

The Cryopolitics of Reproduction on Ice

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The Cryopolitics of Reproduction on Ice: A New Scandinavian Ice Age

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Introduction

This book is about the Scandinavian ice age of reproduction. The ability to freeze reproductive cells, tissue, and embryos is fundamentally changing our understanding of what it means to be a reproductive citizen and of the ways in which reproductive matter gains mobility and value. This book is concerned with cryotechnologies and what we refer to as the development of a cryogenic reproductive culture, as they come into play in the Scandinavian welfare states. Centering Scandinavia is especially interesting, we argue, because reproductive technologies and welfare state ideologies have historically come together to ensure particular citizens free access to reproductive technologies, all countries are pronatalist and the welfare state support of free health care combined with emerging markets of private fertility care are unique. Of the Scandinavian countries Denmark stands out. Although the country has sought to limit the monetary market in oocytes, Denmark has for years been one of, if not the country in the world, with most children born after the use of assisted reproductive technologies including IVF and sperm donation (De Guyter et al., 2018). Denmark has moreover become the fertility hub of Scandinavia as private sperm banking and private fertility clinics has emerged and developed with comparatively cheap prices, and a strong medical industry on the side.

Because understanding the cryopolitics of reproduction demands a collaborative approach, in this book, we cut across the arenas of bioethics/law, practices/experiences, and culture/commerce. We engage in interdisciplinary scholarship in an attempt to answer questions such as: How does cryo, in the welfare state, help mobilize particular understandings of reproductive time, reproductive rights, and reproductive well-being? What values are embedded within Scandinavian laws that seek to regulate cryotechnologies? What are the moral arguments for or against certain freezing technologies and the many possible ways in which they can be used to create new offspring? What is the moral and legal status of frozen tissue that once was living elsewhere but is now in cryotanks? How is cryo enacted in clinical settings and how do the women and men who freeze experience the preservation of reproductive parts? What cultural configurations and imaginaries of cryo appear in popular culture and how are frozen cells and tissue, in interviews with freezers, transformed into frozen assets? In this book, we seek to make a significant academic contribution to interdisciplinary scholarship, engaging a

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wide range of empirical data as well as enabling scholarly public policies, ethical debates, and law on preservation.

In responding to these questions, we build upon the existing research within reproductive medicine, law, ethics, sociology, and cultural studies in order to develop an interdisciplinary lens with a view to conducting integrated analyses of empirical materials that normally pertain to discreet scientific fields of reproductive studies. For example, while some bioethicists have pointed to concerns related to reproductive autonomy and the potential harm to the resulting child (Harwood, 2009), others have argued that the possibility of cryopreservation can increase reproductive autonomy and equality between the sexes (Goold & Savulescu, 2009). Sociology scholars have shown that preservation, in the case of women's eggs, enables women to reconcile their reproductive desire with their careers, relationships and health (Waldby, 2014, 2019) and, in the case of reproduction after death, blurs boundaries between life and death (Kroløkke & Adrian, 2013), potentially affecting inheritance and bringing family law into play (Simpson, 2001). As echoed in Waldby's (2019) latest book, the cryopreservation of women's oocytes ensures that reproductive material does not "go to waste" (p. 127) enabling women's reproductive cells instead to enter what Waldby (2019) refers to as the "global oocyte market" (p. 73). Anthropology scholars have noted how freezing technologies assist in making reproductive fluids transcend national borders, yet they also remind us that these technological developments must be situated in particular localized contexts (Melhuus, 2012). Meanwhile, and from the perspective of cultural studies, the ability to postpone or synchronize biological matter draws upon normative understandings of ageing as an individualized yet also, rhetorically at least, reversible and manageable process (Carroll & Kroløkke, 2017). In combination, these scholars suggest that the attraction of freezing lies precisely in its promise to re-animate and re-entangle biological matter, turning (old) aging bodies into enhanced (younger) bodies while also constituting interesting entanglements between reproductive medicine, transplant surgery, regenerative medicine, and business opportunities.

