offered lower-cost alternatives such as IUI. This study included only a few women from lower socioeconomic status. Poorer women face enormous pressures for their IVF treatment to succeed as they are gambling with their financial security. The difference between public and private treatment lies in costs from an average of US \$2,900 per cycle in government hospitals to US \$5,800 or more per cycle in private centres (Vutyavanich et al. 2011). Even among middle class patients, repeated cycles of IVF to produce a child cause considerable

financial pain. Within public hospitals, doctors frequently remarked to me that they judge people's ability to pay and will only offer affordable treatments according to their assessments of what a couple can pay, so as not to set up unattainable expectations. The result is that IVF clinics have become exclusive – run by a handful of elite doctors catering to wealthy patients.

The differential access to assisted reproductive treatment continues despite the incorporation of a broader concept of reproductive health in Thai health policies. In July 1997 the Thai government released a National Reproductive Health Policy Statement reinforcing that 'All Thai citizens at all ages must have good reproductive health throughout their entire lives' (cited in UNFPA 2005: 14). This has coincided with policies encouraging integrated reproductive health services, not just family planning, promising greater inclusivity and quality of care and catering to the needs of marginalized groups. These include programs in adolescent health, sex education, post-abortion care, premarital counselling, women's health counselling and prevention of mother-to-child transmission of HIV, prevention and treatment of reproductive tract infections and malignancy, infertility and post-reproductive care (UNFPA 2005). However, despite the recognition of infertility as a reproductive health issue, there is no state funding of infertility treatments other than the most basic interventions.

The lack of treatment options for poorer couples was evident during fieldwork I undertook in the 1990s in a public hospital outpatients gynaecology clinic in the northeast of Thailand. I recall one woman around twenty-seven years of age presented seeking treatment for infertility. She was a peasant farmer from a nearby village. After an examination and history taking, the gynaecologist prescribed some tablets in the hope that they may assist her. As she left the room he turned to me and said, 'Really I feel bad when I see cases like her. She is a good candidate for IVF, it would really help her. But I know she can't afford it, so I don't even mention it to her.'

Familial adoption remains a common strategy for poorer infertile couples. This involves an infertile couple raising a child from a relative who has a large number of children. They are referred to as the '*phor mae liang*', or nurturing parents of the child. As will be discussed later in this book, among the urban couples interviewed for this study, such forms of familial adoption are considered preferable to adoption of a child of unknown heritage. However, such arrangements are becoming less common as the possibility of genetic relatedness is pursued through assisted reproduction.

Religious Views of Assisted Reproduction

Local moral worlds, religious and ethical orders can be challenged by assisted reproduction. Different religious traditions define and regulate the use of these technologies variously.² But religious opinions do not necessarily govern people's actions; for example, the denunciation of assisted reproduction by the Roman Catholic Church does not prevent the practice of these technologies throughout most countries with majority Catholic populations (Roberts 2006). The majority of Thais are Theravadan Buddhist and Buddhist notions of *bun* and *bap* (meritorious acts and demerit) reincarnation and the importance of *kam* (karma) influencing the life course inform people's everyday actions.

There is no single authoritative Buddhist position on assisted reproduction in Thailand. When asked, local Buddhist commentators tend to support the use of assisted reproduction as a meritorious act undertaken for nonselfish reasons facilitating the rebirth of another life force. However, the status of the embryo poses particular ethical issues; in particular the question of what happens to excess embryos, their manipulation, disposal or storage, donation or use in research. Leading Buddhist bioethicist Pinit Ratanakul notes that Buddhism interprets life as beginning with conception:

Thai Buddhist monks and lay people alike believe in the uniqueness and preciousness of human life irrespective of the stages of its development. ... Human life begins at the very moment of fertilization with the infusion of the *gandhabba*, the individual karmic life-force, into the womb. Even though human life manifests in a minute form, called *kalala* in Buddhist terminology, it is still precious, and its destruction is a transgression of the Buddhist precept against killing. (Ratanakul 1999: 56)

