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The Swedish Abortion Pill

Co-Producing Medical Abortion and Values, ca. 1965–1992

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Abstract
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Abortion pills have had a large impact. Since their introduction to national markets in the 1990s, scholars have examined how abortion pills have changed medical practices, illegal abortion, and reproductive activism. What has gone unstudied, however, has been the development and the history of abortion pills. This dissertation addresses this gap by examining how abortion pills were developed in Sweden. What political, legal, and moral processes were included in their development? What specific conditions in Sweden helped to support this research and what was its impact? Answering these questions further develops scholarship on medical abortion as well as the history of the Swedish welfare state's reproduction management. The dissertation argues that the development of abortion pills co-produced new ways of understanding and valuing abortion

Beginning in 1965, Swedish researchers clinically tested compounds on pregnant women, hoping to induce abortion. This dissertation follows abortion pill research in Sweden by concentrating on clinical trial practices in the period between 1965 and 1992. An intricate web of actors is highlighted, showing collaboration between state institutes, pharmaceutical companies, non-profit organizations, media, researchers, and trial participants. Using perspectives from science and technology studies and by introducing the concept of *abortion scripts*, the book traces how abortion was made in these expanding research networks. Whereas earlier scholarship has focused on contraceptive pills, intrauterine devices, and emergency contraceptives, this dissertation shows how abortion pills also contested reproductive concepts during the mid-20th century. Abortion pill research challenged reproductive boundaries, moved medical procedures from the hospital to the home, and expanded family planning initiatives.

As abortion access impacts people's reproductive choices, it is important to understand how concepts of abortion are made. *The Swedish Abortion Pill* maps a multitude of abortion scripts, detailing both change and continuity over time and makes visible the extent of the practical work that went into the development of medical abortion. While the technology is often attributed to research done by French researchers, this study reveals that decades of work in Sweden also contributed to the success of abortion pills.

Keywords: Medical abortion, abortion pill, history of medicine, reproduction, reproductive technologies, feminist STS

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To my family,
on both sides of the Atlantic.

Contents

English Translations of Selected Terms

Akademiska sjukhuset	Uppsala University Hospital
Karolinska sjukhuset	Karolinska Hospital
Karolinska institutet	Karolinska Institute
Kungl. Maj:ts	Royal Majesty
Läkemedelsverket	Medical Products Agency
Medicinalstyrelsen	National Swedish Board of Health
Medicinska forskningsrådet	Medical Research Council
Mentalvårdsbyrån	Mental Health Bureau
Nämnden för internationellt bistånd (NIB)	The Council for International Development
Riksförbundet för sexuell upplysning (RFSU)	The Swedish Association for Sexuality Education
Socialstyrelsen	National Board of Health and Welfare
Statens farmaceutiska laboratorium (SPL)	The State's Pharmaceutical Laboratory
Styrelsen för internationellt utvecklingssamarbete (SIDA)	The Swedish International Development Cooperation Agency
Statens offentliga utredningar (SOU)	Swedish Government Official Reports
Svenska läkartidningen	Swedish Medical Journal

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International Planned Parenthood Federation

18-20 LOWER REGENT STREET LONDON SW1

Dr. L. E. Engstrom,
Riksforbundet for Sexuelle Upplysning,
Box 17006,
Rosenlundsagaten 13,
Stockholm - 17.

RLK/AH

14th February, 1968.

Dear Dr. Engstrom,

Thank you very much for your article on F6103 which arrived last week. Unfortunately it is too late for inclusion in the current issue of the IPPF Medical Bulletin, but we are all very grateful to you for sparing the time to write this. Mrs. Dennis, our Information Officer, particularly asked me to thank you for doing this, and I have arranged with her that she will distribute copies of the article in the meantime to our Regional Offices and Member Organisations for their private information before the item appears in the next issue of the Medical Bulletin.

This issue will be going to press some time next month, probably about the middle of March, and if you feel that you have any further information that you want to add to what you have written, or wish to change anything in the light of further facts which may arise, please let me know before the middle of March so that I can alter the copy accordingly. I will not be able to make any changes after that date.

I am wondering whether the title 'Swedish Abortion Pill' is quite accurate or desired in the light of the uninformed publicity that this has had in the lay press. As you yourself say that abortion was not caused except in a very small number of cases, could we not give it some title which is less open to misinterpretation? Perhaps you could suggest something by return.*

I thank you once again for all your trouble.

Yours sincerely,

Dr. R. L. Kleinman
Editor, IPPF Medical Bulletin

* What about "Swedish Postconception Pill"?

LE/BB
21.2.1968

Dr. R.L. Kleinman
Editor, IPPF Medical Bulletin
IPPF
18-20 Lower Regent Street
LONDON S.W. 1
England

Dear Dr. Kleinman,

Thank you for your kind letter concerning my comments on F 6103.
I agree on your suggestion that the title not should be "Abortion Pill", which may cause misinterpretation. "The Swedish Postconception Pill" sounds much better.

Yours sincerely,

Lars Engström, MD

1. Introducing Abortion Pills

Today, the use of abortion pills is widespread. In many European countries, the majority of abortions are induced by drugs, as opposed to surgical methods.[1] However, in some parts of the world, such as the United States or the Philippines, abortion pills continue to be contested or illegal technologies.[2] Scholars have examined the ways abortion pills have changed medical practices, illegal abortion methods, and reproductive activism.[3] Conventional accounts of abortion pills attribute their development to work done by French researchers with the chemical compound RU486, produced by the pharmaceutical company Roussel Uclaf.[4] What is less well known is the decades of work in Sweden which contributed to their success.

In 1968, the Swedish physician and researcher Lars Engström responded to the editor of the *International Planned Parenthood Federation Medical Bulletin* about a paper he had submitted. Engström had written the paper on experiments he had been running in collaboration with other scientists. Since 1965 he had clinically tested a chemical compound, F6103, on pregnant Swedish women, hoping to induce abortion. This was the first clinical trial of an abortion pill conducted in Sweden. The clinical trial occurred at the women's clinic at Karolinska Hospital in Stockholm where the women were given a capsule of F6103.

The editor had read Engström's paper and could not help but wonder if the title was misleading: was this compound really a "Swedish Abortion Pill" as Engström claimed? Or was it something else? In his letter, the editor wrote:

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[1] This is according to 2017 data from the Guttmacher organization. See, Abortion Worldwide 2017: Uneven Progress and Uneven Access, https://www.guttmacher.org/report/abortion-worldwide-2017# (accessed 22 November 2020).
[2] Ibid; Center for Reproductive Rights, Facts on Abortion in the Philippines: Criminalization and a General Ban on Abortion, http://reproductiverights.org/sites/crr.civicactions.net/files/documents/pub_fac_philippines_1%2010.pdf (accessed 20 August 2020).
[3] Adele Clarke and Teresa Montini, "The Many Faces of RU486: Tales of Situated Knowledges and Technological Contestations," *Science, Technology, & Human Values* 18/1 (1993); Elaine Gerber, "Deconstructing Pregnancy: RU486, Seeing 'Eggs,' and the Ambiguity of Very Early Conceptions," *Medical Anthropology Quarterly* 16/1 (2002); Patricia Campbell, "Making Sense of the Abortion Pill: A Sociotechnical Analysis of RU486 in Canada," *Health Sociology Review* 27/2 (2018).
[4] Clarke and Montini, "The Many Faces of RU486," 47.

> I am wondering whether the title 'Swedish Abortion Pill' is quite accurate or desired in the light of the uninformed publicity that this has had in the lay press. As you yourself say that abortion was not caused except in a very small number of cases, could we not give it some title which is less open to misinterpretation? Perhaps you could suggest something by return.[5]

As the editor saw it, there had not, in fact, been very many cases of successful abortion. Shortly after, Engström responded:

> Thank you for your kind letter concerning my comments on F 6103. I agree on your suggestion that the title should not be 'Abortion Pill', which may cause misinterpretation.
>
> 'The Swedish Postconception Pill' sounds much better.[6]

Engström agreed to change the title to "The Swedish Postconception Pill." A title which, instead of highlighting what the compound was intended to do, highlighted when it was to be taken. According to both parties, this would be better. It would become less open to public misinterpretation and, even if not explicitly stated, to controversy. The tablet referred to as the "Swedish Abortion Pill" was quite easily transformed into something else.

As illustrated by this exchange of letters, abortion pill research was possible to conduct in Sweden in the mid-1960s, but it was not without difficulties. While abortion was legal in some circumstances, it was still a contentious topic.[7] Some critics argued that abortion rates reflected the "promiscuous lifestyle" of Swedish youth, while others criticized the ineffective system of abortion care which made women wait until they required late term abortions.[8] Student organizations demanded a reform of abortion legislation, pushing for women to be able to make the decision themselves.[9] The mere feat of developing an abortion pill threw the researchers into larger societal debates. But for the Swedish state, authorities, and researchers, the prospect of an "abortion pill" (or rather, a post-conception pill) was also tantalizing. Could this new technology solve Swedish abortion dilemmas?

Developing a new abortion technology was also an opportunity for Sweden to gain international recognition. Sweden was a small, wealthy country which

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[5] "Letter from R.L. Kleinman to Lars Engström, 14.2.1968," Korrespondens med IPPF 1966–1968, Volym E 4:6, Riksförbundet för sexuell upplysning (hereafter RFSU), Arbetarrörelsens arkiv och bibliotek (hereafter ARAB).
[6] "Letter from Lars Engström to R.L. Kleinman, 21.2.1968," Korrespondens med IPPF 1966–1968, Volym E 4:6, RFSU, ARAB.
[7] Lena Lennerhed, *Historier om ett brott: Illegala aborter i Sverige på 1900-talet* (Stockholm: Atlas, 2008), 10, 166.
[8] Solveig Jülich, "Picturing Abortion Opposition in Sweden: Lennart Nilsson's Early Photographs of Embryos and Fetuses," *Social History of Medicine* 31/2 (2018), 286; See page 80 of this dissertation.
[9] Emma Isaksson, *Kvinnokamp: Synen på underordning och motstånd i den nya kvinnorörelsen* (PhD diss. Atlas, 2007), 81.

had recently turned family planning into a foreign aid initiative.[10] The overpopulation scare of the mid-century had mobilized different actors globally to engage with family planning and in Sweden reproductive research was increasingly seen as a way to create effective family planning tools.[11] Abortion pills could contribute to multiple areas at once, and for several decades Swedish researchers were invested in their development.

Following efforts to induce abortion with F6103, researchers would then try the same with another group of compounds: prostaglandins. A research field around prostaglandins was well established in Sweden, with several researchers eventually awarded a Nobel Prize for their scientific contribution. Prostaglandin abortion research was supported by this prestigious Swedish network. The abortion research would continue into the 1980s and included numerous international actors, cumulating in a collaboration with French researchers. Eventually, and due to this research collaboration, the compound RU486 would be brought to Sweden and integrated into the medical system as an abortion option.

Creating abortion pills was a nonlinear process involving actors from outside of the medical domain. Medical abortion and values were co-produced by many actors, a process which included different negotiations over what abortion should look like. How abortion pills were developed, and the many complexities and detours of this journey, is the focus of this book.

Purpose, research questions, and overall design

This dissertation examines how abortion pills were developed in Sweden, and what political, legal, and moral processes were part of their production. The term medical abortion distinguishes the use of chemical compounds to induce abortion from surgical abortion methods.[12] Although other non-surgical abortion methods existed before the 1960s, I use the term to refer to the research and methods involved in trying to develop abortion pills.[13] In making medical abortion the object of study, this dissertation contributes to the history of 20th-

[10] Annika Berg, "A Suitable Country: The Relationship Between Sweden's Interwar Population Policy and Family Planning in Postindependence India," *Berichte zur Wissenschaftsgeschichte* 33/3 (2010), 303.

[11] See page 59 of this dissertation.

[12] *Medical management of abortion,* License: CC BY-NC-SA 3.0, World Health Organization (2018): https://apps.who.int/iris/handle/10665/278968 (accessed 22 September 2020). Abortion pills are also referred to as medical abortion.

[13] Historians have studied how women have self-induced abortion with different herbs and compounds, such as arsenic. See, for instance, Lennerhed, *Historier om ett brott*, 84–89, and Linda Gordon, *The Moral Property of Women: A History of Birth Control Politics in America* (University of Illinois Press, 2002), 16.

There were abortion methods used during the 1960s, such as saline injections, which I do not include as medical abortion in this study. See, Marc Bygdeman and Kristina Gemzell-Danielsson, "An Historical Overview of Second Trimester Abortion Methods," *Reproductive Health Matters* 16:13 (2008).

century reproduction with an account of the underrepresented abortion pill. While the contraceptive pill, the intrauterine device (IUD), and the morning-after pill have received attention, abortion pills have been largely ignored by historians.[14] With few exceptions, even major histories of abortion have put medical abortion aside, preferring to focus on cultural or legal histories as opposed to technological development.[15] By providing the missing Swedish history of abortion pills, this dissertation broadens the history of 20th-century reproduction to show how facts of life were negotiated in the decades following the introduction of the contraceptive pill.[16]

The purpose of the study is to investigate medical abortion in Sweden, from the early 1960s to the early 1990s, by exploring the work that went into its development. Studying a technology in the making allows an examination of not only the complexity behind technological development, but also decisions and negotiations that are otherwise obscured.[17] Specifically, I follow research networks around two types of chemical compounds: F6103 and prostaglandins. The dissertation examines the practices of the many actors in the research network, studying how such research was permitted, managed, and received. By using the concept of co-production, I investigate how the development of this new reproductive technology changed understandings of abortion, in ways that continue to impact how abortion is treated in Sweden today.[18]

In relation to this purpose, the following questions guide my investigation:

First, why did abortion pill research begin in Sweden in the 1960s? What problems was the research addressing? And how did the abortion pill become the answer to these problems?

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[14] Chikako Takeshita, *The Global Biopolitics of the IUD: How Science Constructs Contraceptive Users and Women's Bodies* (Cambridge Mass: MIT Press, 2011); Lara Marks, *Sexual Chemistry: A History of the Contraceptive Pill* (New Haven: Yale University Press, 2001); Elizabeth Siegel Watkins, *On the Pill: A Social History of Oral Contraceptives, 1950–1970* (Baltimore: Johns Hopkins Univ. Press, 1998); Heather Munro Prescott, *The Morning After: A History of Emergency Contraception in the United States* (Rutgers University Press, 2011).

[15] In her work on abortion, Johanna Schoen explicitly avoided medical abortion: Johanna Schoen, *Abortion After Roe: Abortion After Legalization* (Chapel Hill: University of North Carolina Press, 2015), 21.

For an example of a dissertation on abortion technique, see Tanfer Tunc, *Technologies of Choice: A History of Abortion Techniques in the United States, 1850–1980* (PhD diss. Saarbrucken: VDM, 2008).

[16] Building off of work done by the anthropologist Marilyn Strathern, Sarah Franklin uses the term "facts of life" in her studies of IVF. She writes that being able to "directly manipulate human fertilization and embryology altered the meaning of 'the facts of life.'" See Sarah Franklin, "Reimagining the Facts of Life: What is Most Revolutionary About IVF Is the Way in Which It Has Become So Unremarkable," *Soundings* 40 (2008), 147.

[17] Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005), 118.

[18] Sheila Jasnaoff, "The Idiom of Co-Production," in *States of Knowledge: The Co-Production of Science and Social Order*, ed. Sheila Jasnaoff (Routledge, 2004), 2. The theoretical concept of co-production will be expanded on in the theory and methods section, page 27.

Second, what actors were included in the research network? How did the national framework of Sweden impact the research? And what did abortion pill research look like in practice?

Third, how were understandings of abortion produced? What values were enacted in abortion pill development? And how was technology, gender, and reproduction made in the research networks?

To answer these questions, I follow abortion pill compounds to see where they lead, and who and what was involved in their journey. In mapping the research, I use the concept of networks to examine the extent of practical work which went into developing medical abortion. I also introduce the concept of *abortion scripts* to follow the various ways abortion was made by different actors.[19] This method, as explained in the theory and method section, is derived from Science and Technology Studies (STS) and allows a broad examination of research practices.

The dissertation consists of nine chapters that follow the development of medical abortion more or less chronologically from 1965 until 1992. The first clinical trials of medical abortion began in 1965 and various trials continued into the 1990s. 1992 is the year medical abortion was officially approved for the Swedish market and serves as an end for the study. At this point, medical abortion began to exist outside the developmental stages. This chronology allows an examination of change and continuity, while also incorporating broader historical contexts.

The different chapters introduce a wide array of actors, ranging from institutions, organizations, laws, chemical compounds, researchers, and trial participants, both in Sweden and abroad. Among the more prominent actors are several Swedish researchers and state bodies. The Swedish government, parliament, and several state agencies were all involved in the research. These agencies include the State's Pharmaceutical Laboratory (SPL), the Swedish International Development Cooperation Agency (SIDA), the National Board of Health and Welfare, and the National Swedish Board of Health.[20] As is made clear throughout the dissertation, the Swedish state played a significant role in this medical development. The Swedish state, however, was not a cohesive body and instead manifested itself through these various institutions and processes. In the international context, organizations such as the Ford Foundation and the World Health Organization (WHO) played important roles. The study also investigates individual researchers, trial participants, chemical compounds, and Swedish laws. The dissertation can thus relate to influential contributions on reproduction in both Sweden and the international arena, while contributing detailed accounts of how these fields merged.