Whereas the existing scholarship has made crucial analytical and theoretical incisions in the ways that cryopreservation changes our understanding of reproduction and the making of kin, in this book, we extend this work in several ways. Going beyond the cryopreservation of reproductive cells, we theorize and empirically investigate the preservation of both reproductive cells (sperm and eggs) as well as that of ovarian and testicular tissue. Moreover, we employ the notion of sociotechnical imaginaries to engage in an interdisciplinary quest drawing upon different cryo-relevant empirical material including ethical guidelines, legal documents, interview and observational studies, a survey study as well as popular accounts and clinical marketing material (see the Appendix). Also, in situating our empirical material in light of the term "cryopolitics" (Radin & Kowal, 2017), we explicitly interrogate how cryo-technologies come together with cultural concerns related to the reproduction of new Scandinavian children/citizens as well as contributing to academic discussions on the state of the Scandinavian repro-cryopolitics. In this introduction, therefore, we first turn to a discussion of cryopolitics as the general theoretical framework for the book, situating it in

the Scandinavian welfare state, and we outline some methodological reflections/points of departure for interdisciplinary analyses in the subsequent chapters.

1. Scandinavian Legal Cryo Landscapes

Scandinavia is, in many ways, a homogenous region. During the period from 1397 to 1523, Denmark, Norway, and Sweden (including the territories of Finland, Greenland, the Faroe Islands, the German state of Schleswig-Holstein, Orkney Islands, Shetland Islands and Iceland) formed the Kalmar Union headed by a single monarch. Not long after Sweden left the Union in 1523, Norway remained under the Danish Crown until 1814 when Norway was ceded to the Swedish crown due to its defeat in the Napoleonic Wars. A failed attempt at independence subsequently forced Norway into a Union with Sweden before it gained independence in 1905. Thus, a common history and culture has existed for centuries. In the 1800s, the ideological movement “Scandinavia-ism” supported the idea of a unified region based on a common language, culture, and heritage. A modern form of “Scandinavia-ism” reemerged decades later in a number of guises, for example, through formalized legal collaboration in private law in the early 1900s, the formalized political structure for inter-parliamentary collaboration (The Nordic Council), the national appointment of Ministers responsible for Nordic collaboration, the establishment of the then Scandinavian state-owned Scandinavian Airlines System and a common Nordic football league tournament.

The Scandinavian countries are all welfare states based on a socialist model, as shown in more detail below. A number of conventions secure free movement within the Scandinavian territory, including the right to live, study, and work, the right to social security and the right to speak your own language in other Scandinavian countries. Nevertheless, there are considerable differences in the regulation of assisted reproductive technologies and cryopreservation.

As the table below demonstrates, both regulation and regulatory instruments vary a great deal. As a result, different cryo-pathways have formed in Scandinavia; one related to sperm and treatment of single and lesbian women centered in Denmark and another pathway involving travel to Sweden for egg freezing.

2. The Scandinavian Welfare States

In choosing to specifically focus our research on the Scandinavian context, we argue that the Scandinavian region is especially unique as regards the ice age of reproduction. While we, throughout the book, highlight the ways in which the welfare state both enables and constricts reproductive practices, it is worth giving a brief overview of what a Scandinavian focus contributes. Notably, political dreams of a welfare state appeared in the Scandinavian countries during the 1920s and 1930s. During that time, Denmark and Sweden began to develop welfare state societies. Although the same political ideas were found in Norway, it was not until the mid-1960s and early 1970s that Norway truly became a welfare state: Having been an active opponent of the German invasion, Norway faced a long period of rebuilding in the wake of World War 2 (WW2), unlike neutral

Table 1. Scandinavian Legal Cryo Landscapes.

	Eggs Non-medical	Eggs Medical	Sperm	Embryos
Denmark	<i>Cryopreservation</i> 5 years	<i>Cryopreservation</i> Until woman's 46th birthday in case of serious disease (woman or partner)	<i>Cryopreservation</i> Indefinitely	<i>Cryopreservation</i> 5 years
	<i>Requirements to destroy</i> Woman's death Woman turns 46 years old	<i>Requirements to destroy or donate</i> Woman turns 46 years old Serious illness in woman or partner no longer present Woman's death	<i>Requirements to destroy</i> Man's death unless written consent to posthumous use	<i>Requirements to destroy or donate</i> Separation Divorce Woman's death Man's death (unless written consent to posthumous use)
Norway	<i>Age limit for use</i> Under 46 years <i>Cryopreservation</i> Not allowed (but amended legal framework is expected that would allow self-financed cryopreservation with an upper age limit for use)	<i>Age limit for use</i> Under 46 years <i>Cryopreservation</i> As long as it is in the interest of the woman and medically sound	<i>Age limit for use</i> None <i>Cryopreservation</i> Allowed on medical indication Storage limit indefinite, but use requires marriage or stable relationship	<i>Age limit for use</i> Woman under 46 years <i>Cryopreservation</i> 5 years
	<i>Requirements to destroy</i>	<i>Requirements to destroy or donate</i> Woman's death	<i>Requirements to destroy</i> Man's death	<i>Requirements to destroy or donate</i> Woman's death Man's death Man or woman no longer able to consent