In Thailand, questions over the disposition of embryos remain unresolved in many clinics, many are still developing their protocols for their patients' decision making; reluctance to destroy embryos makes some clinics line their corridors with storage containers. Advances in reproductive genetics and the increasing use of tests such as preimplantation genetic diagnosis, allowing for the early detection and selection of genetic disorders and sex selection, challenge notions of the sanctity of life in its early stages, allowing for the culling of genetically imperfect embryos or embryos of the undesirable sex. Damien Keown (1995: 135) suggests that because of the destruction of embryos involved, many of the practices of assisted reproduction

would be considered undesirable from a Buddhist ethical position. Similarly, it is noted that in the United States, couples decisions over disposition of embryos are fraught and often unresolved (Nachtigall et al. 2005); in contrast, in India it is suggested that donations of spare embryos towards stem cell research are seen as altruistic (Bharadwaj 2009) fuelling a human embryonic stem cell industry.

Legal Status of Assisted Reproduction in Thailand

This study comes at a time of legal change which has profound ramifications for the practices of assisted reproduction in Thailand. Until 2010 assisted reproduction was largely unregulated in Thailand. Thailand had no specific law on assisted reproductive technologies. The Thai Medical Council introduced professional guidelines in 1997 and 2001 (Announcements 1/2540 and 21/2544) for assisted reproductive technologies. These guidelines were minimal, prescribing that the Royal Thai College of Obstetricians and Gynaecologists was responsible for the supervision and administration of assisted reproductive technologies and that each centre offering assisted reproductive technologies is required to have an ethics committee of at least three staff members and collect a husband and wife's written consent for all procedures (Virutamasen et al. 2001). These guidelines had no legislative force. As will be described in the next chapter, with increasing use of these technologies and a growing number of legal cases involving its use pressure grew for legislation. It was not until 11 May 2010 that the Thai cabinet approved draft legislation of the 'Pregnancy by Medically Assisted Reproductive Technology Act' bill number 167/2553 (Adams 2010).³

As will be described later, a series of highly publicized incidents in Thailand from 2011–2014, revealed a range of practices within clinics, including commercial international surrogacy and ova donation that contravened the spirit if not the letter of regulations in Thailand. These included the case of Baby Gammy, a child with Down's syndrome allegedly abandoned in Thailand by his Australian intended parents (and biological father) to be cared for by his gestational surrogate while his twin sister was taken to Australia (Whiteman 2014, Murdoch 2014). On 22 July 2014, the military government, the National Peace and Order Council announced a review of all 12 Thai IVF clinics involved in surrogacy cases believed to be possibly involved in breaches of the Thai Medical Council guidelines and not certified by the Royal College of Obstetricians. At the

time of writing the bill had been approved by the current military government, the National Council for Peace and Order (NCPO), and passed by the National Legislative Assembly for endorsement (Ruangdit and Intathep, 2014). It is expected that in 2015 the bill will pass further reading by the Senate and will then be passed to His Majesty the King of Thailand for assent then promulgation in Royal Gazette to become law.

This act strictly regulates the use of assisted reproductive technologies in Thailand and clarifies the legal status of children born through these technologies. The draft endorses the Medical Council's regulations and sets out punishments for medical professionals breaching the provisions. The draft law covers the criteria for the donation of eggs or sperm, their storage and the use of ART. It prohibits the use of the egg or sperm of donors who have died without leaving written consent. Preimplantation genetic diagnosis is allowed for medical reasons but not for the purpose of gender selection (Article 17)⁴ clearly defining sex selection for social reasons as unethical and illegal.

Significantly, the draft legislation clarifies the legal status of children and intended parents and provides certain protections for surrogates. It specifically outlaws commercial ova donation and commercial surrogacy arrangements (see chapter 9). It limits surrogacy to procedures using the ova and sperm of a heterosexual married couple, or using the ova or sperm of either a husband or wife paired with the sperm or egg of another donor. A surrogate must have had a child before and if married must have the permission of her husband before undergoing surrogacy. The draft law authorizes the Medical Council to set the criteria, methods and financial conditions for the care of surrogate mothers before, during and after the pregnancy.