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[19] The use of abortion scripts will be further discussed on page 28.

[20] The National Swedish Board of Health (Medicinalstyrelsen) was the government agency concerned with health and medical services in Sweden until 1968. It was then disbanded, and these services were taken over by The National Board of Health and Welfare (Socialstyrelsen): About: National Board of Health and Welfare, DBpedia, http://dbpedia.org/page/National_Board_of_Health_and_Welfare_(Sweden) (accessed 20 September 2020).

This account sheds new light on the historiography of medical abortion, the history of Swedish sexual politics, and shows how these reproductive technologies complicated understandings of pregnancy, abortion, and menstruation. Examining the development stages of medical abortion in Sweden over the course of three decades, using an analysis which highlights the ways abortion was understood and made in the network, makes it possible to study how understandings of reproduction changed and/or stayed the same over time.

Abortion pills are a technology with a large impact. They have changed the ways people engage with abortion, affecting mortality rates, medical standards, and reproductive politics.[21] Scrutinizing how this technology was developed expands understandings of how concepts of abortion are produced. As abortion politics, laws, and technologies affect people's reproductive choices, it is important to understand how they are created. Reproducing, or not, shapes our lives in profound ways. Tracing how understandings of abortion come about helps to explain processes which impact individual choice.

A missing chapter in the history of medicine

Abortion pills have received scholarly interest since they officially entered national markets in the 1990s. Generally, academics have focused on RU486, the compound which French researchers developed in the 1980s.[22] This work has not been historical and has largely focused on RU486's emergence and integration into medical systems.[23] These studies show abortion pills to be contested technologies, which becomes particularly clear in studying the processes of making them widely available. When abortion pills were first ready for release in France in the early 1990s, the American National Right to Life Committee worked to prevent the pharmaceutical company from distributing them.[24] In response, abortion pills were framed by supporters as being "the moral property of women."[25] In this way it was enacted as a technology which would provide more choice to women when it came to their reproductive lives. Abortion pills were quickly positioned as a moral technology in how they were lamented as killing fetuses and encouraging promiscuous sexual behaviour, but also in liberating women from unwanted pregnancies.[26]

Scholars have approached this controversial technology in various ways. In her study on how RU486 came to be incorporated into the Canadian

[21] Clarke and Montini, "The Many Faces of RU486," 48.
[22] Rebecca Cook, "Antiprogestin Drugs: Medical and Legal Issues," *Family Planning Perspectives* 21/6 (1989), 268.
[23] Clarke and Montini, "The Many Faces of RU486,"; Gerber, "Deconstructing Pregnancy"; Campbell, "Making Sense of the Abortion Pill,"; Carole Joffe and Tracy Weitz, "Abortion Attitudes and Availability," *Contexts* 9:2 (2010).
[24] Prescott, *The Morning After*, 79.
[25] Sarah Ricks, "The New French Abortion Pill: The Moral Property of Women," *Yale Journal of Law and Feminism* 1/1 (1989), 75.
[26] Prescott, *The Morning After*, 79.

medical system, Patricia Campbell used lenses from STS to highlight networks and the many human and nonhuman actors which mobilized around RU486.[27] Adele Clarke and Teresa Montini also focused on a variety of actors, such as pharmaceutical companies, scientists, and women's health movement groups to examine RU486 in the American context.[28] These studies have approached the use and dissemination of a technology which was embroiled in moral debates by following varied actors, demonstrating that there was more than pro-choice or pro-life motivations at play.

As for the specifics of Swedish abortion pill research, not much has been written. The historian Tanfer Emin-Tunc, for example, briefly touched on Swedish development of prostaglandin abortion in her PhD dissertation in 2005.[29] More generally though, Emin-Tunc framed her dissertation as filling a void in the history of medicine, which, up to that point, had not focused on abortion technologies.[30] While there have been some studies of abortion technologies, or which briefly include them, they have not been a central focus for many historians.

Although the specific technology of "Swedish abortion pills" remains underexplored, attention has been directed towards the history of abortion in Sweden. In particular, abortion in the 20th century has been of interest, with scholars investigating abortion in both its legal and illegal forms. The legal framework, the impact of welfare policies, and the use of abortion tissues in scientific research projects have been examined.[31] Earlier studies help to build a nuanced image of abortion in the Swedish context, challenging linear progressive narratives of abortion liberalization. For example, Lena Lennerhed's most recent book, *Kvinnotrubbel*, is an examination of legal abortion in Sweden, including the application processes, professional psychiatric influences, adaptions to the law, and conflicts of abortion within the medical community.[32] Despite a gradual liberalization of laws, Lennerhed showed the difficulty of acquiring abortions and the intrusions on women's bodily autonomy.

While there is some work done on abortion, 20th-century abortion technologies in themselves have not been a central focus of most Swedish studies.[33]

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[27] Campbell, "Making Sense of the Abortion Pill," 121.
[28] Clarke and Montini, "The Many Faces of RU486," 42.
[29] Tunc, *Technologies of Choice*, 115–122.
[30] Ibid. 7.
[31] Lennerhed, *Historier om ett brott*; Lena Lennerhed, *Kvinnotrubbel: Abort i Sverige 1938–1974* (Möklinta: Gidlunds förlag, 2017); Eva Palmblad, *Den disciplinerade reproduktionen: Abort- och steriliseringspolitikens dolda dagordning* (Stockholm: Carlsson, 2000); Elisabeth Elgán, *Genus och politik: En jämförelse mellan svensk och fransk abort- och preventivmedelspolitik från sekelskiftet till andra världskriget* (Almqvist & Wiksell International, 1994); Solveig Jülich, "Picturing Abortion Opposition in Sweden: Lennart Nilsson's Early Photographs of Embryos and Fetuses," *Social History of Medicine* 31/2 (2018); Solveig Jülich, "The Making of a Best-Selling Book on Reproduction: Lennart Nilsson's A Child Is Born," *Bulletin of the History of Medicine* 89/3 (2015).
[32] Lennerhed, *Kvinnotrubbel.*
[33] Lena Lennerhed has a chapter on abortion techniques and tools in her book, *Historier om ett brott*, 81–112.

Concentrating on technologies shows how the issue of abortion in Sweden both impacted technological development and was in turn impacted by technologies. Medical practices were part of the political and cultural shifts in abortion. In focusing on the development of medical abortion, this study relies on the previous historical work and adds another layer to how abortion has been treated in Sweden and the impact medical research has had on abortion issues.

In sum, earlier research has introduced major difficulties surrounding abortion pill use in various countries and has laid a foundation of Swedish abortion history. This research has shown that abortion has been one of the more morally charged reproductive procedures in the 20th century, while simultaneously illustrating that it has not always been a polarizing issue.[34] The law, medicine, technology, and biology undergo changes and impact understandings of abortion, and vice versa.

In this dissertation, I focus on the practice of research, development, and impact of medical abortion with similar strategies as used by Campbell, Clarke, and Montini, who examined a variety of actors in order to escape dichotomous explanations. In studying the development of medical abortion in Sweden, and by focusing on the making of values, I also illustrate a variety of motivations that energized this research beyond a moral dichotomy. At the same time, the earlier research on both abortion pills and abortion has had little to say about the history of the technology and the complexities produced by technological development. In this way, abortion pills have been missing from the history of birth control methods. While the dissertation is not a comprehensive account of all the work that went into the abortion pills that are used today, it does intervene in the standard history of RU486, complicating its success story.

Points of departure from studies of reproductive research and technologies

While there are few accounts which care to delve into the history of medical abortion, there is substantial work done on the history of other reproductive technologies. Birth control technologies have existed for thousands of years, with historical studies examining birth control practices in ancient nomadic and sedentary cultures.[35] Scholars have corrected previous assumptions that birth control was the result of recent scientific or medical practices, instead illustrating its presence in folk culture, particularly women's folklore, around

[34] Leslie Reagan, *When Abortion Was a Crime: Women, Medicine, and Law in the United States, 1867–1973* (Berkeley: University of California Press, 1997), xiv.
[35] Gordon, *The Moral Property of Women*, 8; Helen King, "Women and Doctors in Ancient Greece," in *Reproduction: Antiquity to the Present Day*, eds. Nick Hopwood, Rebecca Flemming, and Lauren Kassell (Cambridge: Cambridge University Press, 2018), 49.

the world.[36] Most birth control methods have not varied significantly, with the introduction of vastly new methods only occurring in the 20th century.[37] As of today, there are many different types of birth control and they are divided into hormonal methods, barrier methods, intrauterine methods, and "natural" methods.[38]

As for 20th-century innovations, the contraceptive pill, the IUD, and emergency contraceptives have all garnered academic interest.[39] In particular, the contraceptive pill, which is usually considered the first major modern breakthrough for birth control methods, has been thoroughly examined, although little has been done on the technology in the Swedish context.[40] Much of the research on these reproductive technologies also overlaps chronologically with the development of medical abortion, creating comparable contexts. Together, these studies have shown several themes and tensions in the development of reproductive technologies. This has offered points of departure from which to examine the development of medical abortion. In particular, previous research revealing the contradictions of family planning, the complicated role of clinical trial participants, and the fluctuations of reproductive concepts has helped to shape my study.

The connection between family planning, overpopulation worries, and birth control research appear in many histories of reproductive technologies.[41] From 1910 until the early 1960s, reproductive scientists, philanthropic foundations and birth control advocates helped to "discipline reproduction," making reproduction a legitimate field of study.[42] Studies on birth control technologies have shown similar trends of varied actors coming together to pursue technological development.[43] The collaboration between Margaret Sanger,

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[36] Gordon, *The Moral Property of Women*, 13.

[37] Ibid. 14. In her work, Gordon uses the example of the vaginal sponge to illustrate this point, as it remained consistent in form over several thousand years.

[38] Jesse Olszynko-Gryn, "Technologies of Contraception and Abortion," in *Reproduction*, eds. Hopwood *et. al*, 535–551. These methods and technologies can include hormone pills, condoms, spermicides, diaphragms, cervical caps, sterilizations, copper and hormonal IUDs, practicing abstinence, withdrawal, and using emergency contraceptive pills.

[39] Marks, *Sexual Chemistry*; Takeshita, *The Global Biopolitics of the IUD*; Prescott, *The Morning After*; Nelly Oudshoorn, *The Male Pill: A Biography of a Technology in the Making* (Durham: Duke University Press, 2003).

[40] Watkins, *On the Pill*; Marks, *Sexual Chemistry*; Andrea Tone, *Devices and Desires: A History of Contraceptives in America* (New York: Hill and Wang, 2001).

While there is a lack of historical work on contraceptive pills in Sweden, a recent master thesis by Karin Jedeberg examined debates about contraceptive pills between the years 1964 and 1980: Karin Jedeberg, "Frigjord, och sen då? P-piller och sociala världar 1964–1980," Master thesis, Uppsala University, Dept. of the History of Science and Ideas, 2020.

[41] Marks, *Sexual Chemistry,* 13–40; Takeshita, *The Global Biopolitics of the IUD,* 33–72; Prescott, *The Morning After,* 11–15; Watkins, *On the Pill*, 15–19, 51–72.

[42] Adele Clarke, *Disciplining Reproduction: Modernity, American Life Sciences, and "The Problems of Sex"* (Berkeley: University of California Press, 1998), 6.

[43] In their work on the contraceptive pill, Lara Marks and Suzanne White Junod have shown similar networks between industry, gynecology, and family planning: Suzanne White Junod and Lara Marks, "Women's Trials: The Approval of the First Oral Contraceptive Pill in the

Katherine McCormick, Gregory Pincus, and John Rock to develop the contraceptive pill is often used as an example of fields and expertise colliding.[44] Sanger, a leader of the American birth control movement, and McCormick, an MIT graduate with a personal fortune, worked with Rock and Pincus, reproductive researchers, to develop oral contraceptives.[45]

The tension between designing birth control methods to expand individual choice and to control populations is a common theme in studies of reproductive technologies from this era.[46] A crossover approach between reproductive research and family planning history, which can include birth control movements, eugenics, and foreign aid initiatives, is beneficial.[47] Population politics and family planning were, as this study illustrates, a part of the abortion pill network. Actors interested in reducing global overpopulation were drawn into this specific technological development, helping to build its acceptability, but also bringing along familiar contradictions.

Research on reproductive technologies has shown women's participation in their development to be complex. The power structures of clinical trials and the circumstances for trial participants have been varied along different lines depending on place, time, and technology. The initiatives taken by Sanger and McCormick, for example, have been used to nuance the narrative of male dominated innovation.[48] However, studies also emphasize how women were subjects of human experimentation.[49]

Scholarship on the IUD, the emergency contraceptive pill, and the oral contraceptive pill have examined the conditions of clinical trials, showing a range of experiences for the trial participants.[50] Women have entered into trials in order to deal with unwanted pregnancies from sexual assault, as volunteers

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United States and Great Britain," *Journal of the History of Medicine and Allied Sciences* 57/2 (2002).

[44] Ibid; Watkins, *On the Pill*, 21.

[45] Lara Marks, "Human Guinea Pigs? The History of the Early Contraceptive Trials," *History and Technology* 15/4 (1999), 265.

[46] For literature on the global overpopulation movements of the 20th century, see Ian Dowbiggin, *The Sterilization Movement and Global Fertility in the Twentieth Century* (Oxford: Oxford University Press, 2008); Matthew Connelly, *Fatal Misconception: The Struggle to Control World Population* (Cambridge, Mass: Belknap Press of Harvard University Press, 2008); Alison Bashford, *Global Population: History, Geopolitics, and Life on Earth* (New York: Columbia University Press, 2013).

[47] Much of the research on family planning and population policy dwells on American involvement, but increasingly there has been emphasis on comparative case studies, such as in the books *Reproductive States* and *A World of Populations*: Rickie Solinger and Mie Nakachi, eds. *Reproductive States: Global Perspectives on the Invention and Implementation of Population Policy* (Oxford: Oxford University Press, 2016); Heinrich Hartmann and Corinna Unger, eds. *A World of Populations: Transnational Perspectives on Demography in the Twentieth Century* (Oxford: Berghahn Books, 2014).

[48] Marks, *Sexual Chemistry*, 50–57.

[49] Ibid. 92–110; Prescott, *The Morning After*, 22–36; Takeshita, *The Biopolitics of the IUD*, 60–70.

[50] Prescott, *The Morning After*, 22–36; Lara Marks, *Sexual Chemistry*, 89–115; Takeshita, *The Biopolitics of the IUD*, 47, 57–59.

seeking new types of birth control, as ways to deal with infertility, and as a mandatory component of their university studies.[51] Some of these trials required high levels of cooperation from the trial participants, and whether women chose to stay or leave the trial affected the success of the research.[52] As trial participants, women have entered into reproductive research in a variety of circumstances and with different levels of cooperation. The guidelines and regulations governing clinical trials have been shown to play a role in the experiences of clinical trial participants.[53]

In the 20th century, the use of humans in scientific experimentation underwent various negotiations. Scholars often invoke major developments such as the Nuremburg Code (1947) and the Declaration of Helsinki (1964) to stress the ways in which the practices of scientific experimentation were challenged to be more humane.[54] However, scholars have also shown that these measures, implemented in the wake of experiments conducted by Nazi Germany, were interpreted in different ways.[55] Even after international efforts to standardize ethics, informed consent, for instance, was not always considered to be a necessary component of research.[56]

Drug development and regulation has also been a subject of historical study. The roles of different actors in these processes, such as pharmaceutical companies, universities, private investors, and state institutions has been outlined in various cases.[57] In particular, the interwar and postwar period has garnered attention for its new biological drugs which brought together different types of laboratories, companies, and professionals.[58] Scholars have likewise

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[51] Prescott, *The Morning After*, 22; Marks, *Sexual Chemistry*, 99.
[52] Ibid.
[53] Marks, *Sexual Chemistry*, 89.
[54] Susan Lederer, "Experimentation on Human Beings," *OAH Magazine of History* 19/5 (2005); Jordan Goodman, Anthony McElligott, and Lara Marks, eds. *Useful Bodies: Humans in the Service of Medical Science in the Twentieth Century* (Baltimore: Johns Hopkins University Press, 2003), 3; David Rothman, *Strangers at the Bedside: A History of How Law and Bioethics Transformed Medical Decision Making* (New York: BasicBooks, 1991), 4. David Rotham tied the development of ethical committees in hospitals to negative reactions to human experimentation.
[55] Schmidt, Frewer and Sprumont, "Introduction: The Limits to Altruism," in *Ethical Research,* eds. Schmidt, Frewer and Sprumont; Amaboo Dhai, "Exploitation of the Vulnerable in Research: Responses to Lessons Learnt in History," *South African Medical Journal* 107/6 (2017).
[56] While the Nuremburg Code aimed to create strict parameters for informed consent, some American scientists, for example, did not consider the Nuremburg Code to be useful for their own purposes as they saw it only as a response to Nazi experimentation. The Helsinki Declaration, an initiative taken by the World Medical Association, left room for experimentation without consent.: David Jones, Christine Grady and Susan Lederer, "'Ethics and Clinical Research' – The 50th Anniversary of Beecher's Bombshell," *The New England Journal of Medicine* 374/24 (2016), 2394.
[57] Jean-Paul Gaudillière, "From Propaganda to Scientific Marketing: Schering, Cortisone, and the Construction of Drug Markets," *History and Technology* 29/2 (2013); Nelly Oudshoorn, *Beyond the Natural Body: An Archaeology of Sex Hormon*es (London: Routledge, 1994).
[58] Gaudillière, "From Propaganda to Scientific Marketing,"; Peter Keating and Alberto Cambrosio, "Biomedical Platforms," *Configurations* 8/3 (2000).

shown the effects of the increasing regulation of pharmaceutical companies on drug innovation.[59] In connection with drug development and regulation, the establishment of clinical trials has also been an important mechanism to study.