	<i>Age limit for use</i>	<i>Age limit for use</i>	<i>Age limit for use</i>
	-	General guidelines on assisted reproduction state that woman must be over 25 and under 39. Can be derogated from based on medical and psycho-social assessment of the couple. Reasonable age difference between man and woman	None
Sweden	<i>Cryopreservation</i> Indefinitely	<i>Cryopreservation</i> Indefinitely	<i>Cryopreservation</i> 10 years, with a possibility to prolong.
	<i>Requirements to destroy</i> None	<i>Requirements to destroy</i> If an egg, which has been subject to somatic cell nuclear transfer, has been used in experiments	<i>Requirements to destroy</i> If an embryo has been used in experiments
	<i>Age limit for use</i> None in legal framework (but regional Councils have set in place age limits for the public sector of 37–41 years)	<i>Age limit for use</i> None in legal framework (but regional Councils have set in place an age limit of 55 years for the public sector)	<i>Age limit for use</i> None

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Sweden and Denmark, which had been a “protectorate” with an official policy of “reasonable collaboration,” at least until 1943 (Elting, 1981).

In the Scandinavian welfare states, the (re)production of families is a major focal point for different reasons. In Denmark, reproduction became vital as the notion of a welfare state providing free education and healthcare took shape as a political project in the 1920s, especially in terms of controlling the “quality” of the individuals who would potentially pose a “burden” to society and the public purse. Lene Koch has demonstrated how, in Scandinavia, eugenic practices were adopted by parliamentary majorities on the initiative of the Labour (Social Democratic) parties and enjoyed widespread scientific endorsement (Koch, 2006). Koch’s doctoral thesis evidences how eugenics as a political ideal became an integral part of Danish healthcare and social welfare policies, but also how the practical implementation of this ideal was complex and included both elements of coercive legal measures and elements of liberalization of reproduction. The welfare state project and its adoption of eugenic policies marked the first successful liberalization of abortion and sterilization. Even though this liberalization, which made some abortions legal (in Denmark and Sweden with the adoption of the first Abortion Acts in 1938), was motivated by societal concerns, it nevertheless constituted the very first legal recognition of the individual’s own control of reproduction. Simultaneously, the falling birth rate was seen as a national crisis, and in Denmark, a population commission was therefore tasked with considering social programs relating to motherhood (Brøndum, 2012).

The commission’s recommendations lead to few changes in practice compared to Sweden. In Sweden, the issue of population control was equally pivotal. Abortion on eugenic grounds had been legalized in Sweden in 1938 and eugenic sterilization laws had been adopted in 1934 as well as in 1941. It was, however, the wider issue of population control (combined with the Scandinavian-wide social democratic ideology) that encompassed the political ideal of the welfare state. In Sweden, a fear of population decline drove several pronatalist welfare initiatives in the area of reproduction, including the adoption of a marriage loan reform intended to lengthen the fertile period of women within marriage by making earlier marriages economically feasible. A maternity relief reform provided economic assistance to childbearing women in need and programs of improved housing for large families were intended to indirectly affect fertility by upgrading conditions for families that were to serve as examples of appropriate family patterns (Kalvemark, 1980). In this way, the programs were also intended as social engineering projects and these intrusions into private life were justified by an instrumental rationalism. To produce more than one child was seen as rational behavior just like good dental hygiene and was thus actively promoted for this reason (Freiburg, 1993).

In Norway, just after WW2, all parties had announced a common program that would introduce a rights-based welfare state model focusing on equality as opposed to social welfare dependency on handouts and alms. But unlike most European countries, rationing continued well into the 1950s, demonstrating a prolonged period during which the Norwegian economy and country as a whole were rebuilt. Major welfare state legislation came with the introduction of social

security in laws of 1964, 1966, and 1971. Support for unmarried mothers followed in 1981 and paid maternity leave followed between 1987 and 1993. Having been established decades later, and not in the context of a perceived national crisis related to falling population numbers, the underlying message of the Norwegian welfare state is not about encouraging women to have more children, but rather about creating the necessary societal framework to support women/couples in having the number of children they choose to have (Sorum, 2019). However, in her new year's address to the Norwegian people in 2019, the Norwegian Prime Minister called for Norwegian women to have more children in order to counter-balance the increase in the number of pensioners, so that the weight of the welfare state might be distributed across a greater number of shoulders. Thus, even in 2019, reproduction in the welfare state relates to collective and societal interests.