The legislation also reverses the uterocentric legal definition of motherhood which prevailed in Thailand. Until 2015 the legal mother of a child was the woman who gave birth to the child. Section 1546 of the Thai Civil and Commercial Code provides⁵: 'A child born of a woman who is not married to a man is deemed to be the legitimate child of the woman.' The consequence of this code provision has been that intended parents needed to adopt any child produced through a surrogacy arrangement. Also, an intended father had no rights over a child produced through surrogacy even if he was the biological father of the child, unless various legal procedures were undertaken to grant him those rights. Under this legislation the commissioning parents are recognized as the legal parents of

the child. The law also precludes the egg donor from any parenting rights. The Juvenile and Family Court will be authorized to judge paternity cases for children born through assisted reproduction and protect the legal rights and status of children.

Studying Thai In Vitro

My aim in this book is to capture the current practices, understandings and experiences of Thai couples undergoing assisted reproductive treatment. This book is based upon a multisite research project in one public and three private clinics in Bangkok across eight months in 2007–2008.⁶ A total of thirty-one women, thirteen men and six staff were interviewed (see appendix).

A number of the people interviewed were followed up over time with repeat interviews and telephone follow-ups. In addition, observations were undertaken at the clinics, and at various shrines and sacred places associated with infertility. To place the Thai study within the broader sociopolitical context I also undertook a search of the media and popular press for the popular discursive context of infertility and assisted conception services in Thailand as well as a systematic collection of Thai language websites/blogs and web boards aimed at infertile people. This allowed me to link the private experiences of men and women to the representations of infertility and reproductive technologies in the media, religious socialization and public policy. The study is also grounded in my previous long-term field experience working in Thailand that included an ethnography on rural women's reproductive health, and studies of other reproductive technologies such as contraception and abortion (Whittaker 2000, 2002b, 2004).

Participants in this study were recruited through the clinics that informed potential participants who were then given an information statement explaining the research. If they agreed to be interviewed they would then meet my Thai colleague Dr Parisa Rungruang (Som), who assisted me throughout data collection, and myself. Following written permission, all interviews were taped and later transcribed in Thai and translated into English by Thai research assistants and myself. Only one participant refused the use of a tape recorder. The interviews were semi-structured with certain demographic and personal information collected from all participants but then followed by open-ended questions, allowing the interviewee freedom to give their stories and express what they felt was important. Interviews

usually took place either at the clinic following or before a regular scheduled appointment at a private location within the clinic, or at a place determined by the patient. Similar studies in other settings have noted that participants often appreciate the opportunity interviews give for an outsider to share and appreciate their stories, and this was our experience in both this research and previous research on similarly sensitive matters (see Inhorn 2004a).

Given the fact that recruitment took place within a clinical context, care was taken to ensure that distressed patients or those not medically fit to be interviewed were excluded from participation. Doctors and clinical staff were not aware of which of their patients actually accepted to participate in the study. No real names of patients, staff or clinics are used in this book to help protect the identities of participants. Ethical permission was obtained from my university human ethics committee as well as participating clinics and the National Research Council of Thailand.⁷

Approaches in this Book

My previous work in Thailand has been concerned with situating the ethnographic detail of reproductive health issues within the broader social, cultural and political economic context. Likewise, in this book I continue my ongoing interest in the social and moral meanings of bodies and health and the 'politics of reproduction' (Ginsburg and Rapp 1991) – the political and economic constraints which structure reproductive decisions. This is combined with a desire to capture the cultural flows, in particular the flows of people, technologies and imaginaries within globalized reproductive and productive spaces. My analysis is grounded in the data I collected and draws selectively upon both structural and poststructural social theories (Foucault and Deleuze 1977). As such the book is an attempt to interlace an ethnography of IVF users with insights on the ways in which the technologies themselves influence behaviours from science and technology studies.