While the history of clinical trials in Sweden has been largely ignored, there is previous work from British, French, Canadian, and American contexts. The introduction of the randomized controlled trial (RCT) to clinical research in the 1940s and the ways this methodology was supposed to transform trials into objective experimentations has been a starting point for many studies.[60] This research has shown clinical trials as systems, not events, which are the cumulation of years of practices and reforms.[61] As opposed to being objective, clinical trials have been studied to reveal the ways standards are created and maintained.[62] The role of the trial participant has also been closely examined, with a shift occurring in the latter half of the 20th century from trial participants being seen as raw material to occupying active roles in the testing process.[63] Changes in standards and the active role of trial participants has led to wider inclusion practices in clinical testing, particularly of women and minorities.[64]

The development of contraceptive pills, IUDs, and emergency contraceptives all relied on clinical testing. Scholars have investigated how these specific human clinical trials for reproductive technologies were conducted, and importantly, the terms and conditions of participation.[65] Highlighting the structures and demands on the researchers in terms of trial participant treatment is one way of exploring the conditions for cooperation and coercion. In the field of reproductive technology, scholars have managed to show a wide range of circumstances for trial participants, illustrating that women's participation cannot be understood in one way.[66]

Finally, previous work on reproductive technologies and research has lifted up the different ways these interventions have reflected and changed

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[59] Viviane Quirke, "Thalidomide, Drug Safety Regulation, and the British Pharmaceutical Industry: The Case of Imperial Chemical Industries," in Jean-Paul Gaudillière and Volker Hess, eds. *Ways of Regulating Drugs in the 19th and 20th Centuries* (Basingstoke: Palgrave Macmillan, 2013).

[60] Vivian Quirke and Jean-Paul Gaudillière, "The Era of Biomedicine: Science, Medicine and Public Health in Britain and France after the Second World War," Medical History 52 (2008), 449.

Many studies depart from Harry Mark's work, see *The Progress of Experiment: Science and Therapeutic Reform in the United States, 1900-1990* (Cambridge: Cambridge University Press, 1997).

[61] Peter Keating and Alberto Cambrosio, "Cancer Clinical Trials: The Emergence and Development of a New Style of Practice," *Bulletin of the History of Medicine* 81/1 (2007), 199.

[62] Stefan Timmermans and Marc Berg*, The Gold Standard: The Challenge of Evidence-Based Medicine* (Temple University Press, 2003), 8–18.

[63] Keating and Cambrosio, "Cancer Clinical Trials," 215; Steven Epstein, "Bodily Differences and Collective Identities: The Politics of Gender and Race in Biomedical Research in the United States," *Body & Soc* 10 (2004), 188.

[64] Charles McCarthy, "Historical Background of Clinical Trials Involving Women and Minorities," *Acad. Med.* 69 (1994); Epstein, "Bodily Differences and Collective Identities," 188.

[65] Prescott, *The Morning After*, 22; Takeshita, *The Biopolitics of the IUD*, 57–59.

[66] Marks, *Sexual Chemistry*, 114–115.

reproductive concepts over a longer period of time.[67] Understandings of pregnancy and stages of fetal development have been shown to impact and be impacted by technological development. From the contraceptive pill to in vitro fertilization (IVF) treatments, reproductive boundaries have been contested.[68] In particular, creating a boundary between contraceptive and abortive technologies has been important to some actors in birth control development.[69] Scholars of reproductive technologies have demonstrated that these boundary negotiations challenge how "natural facts" of sexual reproduction, and subsequently how "facts of life" rooted in biology, are understood.[70]

In addition to the making of boundaries, gender has been analyzed in these contexts of reproductive innovation. Scholars have studied the ways gender was enacted in early hormone research and how these enactments shifted throughout the 20th century.[71] These enactments would come to play a decisive role in how birth control technologies were designed and for whom.[72] Earlier research on reproductive technologies and hormones has shown how technological development is both influenced by and challenges reproductive concepts and gender.[73]

The complexities of disciplining reproduction, including the crossover from several fields such as family planning, the history of clinical testing and the role of women in technological development, and the different ways reproductive technologies have been impacted by and impact understandings of biological processes and gender, are points of departure for this dissertation. Studying the development of medical abortion in Sweden contributes to earlier discussions on how facts of life are produced. This not only adds another

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[67] Bettina Bock von Wülfingen, Christina Brandt, Susanne Lettow and Florence Vienne, "Temporalities of Reproduction: Practices and Concepts from the Eighteenth to the Early Twenty-First Century," *History and Philosophy of the Life Science* 37 (2015), 1–16.

[68] In her work on the contraceptive pill, Elisabeth Watkins argued that whether pregnancy was seen as either pathological or normal impacted how risks were evaluated.: Watkins, *On the Pill*, 79. Heather Prescott showed that boundaries were drawn around the emergency contraceptive pill in comparison to contraceptive pills. To contraceptive pill researchers such as John Rock, emergency contraceptive pills were closer to an abortion than to a contraceptive device.: Prescott, *The Morning After*, 19.

[69] Sarah Franklin has also shown the ways IVF research in the UK resulted in the creation of a firm boundary in the stages of fetal development, which came to distinguish ethical and unethical research. Before fourteen days of gestation research was permissible, while after fourteen days it was not.: Sarah Franklin, "Conception Through a Looking Glass: The Paradox of IVF," *Reproductive Biomedicine Online* 27/6 (2013).

[70] Marilyn Strathern, *Reproducing the Future: Anthropology, Kinship and the New Reproductive Technologies* (Manchester: Manchester University Press, 1992); Franklin, "Reimagining the Facts of Life,".

[71] Nelly Oudshoorn, "The Decline of the One Size Fits All Paradigm: Or How Reproductive Scientists Try to Cope with Postmodernity," in Nina Lykke and Rosi Braidotti, eds. *Between Monsters, Goddesses, and Cyborgs: Feminist Confrontations with Science, Medicine and Cyberspace* (London: Zed Books, 1996), 156; Jean-Paul Gaudillière, "Genesis and Development of a Biomedical Object: Styles of Thought, Styles of Work and the History of the Sex Steroids," *Studies of History and Philosophy of Biological and Biomedical Sciences* 35 (2004).

[72] Oudshoorn, *The Male Pill,* 4–6; Nelly Oudshoorn, *Beyond the Natural Body*.

[73] Jean-Paul Gaudillière, "Genesis and Development of a Biomedical Object," 530.

type of reproductive technology to the historical field, it also analyzes how abortion pills changed meanings of reproduction in Sweden before they would be widely available to the rest of the world. This close examination helps to subvert possible macro explanations as to why this research occurred when it did, where it did. Claiming that "Sweden was progressive", or "these technologies were an empowering step for women", becomes unsatisfying in the face of the intricate research networks and their practices.

Theory and method

To answer my questions about a reproductive technology spanning several decades and different scales, I have used approaches used in feminist Science and Technology Studies (STS), particularly from those working with Actor Network Theory (ANT) sensibilities.[74] In following the practices of developing medical abortion I chose to focus mainly on clinical trial phases. Doing so provides insight into a technology in the making which reveals specific ways in which gender, reproduction, and technology were co-produced by actors in the research network. As will be soon elaborated on, this non-linear approach goes "beyond technological determinist views of technology and essentialist views of users' identities" as Nelly Oudshoorn and Trevor Pinch suggest, as well as beyond prescribed notions of nature and bodies.[75]

Feminist STS examines science through intersectional lenses concerned with inequality and difference.[76] This is a field which has shown technology to be, in the words of Oudshoorn, the "materialized results of negotiations, selection processes, contingencies, and technological choices, embodying socially and culturally constituted values and practices."[77] Scholars have illustrated the complex processes of developing technology and how these artifacts are "imbued with politics."[78] In highlighting the politics and representations that permeate technologies, these works offer an important starting point for examining abortion technologies. From this perspective, medical abortion becomes a lens through which to examine the making of values. In addition, contextualization helps to situate the research historically, contributing to larger discussions of clinical trial practices in Sweden and abroad.

[74] Takeshita, *The Global Biopolitics of the IUD*, xi; Latour, *Reassembling the Social,* 9–11.
[75] Nelly Oudshoorn and Trevor Pinch, "Introduction: How Users and Non-Users Matter," in *How Users Matter: The Co-Construction of Users and Technologies,* eds. Nelly Oudshoorn and Trevor Pinch (Cambridge, Mass: MIT, 2003), 3.
[76] Adele Clarke and Isabel Fletcher, "Imagining Alternative and Better Worlds: Isabel Fletcher Talks with Adele E. Clarke," *Engaging Science, Technology, and Society* 4 (2018).
[77] Oudshoorn, *The Male Pill*, 10.
[78] Ibid. 7.

Heterogeneous networks and practices

To study the development of medical abortion I use the conceptual tool of networks. In ANT, networks are used to study the interactions between actors, which importantly include objects.[79] In my study, this allows an examination of the interactions between people, technologies, laws, systems, governments, and organizations. Consequently, interactions are not seen as the exclusive domain of human actors and take into account the ways objects impact developments. I also use the concept of infrastructure to denote particular networks which support specific aspects of the research. Clinical trial infrastructure, for example, consists of actors which enabled the clinical trials.[80] Tracing networks of heterogeneous actors reveals the complexity behind scientific projects, and in this way my study considers scientific development to be the result of many interactions.

In these research networks, I study the practices of different actors. Focusing on practice is a useful method for approaching the controversial issue of abortion and consequently the development of medical abortion. Instead of ascribing certain interests to certain actors, a focus on the practices and relations between actors illustrate what interests are being made, and with what consequences.[81]

In following networks and practices, I examine the co-production of technology, and in this case, abortion. Co-production, as put forward by Sheila Jasanoff, gives "explanatory power by thinking of natural and social orders as being produced together."[82] In this framework, science is understood as a symmetrical process which relies on social and material dimensions of knowledge. Viewed from this perspective, science does not reflect the truth of nature nor is it simply a social and political phenomenon.[83] As a concept, co-production emphasizes an ongoing process of producing, which creates identities, institutions, discourses, and representations.[84] The lens of co-production shifts emphasis from any particular actor or technological outcome, instead treating innovation as a wide range of engagement, negotiation, and configuration on the part of all actors in the network. Beyond looking at how actors co-produced medical abortion, I am particularly interested in how, through this undertaking, they also co-produced practices, laws, and concepts of abortion.

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[79] Latour, *Reassembling the Social*, 70–74.
[80] Susan Leigh Star, "The Ethnography of Infrastructure," *American Behavioral Scientists* 43/3 (1997), 381.
[81] Francis Lee, "Purity and Interest: On Relation Work and Epistemic Value in the Biomedical Sciences," in *Value Practices in the Life Sciences and Medicine,* eds. Isabelle Dussauge, Claes-Fredrik Helgesson and Francis Lee (Oxford: Oxford University Press, 2015).
[82] Jasnaoff, "The Idiom of Co-Production," in *States of Knowledge,* ed. Jasnaoff, 2.
[83] Ibid. 3.
[84] Ibid. 6.

Abortion scripts

To follow this particular type of co-production, which includes networks of actors with varying practices, I use a modified concept from ANT, that of a *technological script*. In the field of STS, technology has consisted of artefacts, technical systems, and the knowledge and "the practices of handling these artefacts and systems."[85] In this study, technologies are heterogeneous networks of medical abortion, which happen to be induced by chemical compounds. The technologies under examination are not constant, stable, or one object. I have not delineated a separation between, say, F6103, the trial participant receiving an abortion, and the researcher administrating the compound. In this sense, abortion pills are networks of artifacts, knowledge, and practices that change in each instance of use.

To study these heterogeneous networks, I use a variation on the concept of technological script. Madeleine Akrich argued that innovators inscribe their ideas about users onto objects, which is dubbed as a script.[86] In her own use of the concept, Jessika van Kammen described scripts as the way "technologies prescribe a specific usage, invite certain practices and make other practices impossible, and distribute responsibility and power in various kinds of social relations."[87] Through scripts, technological development can be examined as a means for actors to make certain realities possible. In this way, scripts articulate uses, configure users, and define technologies.[88] Since Akrich's introduction of the term, other scholars have pushed the script concept further, inviting it to serve gender analyses. A gender script specifically refers to how gender is constructed into the materiality of artifacts.[89]

As abortion technologies are explicitly gendered, I have modified the script concept to focus on abortion. Throughout the dissertation I trace the *abortion scripts* constructed in the networks. I use abortion scripts to highlight how actors configure abortion providers, access, users, sites, and technology. While I am primarily interested in tracing how abortion scripts were made through technological development, I also use the term to denote dominant understandings of abortion which existed before the research projects began.

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[85] Wiebe Bijker, "How is a Technology Made? – That is the Question!" *Cambridge Journal of Economics* 34 (2010), 64.

[86] Madeleine Akrich, "The De-Scription of Technical Objects," in *Shaping Technology/Building Society: Studies in Sociotechnical Change,* eds. Wiebe Bijker and John Law (Cambridge Mass: MIT Press, 1992), 208.

[87] Jessika van Kammen, "Who Represents the User? Critical Encounters Between Women's Health Advocates and Scientists in Contraceptive R&D," in *How Users Matter,* eds. Oudshoorn and Pinch, 152.

[88] Mads Borup, Nik Brown, Kornelia Konrad, and Harro Van Lente, "The Sociology of Expectations in Science and Technology," *Technology Analysis & Strategic Management* 18/3/4 (2006), 285–298. This emphasis on the future has similarities with the sociology of expectations, although, in this case, the dissertation is not centered around the role of expectations in scientific development.

[89] Ellen van Oost, "Materialized Gender: How Shavers Configure the Users' Femininity and Masculinity," in *How Users Matter,* eds. Oudshoorn and Pinch, 195.

For example, before the development of medical abortion, an abortion script that I have called *state service* was enacted. This script reflected how the actors who provided legal abortion—doctors, state officials, social workers, the Abortion Law of 1938, and the hospital setting, all configured the categories of abortion providers, access, users, and sites as under the domain of the state.

Given that each instance of abortion results in different networks, for example, in the way the people may differ, the unique pregnancy lengths, and the many abortion tools available, there can be multiple abortion scripts. While such scripts are made in specific networks, existing abortion scripts can also impact these networks and practices. As a tool, abortion scripts offer a way to map what values were being made at various times and places.

Since many networks allow the making of multiple scripts, actors may choose—in their practices—to prioritize some scripts over others. During development, abortion scripts can be made, challenged, ignored, or supported by different parts of the network and by different networks. This illustrates how the design process is not one coherent effort which makes specific scripts but is instead a constant negotiation between all actors. The materiality of medical abortion, the way it was administrated, the reactions of trial participants, and the practices of government employees all contributed to the making of abortion scripts.

In this study, the abortion scripts emphasized by different actors often contain depictions of users or how the technology is used. These dimensions allow an examination of how biology/reproduction, gender, and technology were being produced and negotiated in the network. Tracing the making of many abortion scripts is a way of highlighting how technological development and the use of abortion pills impacted abortion. Over the course of the dissertation, I examine which abortion scripts survived, adapted, or changed in the different networks.

These abortion scripts are a way to examine the co-production of values. In line with STS scholars who have traced the creation of values, I do not treat abortion values as deterministic. Values are not predetermined nor static but are made in different practices.[90] Instead of seeing values as static and impacting the practices, the practices impact and make values. Abortion is often positioned as a polarized moral issue, but by closely examining the creation of different values related to abortion a much more diffuse web of values emerges, which allows a better understanding of how this technology developed.

[90] Isabelle Dussauge, Claes-Fredrik Helgesson, Francis Lee and Steve Woolgar, "On the Omnipresence, Diversity, and Elusiveness of Values in the Life Sciences and Medicine," in *Value Practices,* eds. Dussauge, Helgesson and Lee, 1–28.

Implicated actors

In using a network approach, there can be difficulties in following all actors equally. My interest in the trial participant, for example, stems from a tradition of feminist STS studies which has been focused on the less visible subjects in technoscience.[91] In particular, the ANT method of following the actors has been criticized as replicating the power structures and missing the multiplicities and invisible work that goes into science. Susan Leigh Star called this method, which focuses on the most visible and powerful actors, the executive approach.[92]

Scholars have argued that "the 'executive approach' implicitly assumes a specific type of power relations between users and designers in which designers are represented as powerful and users as disempowered relative to the experts."[93] In their work, these scholars have shown that such an approach removes agency from the user and fails to properly investigate the designer. By making space for the trial participant, I complicate this default view of both the designers and users. Neither are assumed to be powerful or vulnerable, instead I follow their practices to better understand the power relations between them.