The Scandinavian welfare states are redistributive and provide a wide range of benefits and services as citizens' entitlements with the aim of creating more egalitarian societies (Leira, 2002, p. 32). This includes, but is not limited to, paid parental leave, free health care, affordable childcare, and child support to single parents or lower-income families: typically parents are entitled to up to one year of parental leave to share between them, with the state providing an income based on previous salary (often capped at the same level as unemployment benefits, with some employers providing the remainder of the normal salary for some of the months). Prenatal care, birth, and child/parent medical check-ups following birth in the home are free, as is fertility treatment subject to certain conditions. Childcare is heavily subsidized, meaning that parents pay approximately \$300 a month for childcare, and most families receive a cash financial subsidy from the state with single parents receiving more. For example, in Denmark, a couple would receive an annual cash subsidy of \$2,760 for a child aged between 0 and 2 years, reducing to \$1,700 for 17 year-olds, whereas single parents receive a further \$5,500 annually.

While the Scandinavian welfare states historically have created a framework in which economic stratifications are cushioned, in the welfare state, women must nevertheless dutifully manage their reproductive abilities in order to reproduce not only the family but, in fact, the nation. Below, we present our cryopolitical framework and delineate our decision to analytically focus on Scandinavian imaginaries on the ice age of reproduction. We then present our empirical data and give a brief overview of the chapters in this book.

3. Freeze and Re-Animate. A Cryopolitical Framework

The ability to freeze is nothing new. Indeed, freezing parts of, or even whole bodies, can be traced back to the emergence of cooling technologies and the use of increasingly sophisticated techniques undertaken, following the Cold War period, within the general field of cryobiology. Initially employed in the animal breeding industry (Clarke, 2007), cryopreservation is today common practice and big business involving freezers, shipping companies, laboratories, and biological banks, all of which play a part in the transnational exchanges of biological material (Parry, 2004). Importantly, the ability to freeze and bank parts of the body has

enabled body parts to be used for new purposes. Joanna Radin (2017) illustrates this, when she traces how the freezing of blood mobilized biological material and helped it gain relevance in new contexts:

It is the ability to hold still biological substances at various degrees of low temperature that has enabled such materials to become incredibly mutable and mobile, able to be manipulated, relocated and recombined to answer questions other than the ones for which they were initially extracted from the body. (p. 3)

In this book, we align ourselves with this thinking and we position the ability to freeze as a key biopolitical tool of the twenty-first century (Radin & Kowal, 2017). Consequently, we turn to cryopolitics as an overall theoretical frame for understanding the cultural imperative of putting reproduction on ice.

The concept of cryopolitics emerges from debates on the geopolitical importance of the Arctic and climate change policies. Coined by Michael Bravo and Gareth Rees (2006), cryopolitics was initially concerned with ecological policies and the melting ice in the Arctic. However, in his later work, Bravo (2017) redefines cryopolitics to include “the productive agency of natural and artificial ‘material frozen states’” (p. 33). He makes a point of stressing the interconnections between the cultural need for cold storage and the melting ice in the Arctic: The more the economy grows, the more cooling is needed, and the more likely global warming is to continue to be a problem. Charis Thompson (2017) makes a similar observation, when she notes that we “live in a world chronically short of ice in nature, not in culture” (p. 339). We agree with Radin and Kowal’s (2017) decision to view cryopolitics as an intervention in the politics of low temperatures as well as an overall framework for understanding the cooling efforts undertaken in the field of cryobiology. In contrast to Radin and Kowal’s (2017) decision to focus on the freezing of blood, DNA, interspecies, and animal conservation, however, in *The Cryopolitics of Reproduction* we apply the cryopolitical framework to tease out the practices and the performance of cryo within the field of human reproduction within the Scandinavian welfare states. This includes, for example, how cryogenic reproduction unfolds in media accounts, in legal deliberations, in public debates, in commercial settings, and in various clinical contexts. Consequently, we are interested in the ways that cryopreservation animates different possibilities and understandings of reproduction, kinship, morality, reproductive citizenship, life, and death.

In *The Cryopolitics of Reproduction*, we view cryopolitics as an overall theoretical framework that addresses the ability to freeze whole or parts of bodies such as reproductive cells and tissue. In many ways, cryopolitics bears a strong resemblance to Michel Foucault’s (1979) notion of biopolitics. By assembling bio and politics, Foucault analyzed the ways in which the body, the subject, and populations became the object of intensified political attention in modern societies. Famously, Foucault argued how power changed from a sovereign power characterized by the right to kill to a modern biopower characterized by the creation, maintenance, and control of life; thus, biopower refers to ways in which