Assisted Reproduction as an Assemblage

I utilize the concept of assemblage to characterize the multiple dimensions of assisted reproduction. The concept of assemblage captures configurations that emerge from shifting social relationships

among diverse things, sites and people (Deleuze and Guattari 2003; DeLanda 2002; Marcus and Saka 2006). Andrew Pickering (1992) for example uses the term 'heterogenous assemblages' to describe the contingent coming together of technologies and humans to create new knowledge and practices. Paul Rabinow (2003) speaks of his primary research object as assemblages, 'the distinctive type of experimental matrix of heterogenous elements, techniques, and concepts'. This notion of assemblages has since been applied by anthropologists such as Aihwa Ong and Stephen Collier (2005) to explore the ensembles of heterogeneous elements through which to reflect upon the human impact of contemporary technoscientific issues. They define 'global assemblages' as 'how global forms interact with other elements, occupying a common field in contingent, uneasy, unstable interrelationships. ... As a composite concept, the term "global assemblage" suggests inherent tensions: global implies broadly encompassing, seamless, and mobile; assemblage implies heterogeneous, contingent, unstable, partial, and situated' (Ong and Collier 2005: 12).

Within this book, I use 'global assemblage' to assist in capturing the heterogeneous relations, techniques and concepts inherent in practices of assisted reproduction. How we constitute reproduction itself is being reimagined – it is not just a capacity of sexed bodies, but is rendered through an assemblage of fusing cells, bodies, practices, pharmaceuticals, technology, capital, economics, politics, law, trade, travel and nations. This book describes a local instantiation of this assemblage; how it is deeply entangled in larger transnational circulations and actively shaped by structural inequalities; and yet takes on local inflections. As an anthropologist I am interested in considering how such technological assemblages are constituted and enacted in their particularities – the phenomenological effects and affects of the technologies, bodies, processes and interventions.

Globalization and the Dissemination and Localization of Technologies

The starting point for this book then is the concept of assisted reproductive technologies as globalized technologies. Assisted reproduction is an enterprise reflecting the 'the global penetration of modern institutions into the tissue of day-to-day life' (Ong and Collier 2005: 8). In the same way as the introduction of contraceptive technologies across the world provoked a range of social and moral sen-

sivities, resistances and alliances, so too the introduction of new reproductive technologies raises questions about how local sociocultural, economic and political considerations shape how technologies are both offered to and received across different cultural settings, or what Arjun Appadurai (1996) has termed the 'localization' of technologies. Across the pages of this book there is a constant interplay between localized manifestations and global forms. As Ong and Collier (2005: 11) note, technoscience is exemplary of global forms – able to assimilate itself to new environments, move across diverse social and cultural situations and be recontextualized and reterritorialized. As practices and technologies dealing intimately with bodies, life, notions of kinship, ethical regimes, social and biological generation and gendered identities; assisted reproduction is a case study in how forms of technoscience take on local inflections and are transmuted into new forms which may themselves take on global significance. One contribution of this book is to provide a further ethnographically informed example to our growing understanding of how these technologies are deployed, practiced, consumed and experienced.

Although there are differences in the ways in which globalization is conceptualized, it is generally agreed that we live in a time of intensified economic, informational and communication linkages and networks on a scale and pace hitherto not experienced. Globalization is also characterized by increased flows in technologies, such as transport and information technologies, environmental engineering and biotechnologies. The increased global flows of information, media forms, Internet, education institutions, religious groups and political parties are also leading to cognitive changes in how we see ourselves and the world around us – a 'new role for the imagination in social life' (Appadurai 1996: 31). For Appadurai these new imaginaries are: 'a form of negotiation between sites of agency (individuals) and globally defined fields of possibility' (1996: 31). Global technologies such as assisted reproduction are expanding our definitions of families and social life with new possibilities. Writing of the global spread of assisted reproductive technologies, Frank van Balen and Marcia Inhorn (2002: 27) suggest, 'The availability of NRTs [new reproductive technologies] in disparate global sites may create new possibilities, new social imaginaries, and new arenas of cultural production, as well as new contradictions, new dilemmas of agency and new regimes of control.'