Feminist scholars have used the term implicated actor in order to highlight the less visible actors in the network. Building off of Adele Clarke, Oudshoorn and Pinch have suggested that there are generally two types of implicated actors: "those not physically present but who are discursively constructed and targeted by others" and "those who are physically present but who are generally silenced/ignored/made invisible by those in power."[94] In reproductive research, implicated actors are not often able to provide their perspectives on the technology being tested or on the clinical trials.[95] Nevertheless, feminist scholarship has emphasized the implicated actor as a way to "overcome the invisibility of women" in the development stage of contraceptives.[96] This perspective also addresses a chasm between what researchers and implicated actors may view as acceptable. In the past half century, various contraceptive methods (such as diethylstilbestrol, the contraceptive pill, the Dalkon Shield IUD, and Depo Provera) have had controversial side effects, including

[91] See, for example, many of the contributions to the anthology *How Users Matter*, eds. Oudshoorn and Pinch.
[92] Susan Leigh Star, "Power, Technology and the Phenomenology of Conventions: On Being Allergic to Onions," *The Sociological Review* 38/1 (1990), 29.
[93] Oudshoorn and Pinch, "Introduction: How Users and Non-Users Matter," in Oudshoorn and Pinch, eds. *How Users Matter*, 7.
[94] Ibid. 6.
[95] Takeshita, *The Global Biopolitics of the IUD*, 16.
[96] Ibid.

fatalities.[97] How these devices were tested and approved for sale, and how implicated actors featured in their development has received academic interest.[98]

In the following chapters, the trial participant and the intended future user appear as implicated actors. Throughout, I interchangeably refer to trial participants as implicated actors. This is done in order to emphasize the dual role the trial participants have in the research network: they are important actors, contributing labour, configuring the technology, and co-producing ideas of abortion, while simultaneously acting as an abstract reference point for others in the network. Future users are not present in the research network in the same way but are still configured by other actors in the research networks.

Media perspective

Media constitutes an important node in the research network and this study treats media actors as co-producers of medical abortion and the values that were created in its development. Depending on the era, newspapers, television, and radio were important ways to disseminate information and journalists were actors in their own right. In choosing to air and give space to researchers, trial participants, government officials, and pharmaceutical companies, newspapers and television became a part of the networks. In the case of medical abortion, media also offered a way for trial participants to enact their own versions of the technology and became an important way for them to show their experience of, and impact on, medical abortion. The media's role in covering developments, and giving space for debate, was a way to further enact values.

There has been a recent turn in STS to consider the intersections of science and media. Scholars have argued that traditional strands of STS have failed to properly include media in their network analyses, obscuring an important facet of co-production.[99] Charles Briggs and Daniel Hallin advocate for a perspective which abandons the "two cultures" approach of journalism and biomedicine, instead seeing these as integrated.[100] That being said, various historians have incorporated media communication into their analyses of research networks.[101] Some scholars focus on the process of marketing drugs: the

[97] Marks, *Sexual Chemistry*, 138–157; Takeshita, *The Global Biopolitics of the IUD*, 57–58; Robert Hoover, et.al. "Adverse Health Outcomes in Women Exposed in Utero to Diethylstilbestrol," *The New England Journal of Medicine* 365/14 (2011).
[98] Olszynko-Gryn, "Technologies of Contraception and Abortion," in *Reproduction*, eds. Hopwood *et al*., 539; Prescott, *The Morning After*, 12; Laura Briggs, *Reproducing Empire: Race, Sex, Science, and U.S. Imperialism in Puerto Rico* (Berkeley: University of California Press, 2003), 132; Clarke, *Disciplining Reproduction*, 210.
[99] Charles Briggs and Daniel Hallin, *Making Health Public: How News Coverage is Remaking Media, Medicine, and Contemporary Life* (London: Routledge, 2016).
[100] Ibid. 13.
[101] Christer Nordlund, *Hormones of Life: Endocrinology, the Pharmaceutical Industry, and the Dream of a Remedy for Sterility* (Sagamore Beach: Science History Publications, 2011), 114.

advertisement strategies and materials, the press conferences, and the relationship between the pharmaceutical industry and physicians.[102] Others examine the coverage of medical developments as they are experimented with or integrated into medical systems.[103]

Although the media actors are themselves intricately enmeshed with economics, politics, and journalistic and editorial practices I do not analyze mass media in itself, rather I focus on media as a research practice. In this study, some of the chapters show frequent media communication by researchers and trial participants and I treat this as an important research practice. This practice is not dominated by one type of actor, and instead is used throughout the network by, for example, researchers, trial participants, and pharmaceutical company representatives. How researchers and trial participants navigated risks and explained the new abortion technologies help reveal the making of new abortion values. That they did so in different media formats makes media an important component of the network and of the research practices.

Contextualizations

Finally, this dissertation also relies on historical contexts to analyze the practices, and subsequently the abortion scripts, in the network. Using lenses from STS is not a new methodological take for historical work. While some scholars have noted a tension in using a methodology which is often used for contemporary, ethnographic work for historical studies, others have shown how integrating STS methods with historical contexts does not weaken the STS framework.[104] Contexts do not need to act as a macro external explanatory force and override an analysis of practices in the network. In this study, I rely on previous historical work which contextualizes abortion, clinical trials, and family planning, to name but a few subjects, and outlining historical contexts does not create a deterministic framework of analysis.

I consider context to be a vital part in understanding the development of medical abortion as it furthers understandings of the practices in the network. Following the actors and the practices shows how values were made in the network, and historical contexts help us to know whether these practices were innovative or part of earlier trends. In this way, contexts can also be understood as networks that, due to sheer human limitations, are difficult to study

[102] Nordlund, *Hormones of Life,* 101–119.
[103] Ayesha Nathoo, *Hearts Exposed: Transplants and the Media in 1960s Britain* (Palgrave Macmillan, 2009), 2; Lise Kvande, "Screening Through the Media: The Public Presentation of Science and Technology in the Ultrasound Diagnostic Controversies," in *Bodies of Technology: Women's Involvement with Reproductive Medicine*, eds. Ann Rudinow Saetnan, Nelly Oudshoorn, and Marta Stefania Maria Kirejczyk (Columbus, Ohio: Ohio State University Press, 2000), 310.
[104] Kristin Asdal, "Contexts in Action—And the Future of the Past in STS," *Science, Technology & Human Values* 37/4 (2012), 379; Kristin Asdal and Ingunn Moser, "Experiments in Context and Contexting," *Science, Technology & Human Values*, 37/4 (2012), 303.

on the same micro level as the act of developing medical abortion. To look at contexts is to point to earlier practices, earlier networks, and multiplicities that had, to a certain extent, normalized by the time of medical abortion development. In this way, the coupling of STS methodology with historical contexts allows an analysis of change over time. The making of certain types of abortion scripts can then be analyzed as either exceptional or a continuation of earlier scripts.

Periodization and place

While I have delineated a time frame around the object of study (1960s to the 1990s) it still warrants its own presentation as this time period and national context are of particular interest when it comes to the making of reproductive technologies. Scholars have shown a wide variety of activities and movements involving sex and reproduction during this time period.[105] Sweden also gained international recognition for first its sexual liberalism and then its gender equality.[106] This case study of abortion pill development allows an examination of the intersection of sex, abortion, and reproductive research in the Swedish context.

To this day, Sweden is often upheld as an example of steadily increasing gender equality, with images of Swedish fathers toting their children in Baby Björns used to depict what are considered progressive paternity leave policies.[107] Portrayals of sexual liberation, gender equality, and democracy have contributed to an image of Sweden as a rational, modern, and liberal country.[108] However, scholars in various fields have examined events and developments in the 20th century which have complicated today's depictions of the state's sexual progressiveness and gender equality goals.[109]

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[105] For example, see Gert Hekma and Alain Giami, "Introduction to Sexual Revolutions," in *Sexual Revolutions*, eds. Gert Hekma and Alain Giami (Basingstoke: Palgrave Macmillan, 2014); Elisabet Björklund and Mariah Larsson, "Introduction," in *Swedish Cinema and the Sexual Revolution*, eds. Elisabet Björklund and Mariah Larsson (Jefferson, North Carolina: Marland & Company, Inc., 2016); Sara DuBow, *Ourselves Unborn: A History of the Fetus in Modern America* (Oxford: Oxford University Press, 2011), 67–111. Generally, these decades include depictions of the "sexual revolution," women's liberation movements, sexual education in schools, the emergence of bioethics, and of the public fetus.

[106] Carl Marklund and Klaus Petersen, "Return to Sender—American Images of the Nordic Welfare States and Nordic Welfare State Branding," *European Journal of Scandinavian Studies* 42/2 (2013), 253.

[107] Jonas Harvard and Peter Stadius, "Conclusion," in *Communicating the North: Media Structures and Images in the Making of the Nordic Region,* eds. Jonas Harvard and Peter Stadius (Burlington: Ashgate, 2013), 325.

[108] Linda Lane and Birgitta Jordansson, "How Gender Equal Is Sweden? An Analysis of the Shift in Focus under Neoliberalism," *Social Change* 50/1 (2020), 32; Mia Liinason, "Sex in/and Sweden: Sexual Rights Discourses and Radical Sexual Politics in Sweden," *Cogent Social Sciences* 3/1 (2017), 2.

[109] Liinason, "Sex in/and Sweden," 2.

Different entanglements of the welfare state, scientific expertise, and reproduction management have been scrutinized historically. For much of this study's time frame, the Swedish model of the welfare state was a prominent political fixture.[110] As will be expanded on in the following chapter, the welfare state model included different forms of reproduction management, and the state was an important actor in the abortion pill research network. In this way, the dissertation builds off of research which has shown different degrees of the Swedish state's involvement in reproduction management during this time period.[111] As other scholars have shown, gender equality and sexual progressiveness have not been the only driving forces behind many of these mid-century efforts to govern reproduction.

For example, the role of the Swedish state in family planning abroad and in the sterilization programs within Sweden during the early and mid-20th century have been tied to a variety of motivations, including women's health, reproductive rights, and population concerns.[112] Eugenic sterilizations, which were mainly done between 1930 and 1950, have been depicted as "part of a broader control of women's sexuality."[113] In the case of abortion reforms, scholars have shown complex systems which included government offices, medical organizations, and individual professionals, sometimes with paternalistic views, behind political changes.[114] Policies which have governed reproduction in the past century have been shown to include elements which both support and challenge images of gender equality aspirations.

Scholars have also studied how various expert groups, from sexual educators, overpopulation scholars, and eugenicists, involved themselves in state reproduction management efforts.[115] In this regard, reproductive research has also garnered some academic attention, with, for example, attempts to cure infertility shown to be in juxtaposition with the mid-century sterilization

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[110] Carl Marklund, "A Swedish Norden or a Nordic Sweden? Image Politics in the West During the Cold War," in *Communicating the North,* eds. Harvard and Stadius, 266*;* Elisabet Björklund, *The Most Delicate Subject: A History of Sex Education Films in Sweden*, (PhD diss. Centre for Language and Literature, Division of Comparative Literature, Lund University 2012), 17.

[111] In her work, Eva Palmblad has examined the role of the welfare state in disciplining reproduction in Sweden in the 1930s and 1940s. See, Palmblad, *Den disciplinerade reproduktionen*.

[112] Urban Lundberg, Mattias Tydén and Annika Berg, *En svindlande uppgift: Sverige och biståndet 1945-1975* (Forthcoming publication from Ordfront Förlag, 2021); Mattias Tydén, "The Scandinavian States: Reformed Eugenics Applied," in *The Oxford Handbook of the History of Eugenics*, eds. Alison Bashford and Philippa Levine (Oxford: Oxford University Press, 2010), 366.

[113] Tydén, "The Scandinavian States," 370.

[114] Lena Lennerhed, "Troubled Women: Abortion and Psychiatry in Sweden in the 1940s and 1950s," in *Transcending Borders*, eds. Shannon Stettner, Katarina Ackerman, Kristin Burnett, and Travis Hay (Palgrave Macmillan, 2017); Jülich, "Picturing Abortion Opposition in Sweden," 285–290.

[115] Lundberg, Tydén and Berg, *En svindlande uppgift*; Palmblad, *Den disciplinerade reproduktionen*, 17, 20; Andrej Kotljarchuk, "State, Experts, and Roma: Historian Allan Etzler and Pseudo-Scientific Racism in Sweden," *Scandinavian Journal of History* 45/5 (2020), 615–639.

programs.[116] Fetal research and its impact, particularly in the arena of abortion rights, has also begun to attract academic attention.[117] Previous research has shown intricate networks involved in reproduction management, including a wide variety of experts and state institutes.

While simple depictions of linear progress have been challenged, there have also been developments which have improved human rights. Scholars have shown that around 1970, alongside economic and political concerns, human rights became a more clearly defined discourse in foreign policy.[118] Various reforms intending to increase gender equality in Sweden were also passed with, for example, new parental leave laws and the expansion of childcare programs.[119] Scholars have illustrated that women's rights, abortion rights, and reforms intended to increase gender equality have come about due to a variety of movements and actors. A shift in the latter half of the 20th century from a welfare state model of governance to one influenced by the emergence of neoliberalism has also garnered academic interest.[120] This is generally seen as being a transition from collective action governed by the state to individual autonomy and responsibility.[121] During the 1990s, which is at the tail end of this dissertation, a more neoliberal model of governance was established.[122]

This dissertation spans several decades, and the welfare state underwent changes along the way. Closely examining the development of medical abortion contributes to scholarship which has analyzed the welfare state's strategies for reproduction management, including international family planning efforts, reproductive research, and abortion regulation. As will be illustrated, developing medical abortion brought different initiatives together, showing an overlap of expertise and of state interests.

While "Sweden and Sex" has garnered academic attention, especially during the mid-20th century, birth control technologies have not been a major interest. Examining the development of a reproductive technology in Sweden during this time helps to further illustrate the extent of reproduction management initiatives and brings technology into the analyses. As this dissertation shows, technological development was an important aspect of reproduction management both for individuals and the Swedish state.

The connection between Sweden, sex, and progressive gender equality persists. Just as there are tensions in these depictions, there are tensions in the uses of reproductive technologies. Scholars have shown that there is no simple

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[116] Nordlund, *Hormones of Life*, 4.
[117] Solveig Jülich, ed. *Medicine at the Borders of Life: Fetal Research and the Emergence of Ethical Controversy in Sweden* (Book manuscript in preparation).
[118] Lundberg, Tydén and Berg, *En svindlande uppgift*, part three.
[119] Anita Nyberg, "Gender Equality Policy in Sweden: 1970-2010s," *Nordic Journal of Working Life Studies* 2/4 (2012), 71, 73.
[120] Lane and Jordansson, "How Gender Equal Is Sweden?".
[121] Ibid. 29.
[122] Jenny Andersson, "A Model of Welfare Capitalism? Perspectives on the Swedish Model, Then and Now," in *The Oxford Handbook of Swedish Politics*, ed. Jon Pierre (Oxford: Oxford University Press, 2016), 568–571.

line between the innovation of new birth control methods and progressive sexual ideals. Instead, birth control devices have been shown to be, as Chikako Takeshita termed them, versatile technologies.[123] Reproductive technologies can be used both to empower and disempower people. As will be shown, abortion pills were more than just one more facet of a sexually liberal and progressive nation state.

Choice of materials

This dissertation builds on a wide variety of historical material, ranging from official state clinical trial documents to television broadcasts. Due to the manner in which historical material is collected, much of the archival material centers on official documentation from the state and other institutions. However, I have also tried to unearth material which can shed light on the less visible actors, as well as interpreting official documents as a means of mapping the experiences of trial participants.

My archival entry point into this project began with official paperwork covering the clinical trials. To handle potentially sensitive information, I had official permission from the Swedish National Archives, RFSU, and the WHO to access archives which could contain confidential material.[124] As other scholars have shown, getting access to material from pharmaceutical companies and medical institutions can be difficult or, at times, impossible. The pharmaceutical industry generally guards its archives closely, asserting privacy interests.[125] Medical institutions both safeguard patient information and, in my case, destroy archival material after a certain time has passed.[126] However, the Swedish state has also archived material from clinical trials which offer a gateway into the world of clinical testing.

The Swedish National Archives hosts material from several series of clinical trials, including applications to SPL and paperwork from the Medical Products Agency. This permitted an entryway into the clinical trial network, introducing key figures, chemical compounds, and diary numbers. Fortunately, the pharmaceutical company Ferrosan AB, which was folded into a

[123] Takeshita, *The Global Biopolitics of the IUD*, 3. As Takeshita writes, "Such a technology is adaptable to both feminist and nonfeminist reproductive politics, the result of the manifold efforts that its researchers undertook in order to maintain the suitability of the device as a contraceptive method for women in both the global South and North."

[124] The larger research project that my PhD dissertation fell under, Medicine at the Borders of Life, was approved by a Central Ethics Review Board. Dnr O 28-2015.