Another way of conceptualizing the multiple dimensions of global phenomena, has been through metaphors of landscapes. With regard

to reproductive technologies and most particularly the trade in gametes and reproductive travel, Inhorn (2011) has taken up Appadurai's (1996: 31) conceptualization of five 'scapes' – the '-scape' suffix suggesting both the irregularities of these landscapes but also the ways in which they are 'deeply perspectival constructs' dependent upon who is observing.⁸ She suggests the concept of a 'reproscape' of moving biological substances and body parts. This 'meta-scape' involves circulating reproductive technologies and flows of reproductive actors and gametes within a large-scale industry in which images and ideas about reproduction and tourism destinations and reproductive imaginaries abound. Unlike Appadurai's conceptualization of 'scapes', Inhorn draws attention to how this reproscape is highly gendered, and stratifies risk. This reproscape is formed through localized layers of meanings and histories, uneven fissures stratify access across class and ethnicity, technological practices are metamorphosed through pressures from global capital as patients, clinicians, embryos and gametes traverse its spaces. Analytically, the concept of a reproscape is very similar to that of an assemblage, although it highlights the importance of place, spatial movement and perspective. One difficulty is that the landscape metaphor it evokes is perhaps more static than intended and less able to capture the shifting contingencies that occur in everyday practices of health, illness and technological use.

This Book

The book starts with an historical account of IVF in Thailand, from the first test tube baby in 1987 through to present controversies. Based upon extensive research in Thai-language newspapers and other media, as well as interviews with some of the key clinicians involved, I explore the shifting constructions of assisted reproductive technologies in the media and the social meanings attached to them. The Thai public has been quick to embrace assisted reproduction. Since the birth of the first Thai *dek lord kaew* (glass tube baby), assisted reproductive technologies have generally been celebrated. Possibly because assisted reproductive technologies were not publicly funded, they have been allowed to proliferate with little state intervention. The last thirty years have seen the rapid expansion of assisted reproductive technologies and expertise across the country. Medically assisted reproductive technologies such as IVF have quickly become associated with positive imagery of science, moder-

nity, high technology and strong maternal desire. As will be seen throughout this book, they have become associated with the pursuit of an ideal family form – a small, upper middle class heterosexual family.

Margaret Lock (1998) suggests that ‘if the application of reproductive technologies do not coincide rather closely with widely shared societal values, they may well be judged as disruptive to the moral order, no matter how well packaged and promoted’. Similarly, technologies that do fit in with shared social values become ‘naturalized’ (Lock and Kaufert 1998) as supporting the moral order and become an unquestioned part of people’s reproductive lives. Assisted technologies fit well the values of the small Thai family and Thai women as responsible mothers validated by the state.

This book then moves onto considering the experience of infertility in Thai society and the multiple resorts to care undertaken by the infertile couples of this study. Chapter 2 describes understandings of infertility and the stigma associated with it for women and men. As I explain, children are highly valued in Thailand and the normative expectation is that a couple will start a family shortly after marriage. Couples without children in this study describe themselves as ‘incomplete’ in their marriage but also as individuals for failing to fulfil gendered expectations. Chapter 3 explores the ‘sacred geography’ of fertility in Thailand, the shrines and sacred places utilized by infertile couples in their attempts to seek care and treatment. It introduces another subtext of this book – the enchantment of assisted reproduction. Emblematic of the social nature of technologies is the ways in which their use and practice reveals a range of rituals, social meanings and contingencies. In this book I utilize the notion of enchantment as a means to illustrate this social and spiritual relationship with/in technologies. I show how, far from being strictly scientific, Thai patients and clinicians approach assisted reproduction with a degree of faith and mystery, the efficacy of which is defined as much by karma as laboratory results.

I consider the ways in which religious belief continues to play an important role in reproduction in Thailand, even within a select population committed to ‘high-tech’ interventions to cure their infertility. The array of Buddhist, Brahman, Taoist and Hindu religious sites, natural and ancestral spirits and royal spirits, reflects the diversity and hybridity of Thai religious belief and practice. I argue that many of the shrines have particular gendered significance for women in their pursuit of children – a means to intervene in the supernatural world without the mediation of (male) monks. They

represent further examples of the intersection between the sacred and the ordinary, religion and magic in Thai society.