[125] John Abraham, "Building on Sociological Understandings of the Pharmaceutical Industry or Reinventing the Wheel? Response to Joan Busfield's 'Pill, Power, People,'" *Sociology (Oxford)* 41/4 (2007), 727.

[126] In Sweden, medical records are protected under confidentiality laws for seventy years, see Regionarkivet Stockholm, sekretess på patientjournaler, https://www.regionarkivet.sll.se/for-regionens-medarbetare/vagledning-arkiv--och-informationshantering/offentlighet-och-sekretess/sekretess-pa-patientjournaler.html (accessed 10 January 2021).

larger company, Leo, in the 1980s, has archival material at Skåne's Business Archive (Skånes näringslivsarkiv). However, archival material from the pharmaceutical companies Astra and Upjohn, which were involved in prostaglandin research, was not made available to me.

Archives at Karolinska Institute contained some paperwork concerning prostaglandin trials, as did the WHO archives. However, Karolinska Institute has been unable to locate the archives from the hormone laboratory at Karolinska Hospital or from the WHO centre which was hosted there. Fortunately, the WHO had some material on the WHO Research and Training Centre at Karolinska Institute. This material consists of official agreements between the WHO and various Swedish medical institutions, correspondences, meeting protocols, and clinical trial reports. There was also conference material from the WHO and published academic texts in journals about both the trial series. While there was some preliminary material from the Karolinska Institute's archives, more detailed paperwork on prostaglandin trials was not available as the archival time for storing the material had passed. Through various organizational changes over the years, the Karolinska Institute has also made it difficult to trace patient material related to clinical trials run at its women's clinic.

I have chosen to follow a technology in its development phase and the circumstances of these phases limit access to women's perspectives. Although women are present as participants in the trials, as well as nurses, secretaries, and laboratory assistants, the paper trail they left is thin. The Swedish agencies which host information pertinent to acquiring patient records for this study, Region Stockholm and Karolinska Hospital's Journal Service, are unable to cooperate or share information with each other due to secrecy legislation, making it difficult to trace specific patient records. Subsequently, studying the dynamics between researchers and clinical trial participants is difficult. There is limited archival material documenting their personal interactions, and very little, if any, from the perspective of the trial participant. However, I was able to obtain a handful of patient records from the 1960s that helped to further map out the intricacies of the research network. Thankfully, the material produced by researchers includes enough detail to follow the trial participant and record the conditions of their involvement. While the archivists redacted sensitive information from the patient charts, I have also coded them numerically (ranging from patient chart 1 to 12) in the footnotes.

In addition to archives primarily concerning clinical trials, there was further material on the actors in other sites. RFSU's archives at the Swedish Labour Movement's Archives and Library gave further insight into the role of the main researchers and to the state of contraceptive counselling in Sweden. To study networks between Swedish reproductive research, the Swedish government, and the Swedish family planning actors I also used archival material from the Ford Foundation at the Rockefeller Archives Center, the Swedish Parliamentary Library, the National Library of Sweden, and the Swedish National Archives. This material consists of official reports, correspondences, budgets, conference papers, published books, newspaper articles, laws, and

legal summaries. I also used digitized press and audiovisual material from the National Library of Sweden throughout the study. This was particularly helpful in tracing public enactments of the research and for finding accounts from trial participants.

As a complement to the mainly written archival material I also conducted a semi-structured interview with one of the central actors in the prostaglandin network: Marc Bygdeman from the Karolinska Institute and the WHO centre.[127] This interview was qualitative in nature and was one hour long. It was conducted in order to get an initial foothold in the proceedings, to investigate insider accounts firsthand, and to collect primary source material. While Karolinska Institute disposed of much of the paperwork from the prostaglandin trials, Marc Bygdeman had a small collection of material which he generously lent me.

While no personal information from medical records is made public, I have also chosen, with one exception, to anonymize the trial participants who published their experiences in the press. These were private citizens who, while willing to tell their stories in the 1970s, 1980s, and 1990s, did not profit financially or professionally from this research and were not state employees. The exception to this is in the case of a journalist who was also a trial participant. This woman took initiative to write and publish her experience in the newspaper which employed her and her name is consequently revealed in the footnotes. As this woman took repeated measures to speak about abortion pill research over two decades, and did so partially as a journalist, her name is included in the text.

The material allowed me to trace an extensive research network and showed a wide diversity of practices which contributed to this scientific undertaking. However, there were limitations with the material. There was a discrepancy in the details between the different research projects and decades, resulting in uneven insight into the processes. The available material also rests heavily on archives hosting work and perspective from the most visible actors in the network, a common difficulty for this type of historical work. These accounts can also be celebratory or revealing polished end results, creating specific narratives of events. While there was some material which gave insight into the less visible actors in the network, this was still limited. I dealt with these limitations by framing my project around what could be compared between research sites, which included the infrastructures, regulations, and levels of cooperation between actors. And while there was very little material produced by trial participants, I pieced together their experiences through the official documentation available, as well as with media material. Although outside of the scope of this dissertation, further studies which focus on oral histories from trial participants would be welcomed.

[127] For a discussion of oral history uses and difficulties in the history of science, see Paul Merchant, "What Oral Historians and Historians of Science Can Learn from Each Other," *The British Journal for the History of Science* 52/4 (2019).

A note on categories

The term "women" is grossly simplified and cannot capture the varied experience of the individuals who came in contact with this technology or know how they identified. As a category it is intended to reflect the historical gender constructs and politics of the time. But here I want to acknowledge that while this research process impacted women, that does not render abortion pills into a technology only for women. It is a technology that impacts anyone that can become pregnant, and those who cannot.

In addition, the terms "developing" and "developed" countries are used throughout the dissertation. This is again due to their uses in the historical material, and I do not condone the manner in which these terms obscure colonial violence.[128]

Translations

Much of the material for this study is in Swedish and has not been used in other historical studies or previously translated. The Swedish to English translations are consequently my own, although reviewed (and improved) by a native Swedish speaker. I have tried to maintain the meanings of the speakers rather than the style in which they spoke.

Outline

The dissertation is organized in a rough chronology from the 1960s until the 1990s, following first research done on F6103 and then on prostaglandins.

Chapter 2 explores the conditions which made abortion pill research possible in Sweden during the 1960s. It presents contexts which are important for understanding the emergence of the research, including an overview of abortion technologies of the time, an examination of relevant professional networks, and an analysis of existing abortion scripts. The abortion scripts of *state service*, *last resort* and *under certain circumstances* are presented.

Chapter 3 centers around the first clinical trials of an abortion pill in Sweden. This chapter maps out the F6103 research network and examines the varied actors. Special attention is given to how pregnant women came to be incorporated into the clinical trials and to the impact of previous abortion scripts on the research network.

Chapter 4 follows the main F6103 researcher as he attempted to modify the clinical trial in a second wave of testing. It focuses on how the research was presented and understood by people outside of medicine, showing how the

[128] For a discussion of these terms, see Jason Hickel, *The Divide: A Brief Guide to Global Inequality and its Solutions*, (London: Windmill Books, 2018), 10.

network extended to include lawyers, government officials, and the Swedish parliament. The chapter highlights negotiations to include even more actors into the network, and how this contributed to the making of new abortion scripts. The abortion scripts of *family planning applicability* and *menstruation restoration* are outlined. The chapter concludes with the end of the clinical trials of F6103 as an abortifacient.

Chapter 5 shifts from F6103 to prostaglandins as the promising new abortion pill method. This stretches the timeline from the late 1960s into the early 1980s and focuses on the effects of different network configurations in these decades. New networks resulted in similar and different abortion scripts, with certain actors, such as the trial participants, occupying more public roles. In these networks, the abortion scripts of *difficulty* and *pain* are introduced.

Chapter 6 examines the impact of WHO infrastructure on the prostaglandin clinical trials. Prostaglandins are shown to be an internationally interesting compound, situating the Swedish researchers in a much larger network than the researchers working with F6103. The manner in which this larger network configured users, providers, sites and technology are shown to reinforce the abortion script of *family planning applicability*.

Chapter 7 follows the prostaglandin work beyond the closure of the WHO Prostaglandin Task Force and into 1990s. The decades of abortion pill research in Sweden, including the international infrastructure of the WHO, is shown to lead to collaborations with Étienne-Émile Baulieu, a researcher most renowned for his work with the abortive compound RU486. The introduction of RU486 to Sweden is also examined, contributing an analysis of the abortion scripts made in the 1990s. Some of the abortion scripts from earlier networks continue to be made in the 1990s, while others are abandoned.

Following two different compounds allows an examination of how abortion scripts changed or stayed the same over time, how they were adapted by different actors, and offers insight into how larger state and international infrastructure impacted clinical trials practices. However, in order to clearly differentiate between national and international scales, the chronology overlaps in chapters five and six. During the same time frame, chapter five focuses on clinical trial infrastructure in Sweden, while chapter six examines how the WHO impacted these research practices. In this way, the dissertation is interested in how both time and scale impacted the making of abortion scripts.

2. Before Medical Abortion

Abortion pill research began in the 1960s, several years before many countries, including Sweden, passed liberal abortion laws.[129] Abortion, while undergoing various transformations in the 1960s, was still a contentious issue in Sweden. This chapter explores the conditions which laid the groundwork for abortion pill research. Why and how was abortion pill research possible in 1965? What supported the research and how was abortion understood?

Building off of previous research, as well as using empirical material, this chapter investigates three main historical frameworks which contextualize the emergence of abortion pill research. I argue that abortion and reproductive practices, the research culture of endocrinology, and overpopulation concerns all came together in the 1960s to help position leading figures in their research interest of medical abortion.

In examining previous research on abortion in Sweden, I also identify and categorize abortion scripts that were dominant when abortion pill research began. This includes analyzing the existing abortion techniques.[130] While there is work on abortion techniques in America and scholars have included technologies in their evaluations, there is no comprehensive overview of Swedish developments in the 20th century.[131] To examine abortion techniques, I use official state investigations into abortion, medical textbooks, and academic publications. In this dissertation, technologies play a central role and having an overview of existing methods shows how technology co-produced abortion scripts.

This chapter begins by examining major events in the management of reproduction in Sweden during the 20th century. Following this, I outline significant changes in abortion technologies, which positions abortion pill research among other emergent techniques. Together these sections show which abortion scripts existed before the development of medical abortion. This is of interest as the abortion scripts made in the research networks were not isolated

[129] Lennerhed, *Historier om ett brott*, 185. In Sweden, this law does not allow abortion on demand throughout one's pregnancy, only up until the 18th week.

[130] I use the term technique to denote abortion practices which centre around technologies. This includes, for example, when and where abortions were done, and variations in practices that may have existed even when doctors used the same technologies.

[131] Tunc, *Technologies of Choice;* Gordon, *The Moral Property of Women;* Lennerhed, *Historier om ett brott*, 81–112. Lena Lennerhed has written on abortion techniques in Sweden, but they have not been the main focus of her work.

from earlier scripts. Then, earlier research practices that extended into the abortion pill research are assessed, especially those related to endocrinology. Finally, the global concern of overpopulation is examined, positioning Sweden's foreign aid efforts within this larger fear of overpopulation. Swedish foreign aid strategies for tackling overpopulation are shown to include a fixation on technological solutions. These sections explain how and why abortion research was possible in 1965 and show the existing dominant abortion scripts.

Managing reproduction

Reproduction was a state interest in Sweden throughout the 20th century and abortion pill research needs to be understood within this framework. Reproduction was an important component of population concerns, sexual education, and international politics. There were also non-state actors taking stances on reproductive issues and impacting official policy and laws. Abortion was a significant aspect of reproduction and, as other scholars have shown and as will soon be elaborated on, conditions and attitudes towards abortion changed throughout the decades.[132] Examining how Sweden grappled with reproduction in the decades prior to abortion pill research shows the dominant abortion scripts and under which conditions research emerged in the mid-1960s.

In 1932, the Social Democratic party was elected and in the following decades they initiated a series of reforms. These included, among others, housing, social security, health insurance, and pension reforms and is frequently depicted as a period of modernization.[133] This is commonly considered the beginning of the Swedish welfare state and during this time there were also changes in the way reproduction was regulated and understood.

Various scholars have examined the ways reproduction was handled by the Swedish state during this time period.[134] In these assessments, Gunnar and Alva Myrdal have been positioned as important actors. The Myrdals, among other matters, worked with population issues. In 1934, they wrote *Crisis in the Population Question,* a book which would have a lasting effect on Swedish welfare state philosophy.[135] At this point in time reproduction was considered

[132] Lennerhed, *Kvinnotrubbel*; Palmblad, *Den disciplinerade reproduktionen.*
[133] Björklund, *The Most Delicate Subject*, 13.
[134] Palmblad, *Den disciplinerade reproduktionen*, 30; Berg, "A Suitable Country,"; Darshi Thoradeniya, "Altruism, Welfare, or Development Aid? Swedish Aid for Family Planning in Ceylon, 1958–1983," *East Asian Science, Technology and Society* 10/4 (2016); Gunnar Broberg and Nils Roll-Hansen, ed. *Eugenics and the Welfare State: Sterilization Policy in Denmark, Sweden, Norway, and Finland* (East Lansing: Michigan State University Press, 2005).
[135] Hedvig Ekerwald, "The Modernist Manifesto of Alva and Gunnar Myrdal: Modernization of Sweden in the Thirties and the Question of Sterilization," *International Journal of Politics, Culture, and Society* 14/3 (2001).

on a statistical, population level.[136] In part, *Crisis in the Population Question* focused on what the Myrdals saw as a depopulation issue in Sweden and provoked official state investigations into the matter.[137]

These official state investigations, also known as governmental commissions (SOUs), could examine a range of issues the government wanted to engage with, and during the first half of the 20th century around fifty commissions were set up every year.[138] Governmental commissions were multi-purposeful. They sought to investigate social conditions in order to prepare policy, but also to promote knowledge and pursue conflict resolutions.[139]

The Population Commission, tasked with investigating the declining birth rates in Sweden, gathered information from 1935 until 1938.[140] Axel Westman, a leading figure in obstetrics and gynecology in Sweden, was one of the external experts on the Population Commission.[141] Already from the 1930s, obstetrics and gynecology was considered a relevant expertise in addressing population issues. Sweden took a declining population seriously and reproduction was considered a key issue for the welfare state.

This focus on population in the 1930s, which was mainly preoccupied with quantitative and statistical significance, deviated from the earlier efforts at controlling the quality of the population.[142] While still considered social engineering, these efforts were seen as a part of "reform eugenics" and Gunnar Myrdal's influence has been viewed as advocating for "the removal of biology" from the eugenics debate.[143] The Myrdals were suspicious of earlier eugenics and instead advocated for social and economic reforms. However, they still supported sterilizations as a form of population management, especially for those considered to be intellectually disabled.[144] The first law on sterilization came into effect 1935 and allowed sterilization on people without their consent, a component which would last until 1975.[145]

Simultaneously, there were those working with reproduction on an individual, instead of population, level. From 1911 until 1938, the Contraceptive Act

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[136] Gunnar Broberg and Mattias Tydén, "Eugenics in Sweden: Efficient Care," in *Eugenics and the Welfare State*, eds. Broberg and Roll-Hansen, 97.
[137] Ibid.
[138] Olof Petersson, "Rational Politics: Commissions of Inquiry and the Referral System in Sweden," in *The Oxford Handbook of Swedish Politics,* ed. Pierre, 653.
[139] Per Wisselgren, "Reforming the Science-Policy Boundary. The Myrdals and the Swedish Tradition of Governmental Commissions," in *Academics as Public Intellectuals,* eds. Sven Eliaeson and Ragnvald Kalleberg (Newcastle: Cambridge Scholars Publishing, 2008), 174.
[140] Maria Wisselgren, *Att föda barn—från privat till offentlig angelägenhet. Förlossningsvårdens institutionalisering i Sundsvall 1900–1930* (PhD diss. Umeå universitet, 2005), 25–26.
[141] Nordlund, *Hormones of Life*, 54.
[142] The Swedish Society for Racial Hygiene formed in 1909: Maria Björkman and Sven Widmalm, "Selling Eugenics: The Case of Sweden," *Notes and Records of the Royal Society of London* 64/4 (2010), 381.
[143] Broberg and Tydén, "Eugenics in Sweden," 97.
[144] Ibid. 104.
[145] Ibid. 104, 135.

forbade use of contraceptives in Sweden.[146] This was due to depopulation concerns but was also due to ideas of what constituted proper sexual conduct. However, there were also people actively fighting these birth control restrictions. Elise Ottesen-Jensen was the founder of the Swedish Association for Sexuality Education (RFSU), a sexual reform movement.[147] RFSU, founded in 1933, opened clinics, taught sexual education, and advocated for contraceptives, making a case that they should be legally available.[148] In 1938, it again became legal to sell and use birth control. In her historical work on RFSU, Lena Lennerhed has shown that while RFSU's practices were not new to the 1930s, the formal organization of them was.[149] Due to the increased interest in population issues and family planning, RFSU was able to establish itself as a legitimate organization.

RFSU was also the result of young radical doctors collaborating with Ottesen-Jensen.[150] In the early days, the organization was a combined effort between Ottesen-Jensen, these doctors, and various parts of the labour movement. They fought for the right to birth control, sexual education and, in the early years, for abortion.[151] Ottesen-Jensen framed issues around class—access to abortion, for example, was seen as being much easier for upper class women.[152] The laws and restrictions on contraceptives and abortion were viewed as a way of controlling the working class. Accordingly, the labour movement in Sweden was an important framework for early sex reform.