Such pilgrimages in the spiritual realm have their own parallels in treatment seeking within the biomedical realm. Both involve syncretic care seeking at multiple sites, both are enveloped by a sense of enchantment and appeal to various sources of authority. In Thailand infertile couples seek intervention from gods and spirits in conjunction with high-tech treatments. Faith and karmic fortune is believed fundamental to the efficacy of both. As I then describe in chapter 4, the very rituals and interventions of the clinics, the offerings and discipline involved find its parallels in the shrines and sacred places visited for spiritual interventions.

Chapter 4 begins an exploration of the experiences of patients in infertility clinics using assisted reproductive technologies, primarily IVF procedures. I explore the medicalization of patients and its effects. It documents the experiences of patients of the liminal space of the clinic and the process of becoming a patient, undergoing interventions and cycles, their failures and successes. Charis Thompson (2005) describes the process of assisted reproduction as one of 'ontological choreography' – the 'coordination of the technical, scientific, kinship, gender, emotional, legal, political and financial aspects of ART clinics: the coming together of things generally considered parts of different ontological orders'. This process involves the 'grafting of parts and calibrating of time' (2005), the normalization of medical procedures, socialization of patients and naturalization of the technologies.

Within the clinic similar processes of intense medicalization can be observed. Assisted reproduction involves the monitoring, surveillance and creation of data about infertile women and men. The focus upon and abstraction of women and men's bodies and embryonic bodies, and fetishization of sophisticated machinery all operate within these settings. I note how these processes cast their own enchantment as practices become ritualized, patients bodies are blamed for failures and clinicians act as mediators to the mysteries of conception.

However, it is simplistic to suggest that the unequal power relations and politics embedded within reproductive technologies are fixed and unalterable. Rather, the effects can be disempowering but also productive – actively chosen, even demanded by the participants. As seen throughout this chapter, patients may not only endure but embrace the reductive view of their bodies and actively pursue and participate in the monitoring of body processes. They may subscribe deeply to an imagined future and the promise held

by technology, to the detriment of their careers, social relations and against the advice of their doctors.

In chapter 5 I present insights into the 'clinical ensemble'; the various actors involved in infertility treatment, providing views from clinicians, nurse counsellors and embryologists about their work. Staff describe themselves as having a special vocation to help patients form families and create life. Yet their views of their service orientation are not always shared by their patients. Thai patients generally defer to their doctor's advice and rarely challenge their opinions despite the poor communication, rushed consultations and lack of empathy some patients experience. Patients who become pregnant speak in glowing terms of their medical staff, yet the experience of failed cycles strains their trust in their doctors and 'shopping around' for doctors is common. Differences in the level of service available in private clinics compared to public clinics are commented upon by patients, as are accusations of profiteering as patients experience levels of intervention and expense.

This book draws upon a heritage of feminist studies of reproduction concerned with gender-based inequalities and discrimination, practices of stratification, agency and resistance, which describe biomedical science as a location of masculinist power applied to women's bodies. But in this book I present a more nuanced view of women's agency within medical treatment. In chapter 6 I describe the ways in which some women consciously make patriarchal bargains in their use of these technologies – undertaking treatment to secure their relationships, fulfil their obligations to the family lineage and ensure their economic future. The very act of undertaking treatment is used to demonstrate their commitment to their relationships. Women and men in this study are constantly involved in a project of negotiating reproductive outcomes for themselves consonant with what is both expected of them, but also to satisfy their own aspirations. Where exactly the boundaries and limits to agency and expectation lie and how these are worked out by various women and men is only illuminated through ethnographic inquiry.

In chapter 7 I explore the interface of medically assisted reproduction and the Internet and the resultant new biological knowledge, social identities and forms of collective identity making. Through an exploration of the Thai-language 'Love Clinic' (*Clinicrak*) chat room and other similar sites used by people undergoing treatment with assisted reproductive technologies, I explore how cyberspace allows forms of association between people with fertility difficulties unavailable in other spaces. I concentrate upon how the Internet offers

a form of virtual community for people for whom no other forums for sociality exists. I argue that these forms of identity and biosociality (Rabinow 1996) involve dialogue between older and newer forms of identity construction and understandings of infertility, redefining the meanings and practices of these groups. Finally, this chapter explores the limits of the relationship between such forms of biosociality and citizenship and why these particular communities lack the transformative power evident for other biosocial groupings in Thai society.

Men's experiences of assisted reproduction are often ignored and needs overlooked (Inhorn 2002, 2004b, 2006a; Carmeli and Birenbaum-Carmeli 1994). Chapter 8 explores how Thai men's experiences of assisted reproduction and men's actions are also influenced by patriarchal norms and expectations. Within Thailand, male infertility remains deeply stigmatized due to insinuations of impotence and emasculation. Although men were reticent about their experiences, they gave insights into the social pressures to father a child, the imperative to have a biological child and dislike of donor sperm or adoption, their embarrassment at having to perform masturbation on a schedule to provide sperm samples, the pain of testicular surgeries. New technologies such as ICSI have revolutionized the treatment of male infertility, but themselves carry gendered implications as men and women are compelled to try this new technology.

Although the effects of these technologies upon notions of motherhood and kinship have been discussed within Western settings (Becker 2000; Franklin 1997; Ragoné 1994; Thompson 2005), less is understood about how other cultural understandings of kinship may be affected. Surrogacy and ova donation are deconstructing motherhood into genetic, birth, adoptive and surrogate maternities and the potential for a child to have three biological mothers (Sandelowski 1993). Angela Davis (1998) speaks of the creation of 'alienated and fragmented maternities'. Chapter 9 examines surrogacy through a case study of Ying, a commissioning parent talking about her relationship with her surrogate. Ying has a long history of infertility treatment, and we learn of her experience and emotions during repeated attempts at using IVF, a donor ova and surrogacy. This chapter highlights the complexities of the relationship between an intended parent and surrogate. Her narrative reveals insidious power differentials between surrogate and intended parent. This is exacerbated by the financial and proprietorial rights implied over the surrogate's body. The threat surrogacy poses for Thai sensibilities and notions of motherhood is clear in the continued secrecy and ambiguity in-

volved in surrogacy arrangements in Thailand, yet even surrogacy is being increasingly accepted and naturalized – forthcoming legislation reversing the traditional uterocentric notion of a mother as the one who gives birth in favour of commissioning parents marks a turning point in Thai conceptions of maternity and kinship. The clear restrictions contained in this legislation against gay and single-parent use of assisted reproductive technologies however reasserts a married heteronormative definition of a Thai family against the subversive potential of assisted reproductive technologies for the creation of new family forms.

Conclusions

I understand these technologies to both recreate and transform class, gender and ethnic divisions in Thai society through the stratification and privileging of certain types of people to reproduce. However, it would be a mistake for this book to equate what is presented merely to stories of exploitation; rather, I hope the book is read as the problematic striving, the experimentation with technoscientific practices that can enhance and enable life but in doing so are also subject to contradictions and corruptions. Throughout this book there are encounters with the contradictory effects of these quests—patriarchal bargains, the entrenchment of patriarchal power relations, the commodification and dissection of the reproductive body into parts at the same time as women and men and medical staff describe the technology in terms of hope, life, their agency, choice and ardent desires to achieve parenthood.