Like population, beginning in 1935 abortion was the subject of official state investigations.[153] Leading up until and through the period of abortion pill research, several SOUs occurred.[154] These SOU reports show abortion to be an ongoing state concern through the middle of the 1900s. Changes in the law and practices were tracked and studied and this data in turn was used in new state investigations.

Shortly after commissioning the first abortion SOU, Sweden legalized abortion with the 1938 Abortion Act, an act that stipulated abortion could be granted on medical, humanitarian, and eugenic grounds.[155] As earlier research

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[146] Lena Lennerhed, "Sex Reform in the 1930s and 1940s: RFSU, the Swedish Association for Sex Education," in *Sex, State, and Society: Comparative Perspectives on the History of Sexuality,* ed. Lars-Göran Tedebrand (Södertälje: Almqvist & Wiksell International, 2000), 392–394.
[147] Ibid. 391.
[148] Ibid. 392.
[149] Lena Lennerhed, *Sex i folkhemmet: RFSUs tidiga historia* (Hedemora: Gidlunds förlag, 2002), 9.
[150] Ibid. 31.
[151] Ibid. 32.
[152] Ibid. 48.
[153] Wisselgren, "Regulating the Science-Policy Boundary," 174.
[154] This included: SOU 1935:15 *Report on Proposed Legislation on the Termination of Pregnancy*, SOU 1937:6 *A Statement on the Abortion Question*, SOU 1944: 51 *A Report on the Abortion Question*, SOU. 1953:29 *The Abortion Question*, SOU 1971:58 *The Right to Abortion*, and SOU 1983:31 *Abortion and Family Planning*.
[155] Lennerhed, *Historier om ett brott*, 38.

has shown, the 1938 Abortion Act was a result of initiatives from the new Swedish welfare state, which looked to use ideas of equality to justify social reforms.[156] The terms of the 1938 Abortion Act permitted abortion if the woman's life was in danger, if there was risk of hereditary disease, or if the pregnancy was the result of rape or incest.[157] An abortion provided on heredity grounds was to be done only in combination with sterilization.[158] This resulted in a substantial amount of abortions being conducted in tandem with sterilization during the 1940s and the 1950s.[159] In 1946, the Abortion Act was amended to include socio-medical grounds. This meant that if the birth of a child was assumed to negatively impact a woman, on either a physical or mental level, an abortion could be granted.[160] The laws governing abortion shifted and widened the justifications for the procedure, a trend which would continue into the 1970s.

Support for legal abortions did not necessarily mean support for abortions without reservation.[161] During the 1950s, RFSU modified their approach and no longer formulated abortion as a right—instead the organization worked with the legal abortion which was offered and tried to prevent unwanted pregnancies.[162] Abortion was generally considered a poor solution for unwanted pregnancies.[163] Even those who had fought for abortion now considered it an action taken by women who, if circumstances otherwise permitted, would choose to be mothers. During the process of its liberalization in the 20th century, abortion was still seen to be less than an ideal solution.

Previous research has mapped out networks around legal abortion use in Sweden. In examining this research, many components of abortion care in the years leading up to abortion pill research are visible, such as the providers, users, access, and sites of abortion. These components can be analyzed as creating dominant abortion scripts which dictated what legal abortion should look like. In examining previous research, I have identified three main abortion scripts that governed the manner in which abortion was administrated, those of *state service*, *last resort*, and of *specific conditions*. The abortion script of *state service* included parts of the network which configured legal abortion as a procedure under the domain of the state, such as bureaucracy around the procedure, state institutions and employees, and, as will be shown shortly, hospital equipment. The abortion script of *last resort* included parts of the network which slowed down the administration of legal abortion or made it more difficult to obtain, such as the queue system and evaluation process. The abortion script of *specific conditions* was made up of all the parts of the

[156] Lennerhed, "Troubled Women," 89.
[157] Ibid. 91.; *Abort i Sverige* SOU 2005:90, 39.
[158] Broberg and Tydén, "Eugenics in Sweden," 122.
[159] Ibid.
[160] SOU 2005:90, 44; Lennerhed, *Kvinnotrubbel*, 27.
[161] Lennerhed, *Kvinnotrubbel*, 93.
[162] Lena Lennerhed, "En besvärlig människa: Om Elisabet Sjövall, sexualiteten och kvinnligheten," *Tidskrift för genusvetenskap* 4 (2013), 129.
[163] Lennerhed, *Kvinnotrubbel,* 95.

network which decided who should receive legal abortions, such as doctors, social workers, the personal history of patients, laws, and law makers. Different elements of the legal abortion networks, such as the way abortion was administrated by doctors, in hospitals, but only after a lengthy evaluation, and only on people who were considered needy, co-produced these scripts. However, as will be illustrated, there were also people actively trying to change them.

The 1960s politics of reproduction

The state's relationship to reproduction continued to adapt during the 1960s. There was the introduction of new birth control methods, such as the contraceptive pill and the IUD, and increasing attention given to abortion. The contraceptive pill was introduced to the Swedish market in 1964 and was initially met with optimism. The press speculated that such a technology could impact rates of unwanted pregnancies and the side effects seemed minor.[164] This type of contraceptive created new relationships between doctors and patients, as women who had little contact with their physician were now required to meet regularly to obtain a prescription.[165] Contraceptive counselling centres, such as RFSU, were overwhelmed with requests for the pill and had difficulty meeting the demand.[166] However, much like in other parts of the world, scepticism and criticism of the contraceptive pill soon followed. The risks and side effects were considered alarming, and contraceptive counselling centres were soon seeing an increase in women asking for IUDs.[167]

In addition to worries of side effects from contraceptives, there was also a backlash to thalidomide. The Abortion Act was amended once again in 1963, on the heels of the thalidomide disaster, to include fetal damage as grounds for abortion.[168] Thalidomide, known in Sweden as neurosedyn, was a drug given to pregnant women in the 1950s and 1960s to prevent nausea and sleep disorders.[169] The side effects from the drug caused significant birth defects and in Sweden there were around 150 babies affected.[170] This provoked an amendment to the Abortion Act and once again expanded the ways abortion was used.

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[164] Jedeberg, "Frigjord, och sen då?", 1, 14.
[165] Ibid.; Waktins, *On the Pill*, 34–52.
[166] "Arbetsutskottet 31.10.1966 och 7.11.1966," 1958–1968, 1197/A/2/4, RFSU, ARAB.
[167] "Letter from Lars Engström to RFSU employees," Klinikrådets och klinikernas protokoll, 1965–1971, volym A:41, RFSU, ARAB.
[168] SOU 2005:90, 44.
[169] Ibid.; Maria Björkman, "Thalidomide in the Welfare State: Rehabilitation and Contested Normality," in *Medicine at the Borders of Life*, ed. Jülich (book manuscript under preparation); Miki Agerberg, "Barbro Westerholm: Allt började med Neurosedynkatastrofen," *Läkartidningen* 48/108 (2011).
[170] Kerstin Åsberg, "Neurosedynkatastrofen blev ett startskott," *Läkartidningen* 48/108 (2011).

The 1960s also saw political movement for the right to abortion. In 1963 and 1964, the Social Democratic Student Union, the People's Party Youth Union, and the Liberal Student Union all took stands for free abortion.[171] Abortion was framed as a freedom and social issue by these groups, and a way to improve women's opportunities.[172] In contrast to their views in the previous years, in 1968 RFSU also took a position in support of free abortion.[173] While the abortion issue of the 1960s was an important one for women, it was not women who were principally pushing the issue.[174] Besides for the Swedish Women's Left Association (SKV), abortion was not a feminist rallying point.[175] Lennerhed argues that part of the explanation for this ambivalence from women's groups was the persistent association of womanhood with motherhood. Political actors, such as the Social Democrat Nancy Eriksson, advocated for better living conditions, parental support, and daycares, and still saw abortion as a dismal response to unwanted pregnancy.[176]

While the abortion debate was dictated by men in the 1960s, Emma Isaksson has shown a reversal in the decade following. Isaksson studied the new feminist movements of the 1970s, showing that several feminist groups focused on class struggles and gender roles in the early parts of the decade.[177] In this period, Group 8 grew to be the largest feminist organization.[178] Amongst other issues, they focused on more tolerant views on sexuality, bodily integrity, and abortion rights.[179] As a group, they made demands for free abortion.[180] As Isaksson shows, in comparison to the USA and other European countries, opposition to free abortion was not as severe in Sweden during these years.[181] In 1974, Sweden passed the 1974 Abortion Act, an act that outlined free abortion up to the 18th week of pregnancy. This came into effect January first, 1975.[182]

In sum, reproduction was a state concern in the decades leading up to abortion pill research. The concerns ranged from population issues to re-establishing legal access to contraceptives and allowing sex education in schools. The state's surveillance and management of abortion also changed from the 1930s to the 1970s. As indicated by the number of SOUs concerned with population and abortion, the Swedish government was interested in tracking

[171] Lennerhed, *Historier om ett brott*, 174.
[172] Ibid.
[173] Lennerhed, "En besvärlig människa," 129.
[174] Ibid. 178.
[175] Ibid. 180.
[176] Ibid.
[177] Isaksson, *Kvinnokamp*.
[178] Ibid. 50.
[179] Ibid. 78.
[180] Ibid. 79.
[181] Ibid. 82.
[182] Lennerhed, *Historier om ett brott,* 185.

reproduction. They studied the trends in contraceptive uses and the sexual behavior of their citizens.[183]

There were also non-state actors invested in reproduction and trying to change the dominant abortion scripts. Actors fought for individuals to have more power in the legal abortion arena, mainly challenging the abortion script of *specific conditions*. While the abortion script of *specific conditions* configured the use of abortion to suit women who met medical, humanitarian, eugenic, socio-medical, or fetal damage reasons, actors in the 1960s and 1970s fought for the freedom to choose regardless of the specific conditions. RFSU was also an important movement and institution, and it would continue to act as a space for doctors to push the boundaries of contraception throughout the 1960s and the 1970s. While abortion was a political issue in the 1960s, feminist groups did not become main actors in the abortion debate until the 1970s. Reproduction was dealt with in different arenas and by many types of actors, with a gradual liberalization of abortion laws occurring as the decades passed.

Many different actors, state and non-state, worked with reproduction in Sweden both in the years before abortion pill research occurred and throughout. This created specific possibilities for abortion pill researchers. Abortion pill research would become another way that the state could manage abortion by offering a new technical procedure which could bring better and safer results. The abortion pill researchers would go on to find spaces for work and collaboration through RFSU, and they could conduct research on abortion because of an accommodating legal infrastructure. While Sweden did not pass its main piece of current abortion legislation until 1975, abortion was still legal in some circumstances which created research possibilities. Scholars have also shown the complexity of the abortion issue during the 1930s, 1940s, and 1950s, highlighting different motivations, groups, and rhetoric around abortion. Even for those fighting for further abortion access, abortion was generally seen as less than optimal. The abortion script of *last resort* was articulated in many networks. This helps to further contextualize the ways abortion pill researchers would position their own contributions to the ongoing abortion debate in the coming decades.

Abortion techniques of the time

Abortion was more than a cause and component of reproductive management and sexual reform—it was also a technical procedure. During the 20th century the technical practice of abortion underwent adaptations. Examining what abortion technologies were available during the decades leading up to abortion pill research shows both what Swedish medical practitioners were used to and how medical abortion fit with these previous practices. As will be shown throughout the dissertation, the materiality of abortion technologies co-

[183] *Rätten till abort, 1965 års abortkommitté*, SOU 1971:58, 34, 35.

produced abortion scripts. In the years leading up to abortion pill research, the abortion technologies that were used configured the providers and the sites of abortion in specific ways.

Broadly investigating the state of legal abortion techniques in the 20th century comes with some difficulties. One of which is that not many countries had legal frameworks that allowed abortion, leaving little for official global comparison. The Soviet Union was the first country to legalize abortion on request in 1920, although they would recriminalize the act sixteen years later.[184] By the 1930s, Sweden was among a handful of countries legalizing some kinds of abortion, including Iceland and Denmark.[185] But still, by the mid-1950s, abortion was largely restricted worldwide.[186]

Despite the legal obstacles, medical doctors, and others, developed abortion techniques in countries around the world, many times in face of the official legislation. For example, in her studies on abortion in America, Leslie Reagan showed that before *Roe v Wade,* medical practitioners also took part in illegal abortion practices.[187] Abortion has been regulated in different ways across the globe, but abortion techniques have still developed, sometimes in spite of restrictions.[188] In studying Sweden there is the advantage of early abortion legislation and the governmental practice of investigative commissions, so data regarding legal abortions during the 20th century does exist.

Up until the 1960s, abortion techniques in Sweden could be categorized as mostly surgical, with dilation and curettage (D&C) being a popular option for what could be broadly classified as early abortions.[189] Generally, D&C can be understood as dilating the cervix and then using a tool, or fingers, to scrape growth from within the uterus.[190] D&C had several variations, and other abortion methods, such as using both abdominal and vaginal hysterotomy (sometimes referred to as vaginal caesarean section and abdominal caesarean), and *partus arte praematurus,* a method of delivery used as an abortion technique, existed as well and were used for later abortions.[191] D&C, vaginal caesarean section, abdominal caesarean, and abdominal caesarean with sterilization were the most common operation methods from 1939 until 1948.[192]

By the mid-20th century, legal abortion methods in Sweden saw two major technological contributions: vacuum aspirators and injection-based methods. Before the introduction of these methods in the early 1960s, surgical abortion dominated legal abortion techniques. Vacuum aspirations would come to

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[184] Henry David, "Abortion in Europe, 1920-91: A Public Health Perspective," *Studies in Family Planning* 23/1 (1992), 4.
[185] Ibid.
[186] Kramarae and Spender, *Routledge International Encyclopedia of Women*, 3.
[187] Reagan, *When Abortion Was a Crime*, 7.
[188] Tanfer Emin-Tunc, "Designs of Devices: The Vacuum Aspirator and American Abortion Technology," *Dynamis* 28 (2008), 370.
[189] SOU 1971:58, 44.
[190] Axel Westman, *Obstetrisk operationslära* (Bonnier, 1933), 136.
[191] Ibid. 140.
[192] *Abortfrågan, betänkande avgivet 1950 års abortutredning,* SOU 1953: 29, 257.

replace the earlier D&C methods and would end up significantly changing how early abortion methods were performed globally.[193] While the vacuum aspirator can still be considered a surgical procedure, the injection-based methods offered a variation from the typical surgical methods.[194] Pointedly, both saline injections and vacuum aspiration were done in hospital settings by doctors, further configuring the state, and medical professionals, as providers of abortion.

By the time researchers were beginning clinical trials of abortion pills in the mid-1960s, vacuum aspirators and injection methods were beginning to be used in women's clinics around the country. By 1971, vacuum aspiration had increasingly replaced the D&C methods previously used.[195] Early abortions were mostly done by vacuum aspiration, and mid-term abortion options included injection-based treatments that sometimes required a follow up operative procedure.

Abortion methods shifted as new technologies were introduced into Swedish medical practices. Swedish doctors experimented with different technologies and methods, testing techniques on their patients. Ulrik Feldthusen, for example, tested two injection-based methods and published the results of his tests in the *Swedish Medical Journal*.[196] The techniques Feldthusen adopted came from Denmark, another country with a legal abortion framework. The physicians Lars Philip Bengtsson and Nils Stormby also published on their own attempts at injection methods in 1962.[197] These articles show that prior to abortion pill development doctors were testing new abortion methods on small numbers of women, in clinical settings, and adapting the methods along the way. [198] Introducing another method would not be undermining a set technical tradition of abortion.

The assessment of what abortion procedure to use rested, in many cases, on the length of gestation. However, the classification of abortion length was not standardized, and practitioners differed in their assessments. Abortion categories shifted from the 1930s to the 1960s but could also be dependent on the medical practitioner. For instance, in the 1930s professor Axel Westman, the influential gynecologist mentioned earlier, who, among other deeds, wrote obstetrics manuals, divided abortion methods into early abortion, up until the fourth month, then late abortion from the fourth month until the seventh, and

[193] The idea to dilate the cervix and evacuate the uterus would see different variations over the years, with electric vacuum aspiration officially emerging from China in 1958. See, David, "Abortion in Europe," 4, and Emin-Tunc, "Designs of Devices," 354.
[194] SOU 1971:58, 46.
[195] Ibid. 39.
[196] Ulrik Feldthusen, "Legal abortprovokation med extraamnial koksaltinjektion," *Svenska läkartidningen* 57/13 (1960).
[197] Lars Bengtsson and Nils Stormby, "The Effect of Intra-Amniotic Injection of Hypertonic Sodium Chloride in Human Midpregnancy," *Acta Obstetricia et Gynecologica Scandinavica* 41/2 (1962).
[198] Ibid.

then the *parte arte praematurus* method from the seventh month onward.[199] Around the same time period, professor Alf Sjövall categorized abortion into two phases: up until the eight week of pregnancy, and past the eight week of pregnancy.[200] By 1972, the National Board of Health and Welfare introduced a concept of "optimal abortion time" as eight or nine weeks.[201] Over these years and cases there were shifting ideas about how to categorize pregnancies and how this related to which abortion methods to use. Generally, though, abortions were roughly categorized into early and late abortions.