Notes

1. These include studies of assisted reproductive technologies and infertility in: Vietnam (Pashigan 2002, 2009), China (Handwerker 2002), Sri Lanka (Dissanayake, Simpson and Jayasekara 2002; Simpson, Dissanayake and Jayasekara 2005), India (Bharadwaj 2009; Pande 2010, 2011; Riessman 2000, 2002), Iran (Tremayne 2009), Egypt (Inhorn 1994, 1996, 2003a, 2003b), Israel (Birenbaum-Carmeli 2007; Kahn 2000; Nahman 2011), Greece (Paxson 2003, 2006), Italy (Bonaccorso 2009), Argentina (Rasberry 2009) and Ecuador (Roberts 2009).
2. See discussion in van Balen 2009. Among Sunni Muslims, gamete donation and surrogacy have been religiously proscribed, however Shia Muslim fatwas in Iran and Lebanon facilitate third-party donations in these

- countries (Inhorn 2006b; Tremayne 2006, 2009). In Israel assisted reproduction is state subsidized and religiously condoned, with rabbinical law proving flexible to accommodate the full range of assisted technologies, surrogacy and gamete donations (Kahn 2000, 2006; Birenbaum-Carmeli and Inhorn 2009; Nahman 2006).
3. See Thailand, Council of State. 2010. *Rangphrachabun natikhumkhongdek thi kert doi asai teknoloyi kan jaloernphan thangkanphaet* (Civil Decree no. 167/2553), <http://web.krisdika.go.th/data/news/news10866.pdf> (accessed 20 May 2014); and Nanthida Puangthong's article, 2010, 'New Draft Law to Protect Surrogate Mothers, Offspring', *The Nation*, <http://www.nationmultimedia.com/home/2010/05/12/national/New-draft-law-to-protect-surrogate-mothers-offspri-30129064.html> (accessed 20 May 2014).
 4. Translation provided by Parisa Rungruang.
 5. Sandhikshetrin, Kamol. 2008. *The Civil and Commercial Code Books I-VI and Glossary*, 7th ed. Bangkok: Nitibannakan. http://en.wikisource.org/wiki/Civil_and_Commercial_Code/Current_Version/Book_5 (accessed 20 May 2014).
 6. As Inhorn (2004a) has noted, it is difficult to gain permission to work within clinics and I am very grateful to those clinicians who gave me access and facilitated my access to other clinics through their former students. This was partly achieved through introductions from contacts made through my previous work in Thailand and by my very bad karaoke-singing effort at a workshop held in Chiang Rai with members of the Royal Thai College of Obstetrics and Gynaecology.
 7. As with any study, this one has a number of limitations. Firstly, as a clinic-based study it only includes those people already undergoing assisted reproductive treatment. I make no claims of generalizability. As a study of current patients, it does not include the voices of people who may have decided not to utilize these technologies, nor those who may have tried but then decided to cease treatment. As such, the people in this book probably have more positive views of the technologies than others. As I was recruiting within the clinics, my sample also does not include those who were too shy, traumatized or reticent to say anything about their experience. It is possible then that important perspectives are missing. Likewise, the time pressures within clinics meant I encountered difficulties in interviewing the medical staff; they simply had little time to indulge me. This is a subject worth pursuing in the future. This study is also Bangkok-based; although I have no reason to believe that assisted reproduction clinics differ greatly across Thailand, it does mean that the majority of my informants are Central Thai urban elites, rather than people from other regions. Finally, of course, are all the attendant difficulties of interpretation and translation across languages and cultures. No doubt despite my best efforts and the erstwhile assistance of my friend and colleague Som who accompanied me to all interviews, there are subtleties missed, questions poorly asked and answers misunderstood.

Ethical clearance to conduct the project was received from the University of Melbourne Human Research Ethics Committee (HREC 060504X.2), the Faculty of Medicine, Mahidol University (016/2550) and clearances obtained through all participating hospitals and clinics and the National Research Council of Thailand (No. 0002.3/2069).

8. Appadurai's (1996: 31) '-scapes' include: ethnoscaples, referring to the landscape of mobile people such as migrants and tourists; technoscapes, consisting of the global configuration of technology that moves rapidly across various boundaries; finanscapes, or the 'disposition of global capital'; mediascapes, referring to the distribution of information electronically and the images of the world and lives created by it; and ideascapes that 'frequently have to do with the ideologies of the state and the counter-ideologies of other social movements concerned with capturing state power.