By the 1960s, when researchers began clinically testing abortion pills, abortion techniques in Sweden had undergone several adaptations from the surgical abortion methods described in the 1930s. Vacuum aspiration and injection-based methods were gaining popularity and would go on to have a significant impact on Swedish practices, and there was interest in testing new methods. Notably, the technologies of the time configured components of the dominant abortion scripts. They co-produced the abortion scripts of *state service* as they were considered to require medical professionals and hospital settings.

Developing medical abortion from the ground up differed from adopting new methods. Gynecologists might change their practices when introduced to new methods, such as a vacuum aspirator, but developing a new method took much more time, resources, funding, and vision. Following in the tradition and practices of earlier researchers helped secure some essential components for abortion pill researchers.

Existing research practices

Along with a state interest in reproduction, RFSU's sex reform movement, an accommodating legal infrastructure, and flexible gynaecological practices, research culture in Sweden, specifically related to reproduction and hormones, helped lay the groundwork for abortion pill researchers. From the early 1900s, human sex glands and their impact on the body attracted the attention of wide array of researchers.[202] What would become known as the field of endocrinology shifted from understandings of the body based on internal secretions to the concept of hormones, and was a field that attracted scientists from different disciplines, stretching from physiology to biochemistry.[203] In looking back towards the popularization of hormone research in Sweden, there were various elements in these research practices that persisted into the years of abortion

[199] Westman, *Obstetrisk operationslära*, 140.
[200] Alf Sjövall, "Operationsteknik vid havandeskapsavbrytande," *Svenska läkartidningen* 45 (1948), 753–757.
[201] "Socialstyrelsens cirkulär med råd och anvisningar rörande tidiga abortingrepp. Operationsteknik och patientomhändertagande," Medicinalväsendets författningssamling, MF 1972: 59, 2.
[202] Nelly Oudshoorn, *Beyond the Natural Body*, 20.
[203] Ibid. 22.

pill research. These practices included collaborating with pharmaceutical companies and international foundations, focusing on research related to female bodies, networking nationally and internationally, and engaging with the press.

As will be shown with the first wave of abortion pill research in the 1960s, collaboration with the pharmaceutical company Ferrosan was crucial for obtaining research materials and support. However, this partnership between researchers and pharmaceutical companies was not a new phenomenon. Early research in endocrinology also saw researchers teaming with pharmaceutical companies.[204] Scholars have shown collaborations between scientists and pharmaceutical companies in Germany, Holland, and Sweden.[205] By the 1920s, this cooperation between researchers (and subsequently their university laboratories) and pharmaceutical companies gave a tremendous edge to researchers. In comparison to other researchers not affiliated with a pharmaceutical company, they were able to obtain massive amounts of organic material with ease.[206]

By many accounts, this hormone research field thrived; there were numerous discoveries and infrastructures sprung up to accommodate the burgeoning field.[207] The historian Christer Nordlund wrote, "the years 1925-1940, has with good reason been called the 'endocrinological gold rush.'"[208] Researchers identified many different sex hormones during this period, and shortly after numerous official organizations related to endocrinology emerged. The Swedish Society for Endocrinology, for example, was founded in 1945.[209] American, British, and French societies also emerged in the late 1940s and 1950s, and these societies came together under the Federation of Fertility Societies in 1969.[210] These efforts to develop infrastructure around endocrinology, and especially the emphasis on international collaboration, would be

[204] Nelly Oudshoorn, "Endocrinologists and the Conceptualization of Sex, 1920–1940," *Journal of the History of Biology* 23/2 (1990), 167.
[205] While Nelly Oudshoorn has shown collaborations in Germany and Holland, Jean-Paul Gaudillière has studied a similar case of the pharmaceutical company Schering, in Germany, and Christer Nordlund has mapped out endocrinologists' networks with pharmaceutical companies in the Swedish case of the drug Gonadex. See, Jean-Paul Gaudillière, "Genesis and Development of a Biomedical Object: Styles of Thought, Styles of Work and the History of the Sex Steroids," *Studies of History and Philosophy of Biological and Biomedical Sciences* 35 (2004), and Nordlund, *Hormones of Life*.
[206] Oudshoorn, "Endocrinologists and the Conceptualization of Sex," 168.
[207] Nordlund, *Hormones of Life*, 83. In Sweden, Nordlund has shown the emergence of new research networks which included the pharmaceutical industry, academia, and the media. By the 1930s, there were seven leading pharmaceutical companies in Sweden, including Ferrosan. These companies employed academics, engineers, and worked with medical professionals as consultants. Universities were soon included in this pharmaceutical web, and the Karolinska Institute would count among one of the leading actors in Swedish pharmaceuticals.
[208] Ibid. 40.
[209] Ibid. 219.
[210] Ibid. 50.

closely mirrored in the research practices related to prostaglandins as abortifacients in the 1970s.

This burgeoning field attracted scientific talent and resulted in professional relationships between scientists. Axel Westman, Ulf von Euler, Sune Bergström, and Egon Diczfalusy were just some of the more prolific figures that worked within the field of endocrinology in Sweden during the first half of the 20th century. Some of their work resulted in Nobel Prizes, and their positions and interests were funded by foreign financiers such as the Ford Foundation.[211]

During this time, large non-governmental organizations, such as the Rockefeller Foundation and the Ford Foundation, poured money into hormone research.[212] Rockefeller, for example, funded Axel Westman's research at Lund University.[213] In 1952, the Population Council was established in New York, an organization that focused on population issues, and subsequently reproduction.[214] The Population Council funded Swedish research projects, for example, in the 1950s the researcher and physician Lars Philip Bengtsson pursued studies on sexual hormones, receiving financial support from both the Swedish Medical Research Council and the Rockefeller Institute.[215] International financial backing of Swedish researchers working in endocrinology was not uncommon.

Beyond establishing financial and professional networks, the field of endocrinology also legitimized certain research topics. Within the field there was an emphasis on female sex hormones. Nelly Oudshoorn has argued that social ideas of sexual duality initially impacted the development of endocrinology, especially in the early 1900s.[216] Hormones were thought to be either female or male, but by the 1920s Oudshoorn showed a shift in this paradigm following the discovery of female sex hormones in male urine.[217] However, despite paradigm shifts, an interest in female hormones persisted. There was still an understanding in medicine that sexual biology, and its effects, was fundamental to the lives of women and still worthy of scientific pursuit.[218]

These social and cultural understandings of gender, sex, and medicine contributed to this female focus in endocrinology. As has been illustrated in

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[211] Sune Bergström, "The Prostaglandins: From the Laboratory to the Clinic" in *Nobel Lectures, Physiology or Medicine 1981-1990,* eds. Tore Frängsmyr and Jan Lindsten (Singapore: World Scientific Publishing, 1993).
[212] Nordlund, *Hormones of Life*, 30.
[213] Ibid.
[214] Jennifer Nelson, "'Breaking the Chain of Poverty': Family Planning, Community Involvement, and the Population Council Office of Economic Opportunity Alliance," *Journal of the History of Medicine and Allied Sciences* 69/1 (2014), 109.
[215] "Letter to Lars Philip Bengtsson from Flora M. Rhind, 27.4.1956," FA387, Series 800, Box 1, Folder 4, Bengtsson, Lars Philip, Date: 1955-1956, Rockefeller Foundation Records, Rockefeller Archive Center (hereafter RAC); Bengtsson and Stormby, "The Effect of Intra-Amniotic Injection," 123.
[216] Oudshoorn, "Endocrinologists and the Conceptualization of Sex," 169.
[217] Ibid.
[218] Nordlund, *Hormones of Life,"* 31.

several accounts, this focus led to more and more research and infrastructure supporting this preoccupation with female reproduction.[219] In developing Gonadex, Axel Westman used urine collected from pregnant women. This was possible because of the research network set up by Leo, the pharmaceutical company which Westman worked with, which had established relationships with gynecological clinics.[220] The female focused infrastructure enabled particular kinds of work and research in Sweden. In addition, from the 1950s, fetal research had been conducted by prominent endocrinologists, such as Egon Diczfalusy, and further research on women and infants was also done.[221] Abortion pill research's focus on the female body and reproductive regulation fit within these earlier research trends.

In researching Gonadex, Nordlund also presented a new public-relations trend in Sweden: medical breakthroughs began to be heavily featured in the Swedish press, which was particularly noticeable after the Second World War.[222] In connection with this media coverage, medical professionals grew wary that the press created "false illusions."[223] These actors worried about building up expectations in unsubstantiated ways.[224] However, they still engaged with the press, trying both to create excitement and temper expectations.

By the 1960s, media coverage of medical breakthroughs was common. As other scholars have shown, this period was also a time of confidence in science and technologies.[225] The role of experts, such as scientists and physicians, were valued and important.[226] In Sweden, faith in science and technology was

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[219] For further discussion of this phenomenon, see Oudshoorn, *The Male Pill,* 4–7. For an examination of research infrastructure which includes intersections between farms and clinics, see Jean-Paul Gaudillière, "The Farm and the Clinic: An Inquiry into the Making of our Biotechnological Modernity," *Studies of History and Philosophy of Biological and Biomedical Sciences* 38 (2007).

[220] Nordlund, *Hormones of Life,* 74, 100.

[221] Helena Tinnerholm Ljungberg, "The Moral Imperative of Fetal Research: Framing the Scientific Use of Aborted Fetuses in the 1960s and 1970s," in *Medicine at the Borders of Life*, ed. Jülich (book manuscript under preparation).

Research on pregnant women has also occurred in other contexts. Gabriele Czarnowski and Sabine Hildebrandt examined the use of pregnant women in coercive experiments during the period of National Socialism in Germany. The subjects were often forced labourers and were at times in the latest stages of pregnancy. The researchers were acting under a larger National Socialist genocidal system and these experiments were done on subjects considered to be undesirable and not worthy of life, clearly creating torturous contexts for the pregnant women.: Gabriele Czarnowski and Sabine Hildebrandt, "Research on the Boundary Between Life and Death," in *From Clinic to Concentration Camp: Reassessing Nazi Medical and Racial Research, 1933–1945*, ed. Paul Weindling (London: Routledge, 2017).

[222] Nordlund, *Hormones of Life,* 124.

[223] Ibid.

[224] Ibid.

[225] Nico Stehr and Richard Ericson, "Introduction" in *The Culture and Power of Knowledge: Inquiries into Contemporary Societies,* eds. Nico Stehr and Richard Ericson (De Gruyter, 1992), 4.

[226] Following the 1960s, science and the role of experts was more freely criticized, particularly a perceived elitism and political bias of experts, and the objectivity of science. See,

an integral part of the welfare state's approach to governance.[227] In the post war period, many "large-scale technological programmes were launched" in several sectors and the state emphasized the role of science and technology in constructing a welfare society.[228] This stress on the importance of science and technology has been framed as part of a myth of modernity, which, in the Cold War period, was also coupled with a myth of neutrality. After the outcome of the Second World War, Sweden proactively pursued an international position as neutral, attributing their non-involvement as ideological.[229] Scholars have analyzed the state in this time period as using the myths of Swedish modernity and neutrality as legitimizing large scale science and technology projects.[230] Accordingly, for much of the 1960s, the press coverage of medical breakthroughs was largely positive.

This public-relations trend mirrors developments in other national contexts. In America, the early 1960s have been characterized as a "period of scientific and technological 'breakthroughs' and 'revolutions.'"[231] Simultaneously, it has been noted that in the American and British contexts, more critical journalism began to appear in the end of the decade.[232] By the end of the 1960s, some intellectuals and leftists groups also began to criticize the Swedish state and their emphasis on science and technology.[233]

Media coverage of science and medicine was common in the years preceding abortion pill research, although the tone began to change by the time much of the research occurred. While this fixation on medical breakthroughs in the Swedish press continued during the years of abortion pill research, as will be shown throughout the dissertation, the tone of the coverage would not always be flattering.

Interest in hormone research and reproduction brought various actors, such as researchers, funding bodies, pharmaceutical industry, and media together in the decades leading up to abortion pill research. This reproductive and

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Wolfgang van den Daele, "Scientific Evidence and the Regulation of Technical Risks: Twenty Years of Demythologizing the Experts," in *The Culture and Power of Knowledge,* eds. Stehr and Ericson, 323.

[227] Boel Berner, *Sakernas tillstånd: Kön, klass, teknisk expertis* (Stockholm: Carlsson, 1996), 11.

[228] Per Lundin and Niklas Stenlås, "Introduction," in *Science for Welfare and Warfare: Technology and State Initiative in Cold War Sweden*, eds. Per Lundin, Niklas Stenlås and Johan Gribbe (Sagamore Beach: Watson Publishing International LLC, 2010), 3.

[229] Ibid. 8.

[230] Ibid.

[231] Dorothy Nelkin, *Selling Science: How the Press Covers Science and Technology* (New York: Freeman, 1995), 10.

[232] Ibid.; Nathoo, *Hearts Exposed*, 33.

[233] Lundin and Stenlås, "Introduction," 27; Solveig Jülich, "Fosterexperimentens produktiva hemlighet: Medicinsk forskning och vita lögner i 1960- och 1970-talets Sverige," *Lychnos* (2018), 14. In her work, Solveig Jülich has questioned whether a similar trend occurred in Sweden and if it could have created major changes when journalists were, for a large part, still reliant on doctors to access information.

hormonal research was not by any means exclusive to Sweden. Research initiatives and collaborations occurred in many different places, and as chapter six illustrates, abortion pill research was not confined to Swedish laboratories and clinics. What is worth highlighting, however, is that networks between Swedish scientists, pharmaceutical companies, and philanthropic foundations were already developed by the time abortion pill researchers began their work in the 1960s.

The research practices in Sweden prior to abortion pill research persisted in different ways throughout its lifespan. There was collaboration between pharmaceutical companies and researchers, emphasis on female centered research related to sex, international collaboration and financial backing from American foundations such as the Ford Foundation, and the beginnings of a professional network interested in reproduction and gynaecology that would prove helpful to later scientists. There was also an established media practice of covering medical breakthroughs, which would continue on in the coming decades.

The professional field in which the abortion pill researchers worked was receptive to reproductive research with a focus on the female body and there were established practices that supported this type of work. In this sense, working on abortion pills was not a break from the norm. There was also a state faith in technological development and reproductive research was an important component of reproductive management, providing new methods and knowledge from which to build off of. Analyzing the status of research on medical abortion then helps to build further perspective on reproduction in Sweden, and more specifically on abortion.

Examining the previous research practices illustrates that abortion pill research was not isolated from earlier developments—instead, it followed several trends. While not self-evident nor determined that abortion pill research would occur in Sweden, through these contexts it also becomes clearer that it is not out of place that this research occurred. But an important factor that contributed to its specific legitimization is how this research was positioned in relation to the international field of foreign aid and to the concept of overpopulation.

Overpopulation concerns and solutions

In the 1930s, population concerns were far from just a Swedish preoccupation of the Myrdals. The concept of "population" was widely mobilized in the 20th century as a new way of conducting politics internationally.[234] While Sweden was initially concerned with depopulation, overpopulation soon became the dominant way of envisioning the globe. International Neo-Malthusian

[234] Matthew Connelly, "To Inherit the Earth. Imagining World Population, From the Yellow Peril to the Population Bomb," *Journal of Global History* 1/3 (2006).

movements looked to address what was conceived of as a shortage of resources in the face of a booming global population.[235] This concern is often seen as pushing support for birth control, a difficult subject to broach on an international scene. This difficulty has been depicted by scholars who point to the World Health Assembly in 1952, in which a proposal concerning birth control caused backlash from Catholic and communist countries.[236] While there was a widely held view that overpopulation was a problem, there was difficulty finding solutions, particularly as overpopulation was so entrenched with reproduction and sex.

Scholars have shown diverse actors and motivations coming together to tackle overpopulation.[237] While overpopulation is often considered a reproductive concern, it was also an economical, ecological, and spatial one.[238] The diversity of actors engaged with overpopulation created tensions in different movements. For instance, the concept of reproductive rights, while often attributed to feminists, can also be traced to "men involved in postwar eugenics and world population."[239] With such varied ways of approaching the perceived issue, scholars have shown there are no simple answers in examining the tumult overpopulation concerns in the 20th century.

Sweden confronted the overpopulation scare through foreign aid. Family planning was seen to be, in part, a way to deal with this global population issue. Despite the initial international resistance, Sweden was the first country to combine family planning with their aid contributions, in this case to Ceylon (Sri Lanka) in 1958.[240] Sweden's international family planning projects were under the domain of the Council for International Development (NIB), which then became the Swedish International Development Cooperation Agency (SIDA).[241] Sweden was also eager for other countries and institutions to embrace family planning initiatives, either by employing family planning themselves or by funding it.[242]

Sweden, a country with a small population, was concerned with overpopulation in the third world.[243] This was partly due to the Swedish aid administrator, SIDA, having close connections with American networks engaged in

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[235] Ibid. 306.
[236] Ibid. 311; Bashford, *Global Population*, 321.
[237] Bashford, *Global Population;* Connelly, *Fatal Misconception*.
[238] Bashford, *Global Population*, 3.
[239] Ibid. 347.
[240] Berg, "A Suitable Country," 303.
[241] SIDA is still active today.
[242] "Population Crisis Hearings," United States. Senate Eighty-Ninth Congress, second session. Subcommittee on Foreign Aid Expenditures of the Committee on Government Operations, 9 March 1966, Washington, U.S. Govt. Print Off., 1966-1967. 6 v. in 1, illus., maps, ports. 24 cm. KF26. G646 1966b. (Hereafter document referenced as "Population Crisis Hearings," U.S. Senate, 1966).
[243] Sunniva Engh, "The Conscience of the World? Swedish and Norwegian Provision of Development Aid" *Itinerario* 33/2 (2009).

population work.[244] Sweden also believed itself to be "well suited" to provide aid relief and family planning as they had "few religious or moral reservations against the use of contraceptives."[245] In her work, Sunniva Engh has concluded that Swedish involvement in development aid should be seen as a combination of a new international political scene concerned with overpopulation and Sweden's own specific historical welfare state developments. [246]

There was also overlap between Sweden's interwar population policies and their postwar work in India.[247] The motivation for population control and family planning work abroad was "the conviction that poverty and underdevelopment must be attacked on several fronts simultaneously."[248] Population control was seen as a way to solve these poverty and underdevelopment issues. Ottesen-Jensen, the founder of RFSU, was one of the first individuals to engage with South Asian family planning.[249] For some actors, family planning and sex education was both a national and international goal. This population control tactic was part of a larger paradigm of mid-century development theory and became important to Sweden in their own aid strategies.[250]

This early interest in family planning as a form of foreign aid helped to position Sweden internationally in a field that was closely related to reproductive research. Sweden ventured into international family planning in the late 1950s and by the middle of the 1960s SIDA was sharing their experiences with other interested parties, such as the American government. In 1966, three SIDA representatives traveled to the USA to act as counsel on family planning at a subcommittee meeting at the United States Senate.[251] The hearings were titled, "Population Crisis" and the subcommittee was collecting information and experiences from parties they saw as having valuable experiences with family planning.[252] Sweden was considered an important authority on the matter and during this meeting SIDA representatives stressed that more work could be done internationally in the field of human reproductive research. [253]

SIDA's focus on expanding reproductive research was an issue that also received internal attention. A 1966 publication by SIDA's *working group on family planning questions* contained several sections that the working group thought important to the success of family planning. Research, in the shape of demography, sociology, and economic and cultural geography were all seen as needed for understanding the impact and effects of family planning on a

[244] Ibid.
[245] Ibid. 75.
[246] Ibid.
[247] Berg, "A Suitable Country".
[248] Berg, "A Suitable Country," 302.
[249] Ibid.
[250] Ibid. 312.
[251] "Population Crisis Hearings," U.S. Senate, 1966.
[252] Ibid.
[253] Ibid. 558.

region. Markedly, alongside these domains, there should also be "continuous research on the physiology of the reproduction process."[254]

In their report, the group noted that Sweden had acquired an international reputation when it came to medical research concerning birth control.[255] This research focused on intrauterine devices and contraceptive pills, but the working group also emphasized that Swedish researchers were working on new birth control methods.[256]

The report concluded that,

> It is remarkable that this research conducted in Sweden, which is internationally appreciated and plays an important role in the population problem, is almost exclusively funded by US funds. Some are driven almost exclusively by the huge contributions made available to the National Institutes of Health, the Ford Foundation and the Population Council. However, it does not seem possible and reasonable to continue this research and education work over the long run without significantly increasing domestic support.[257]

While receiving funding from abroad was appreciated, the lack of national funding was also criticized. The drive to expand reproductive research would see SIDA employees enter into lengthy discussions and collaboration with American stakeholders, reproductive researchers, and international non-governmental actors such as the WHO. As will be illustrated in chapter six, by the late 1960s, a web of actors, including SIDA employees and reproductive researchers, would enter into negotiations among themselves, but also with the Ford Foundation and later the WHO, with the hopes of setting up a centre for contraceptive research. Such a centre could also provide space for research on abortion techniques.

The overpopulation concerns of the mid-century impacted Swedish international outreach. During the 1960s, SIDA sent representatives abroad, provided family planning as aid, and was interested in establishing an international contraceptive centre. Family planning was perceived to include reproductive research, a domain that was imagined to help with family planning goals. In order to provide such "internationally appreciated" science, reproductive research was also seen to need more funding and resources.

Established institutions, such as SIDA, had created a space for reproductive research within family planning. This emphasis on the use of reproductive research as an overpopulation strategy, and as a way of gaining international recognition, would be an important rhetoric for the researchers working with F6103 in the 1960s. The potential of new knowledge and technologies creating

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[254] "Principiella synpunkter på svensk familjeplanering i U-länderna," SIDA:s arbetsgrupp i familjeplaneringsfrågor, generaldirektören Engels ämnesordnade handlingar. 1952–1967, Ep-Fe, F XXXI, Medicinalstyrelsens Arkiv, Riksarkivet (hereafter RA), 4.
[255] Ibid. 6.
[256] Ibid. 7.
[257] Ibid.

different and easier family planning strategies was an alluring outcome to SIDA. The state mobilized to address overpopulation issues through family planning and became recognized for their medical research. Pushing technological fixes aligned with the welfare state's development paradigm of modernity and trust in scientific expertise.

Conclusion

This chapter has illustrated that the emergence of abortion pill research in Sweden in the 1960s fit within larger trends in reproduction management, research, and foreign aid initiatives. Despite occurring ahead of major legal advancements for abortion, the research still suited the state's needs, both nationally and internationally, and was well matched with previous research trends. Abortion pill research was not a radically new undertaking but instead built off of existing practices.

Studying abortion pill research provides an opportunity to scrutinize the intersection of these various contexts. It is a lens from which to examine how the science of abortion impacted historical developments which are otherwise well known. In doing so, it brings together abortion practices which have never been fully understood or studied in tandem. In other words, how reproductive research has been an important component of the state's management of abortion, of the welfare philosophy of modernity and faith in science, and of their foreign aid strategies.

As this chapter has shown, there was state interest in managing reproduction, sexual reform movements which welcomed doctors, and, importantly, laws which permitted certain categories of abortion. By the time the first clinical trials of abortion pills began, legal abortion had existed for over twenty years and for some doctors it was a regular part of their medical practice. Abortion pill research existed in this space between the already legalized acts and the further liberalization of abortion practices.

Physicians who were interested in researching abortion techniques and testing new technologies were able to partner with industries and permitted to make these technologies available to patients. A recent expansion of the pharmaceutical industry to include academics and experts, a focus on female reproduction, and international funding networks were also already in place by the 1960s. There was state interest in creating solutions to overpopulation problems, and reproductive technologies were increasingly seen as the way to do this. An important facet of the welfare state's ideology rested on a faith in scientific expertise and technological innovation.

This chapter has also highlighted the dominant abortion scripts of the early mid-century. The abortion scripts of *state service*, *specific conditions*, and *last resort* all directed the way legal abortion was administrated. The abortion techniques of the time, such as D&Cs, contributed to and were configured by

these scripts and were subsequently done by physicians and in hospital. The abortion scripts which were made in the development of abortion pills would be impacted by and impact the existing scripts. As will be shown, technological innovation could change understandings of abortion.

After examining these contexts, it is fitting that Sweden would host abortion pill research already in the 1960s. However, as the following chapters illustrate, it was far from a simple or straight forward endeavour. Abortion was still the most controversial of reproductive topics. While abortion was legal under certain circumstances, the abortion scripts of the time make clear that there were significant restrictions. The earlier years of fighting for abortion rights have been shown to involve different actors with varying motivations. Even by those fighting for increased access, abortion was generally considered a poor solution to unwanted pregnancies. The abortion pill script of *last resort* was upheld by many actors. Reproductive issues were often framed as a class one, and criticisms of gender roles was not a substantial part of the conversation regarding abortion until the 1970s. The following chapters examine the researchers' practices against this wider view of abortion as necessary but not wanted. As will be shown, the topic of abortion complicated the research until the end.

3. A Special Kind of Clinical Trial

In early 1966, a young woman applied for an abortion at Stockholm's Mental Health Bureau. Although unemployed, she was a former factory worker who was staying at home with her first baby. The father of the baby had left, and the woman now found herself pregnant again, jobless, and alone. She wanted an abortion.[258]

She made an appointment to see a social worker at Stockholm's Mental Health Bureau. To determine whether she was eligible for abortion she needed to be interviewed by a social worker and two doctors.[259] In these meetings, the woman had to reveal details of her private life, her relationships, and her childhood. She described her former partner as an abusive alcoholic who did not know that she was pregnant. She explained that soon she may have nowhere to live, that she had no income, and that she already had a young child to care for. She was also physically examined by the physician.[260] The woman's application for an abortion was approved, most likely on socio-medical grounds, and she received a dilation and curettage (D&C) at Karolinska Hospital.[261] At the same time, she was also included in a clinical test for a new abortion pill.

In November 1965, Lars Engström had applied to the State's Pharmaceutical Laboratory (SPL) to run trials on a new chemical compound: F6103. Based on animal testing, he hoped the compound could be an effective abortifacient in humans. In order to test its abortive qualities, he required pregnant woman with legal permission for abortion. His clinical trials could only function in the intersection of domestic, private lives and the state's official interest in controlling abortions. This chapter investigates what this intersection looked like in practice. In the face of a complex legal abortion system, how, exactly, did the first clinical trials occur?

By examining clinical trial material from SPL, clinical trial material from the pharmaceutical company Ferrosan, patient records from the first trials, and research reports, I piece together a web of actors involved in the first years of clinical testing. This is the beginning of the research network for F6103. In order to examine how this network functioned, I study the regulatory

[258] "Patient Chart 11," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, Region Stockholm Archive (hereafter RSA).
[259] Ibid.
[260] Ibid.
[261] Ibid.

infrastructure and highlight the role of the trial participant as an implicated actor. Piecing together how the trials worked reveals who was involved in the research network, how the trials were carried out, and how they went beyond the laboratory or the clinic. Many of the patients who took part in the trials were pregnant and their private lives subsequently played an important role in developing new technologies. The extent of the trial participants' labour is outlined, as well as the way they were configured by other actors in the network. I argue that the state's management of abortion impacted the structure of the clinical trials and Lars Engström's professional approach to abortion. The dominant abortion scripts of *state issue* and *specific conditions*, which were upheld by the legal abortion system impacted the research. However, as illustrated in this chapter and the following one, the research would also make new abortion scripts.

The question of how these clinical trials of an abortion pill, conducted on pregnant women, occurred in 1965 and 1966 is of interest because of the time period and the trial subject. Due to several factors, the 1960s were a decade in which clinical trial culture began to shift on a global scale.[262] This, as others have shown, was partly due both to a change in ethics standards and a backlash against adverse drug reactions. That the subjects of the trials were pregnant people is also an important element.[263] As will be shortly expanded on, following the thalidomide crisis in the early 1960s, the risks of fetal damage were at the forefront of regulatory bodies' preoccupations.[264] Pregnant participants were not common in clinical trials and subsequently this dissertation contributes to the history of clinical testing by expanding on pregnant women as a subject group.[265]

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[262] Ulf Schmidt, Andreas Frewer and Dominique Sprumont, "Introduction: The Limits of Altruism," in *Ethical Research: The Declaration of Helsinki, and the Past, Present and Future of Human Experimentation,* eds. Ulf Schmidt, Andreas Frewer and Dominique Sprumont (Oxford: Oxford University Press, 2020), 5.

[263] Goodman, McElligott and Marks, *Useful Bodies*. Scandals in the mid-20th century highlight that historically clinical trials and human experimentation have occurred on ranges of people, including children and prisoners.

[264] Legal frameworks have also impacted the selection of trial participants. In the United States after *Roe v Wade*, "women of childbearing age" were excluded from most clinical research in the United States over fears of legal action. See, for instance, in Adriana Petryna, *When Experiments Travel: Clinical Trials and the Global Search for Human Subjects* (Princeton: Princeton University Press, 2009), 65.

[265] Heather Prescott has also studied women in early pregnancy in her book, *The Morning After*.

A 2011 review of English language publications on PubMed-medline and M-Base showed that from the years 1964 to 2006, twenty studies worldwide used pregnant women to test drugs. See, Christelle Gedeon, Alejandro Nava-Campo and Gideon Koren, "Ethical Issues in Pharmacological Research in Women Under-going Pregnancy Termination: A Systematic Review and Survey of Researchers," *Obstetrics and Gynecology International* (2011). Today, few pregnant women are involved in clinical trials with the risks of negatively impacting pregnancies often cited as cause.: Kristine Shields and Anne Lyerly, "Exclusion of Pregnant Women from Industry-Sponsored Clinical Trials," *Obstetrics and gynecology* 122/5 (2013).

In focusing on the first trials of medical abortion, this chapter follows the clinical trials of Lars Engström, a physician based in Stockholm who was the most active researcher to clinically test F6103 on pregnant women. Engström was a docent in obstetrics and gynecology at Karolinska Institute and he was head of Karolinska's women's clinic from 1963-1972.[266] Additionally, Engström was Chairman of the National Board of Health and Welfare's social psychiatry council from 1966-1970, and chief physician at the Swedish Association for Sexuality Education (RFSU) from 1966-1970. Engström held several roles simultaneously and was broadly invested in contraceptive counselling issues in Sweden. In his work as a researcher, he collaborated with a handful of different professionals, but unlike some of his collaborators he devoted consistent energy and resources to testing F6103. In this regard, he is central to the story of F6103 as an abortifacient.

This chapter begins by examining how clinical trial and ethical regulations functioned in the 1960s. Then it highlights the pharmaceutical company Ferrosan's role and interest in reproductive technologies. Following this the compound F6103 is introduced and the first phases of testing are examined, including the first clinical trials of F6103 on pregnant women. These trials clearly illustrate how the legal abortion system and clinical trials intersected, creating specific sets of circumstances for these trials as compared to those on non-pregnant people. The clinical trials of F6103 also encountered larger abortion concerns, and in the final section Engström's collaboration with psychologists is examined. This section shows the manner in which these new clinical trials contributed to the beginnings of new abortion scripts.

Regulating clinical testing during the 1960s

As illustrated in the previous chapter, the Swedish state was invested in regulating abortion, but it was also invested in regulating drug development. In order to develop a new drug, researchers and pharmaceutical companies had to abide to a set of formalities. For several centuries, drug control was the business of pharmaceutical companies, but by the 1900s different national bodies emerged to take on the role of drug control.[267] Sweden, along with other Nordic countries, was early in its adoption of drug regulation.[268] Since 1935, Sweden has "required manufacturers to demonstrate the safety and efficacy of their products prior to approval."[269] By the 1960s and the 1970s there were various institutions that oversaw drug development and clinical trials.

[266] Hans Uddling and Katrin Paabo, eds. *Vem är det: svensk biografisk handbok,* Norstedts (1993), 298.
[267] Hans Hellberg, "Trends in Swedish Drug Culture," National Board of Health and Welfare, Division of Pharmacy, 1971, 1.
[268] John Abraham and Graham Lewis, *Regulating Medicines in Europe: Competition, Expertise and Public Health* (London: Routledge, 2000), 55.
[269] Ibid. 56.

In 1965 and 1966, Engström submitted his paperwork of the F6103 trials to the State's Pharmaceutical Laboratory's (SPL) pharmacotherapeutic unit.[270] This pharmacotherapeutic unit collected information on the chemical compound, toxicology, previous research on animals, the pharmaceutical company, the research plan, the location, and who would be involved in the trial.[271] SPL was founded in 1915 and initially focused on pharmaceutical chemistry.[272] Over the next 50 or so years, SPL would expand in various directions. In 1938, a biological unit was added and in 1963 a pharmacotherapeutic unit was established. The pharmacotherapeutic unit was responsible for clinical trial control. In 1971, a fourth unit that focused on clinical pharmacological aspects was also set up.[273]

SPL was under the jurisdiction of the National Swedish Board of Health from 1918 until 1968, when it then fell under the authority of the National Board of Health and Welfare. In 1971, SPL was closed, and its various units were amalgamated into the Drug Department of the National Board of Health and Welfare (The Drug Department).[274] In the late 1960s, the Drug Department also had units on "administration, drug legislation, drug consumption and drug inspection."[275] Combining SPL with the Drug Department created one large institution which monitored and controlled the quality of drugs during the 1970s.[276] It was concerned with registration, selling and safety of drugs, as well as the development of drugs and clinical trials. Engström's trials occurred on the cusp of this reorganization of clinical trial surveillance.

Clinical trials in the 1960s did not require the large groups of subjects which would later be considered a quality assurance.[277] While there were certain elements SPL tracked, there was also variation in the information collected. Some applications to SPL did not state the number of subjects or the dosages, while others did.[278] From those applications that did track subjects, it

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[270] "Kungl. Medicinalstyrelsens cirkulär 129: angående klinisk prövning av oregistrerade läkemedel, den 18 december 1963," Samling av författningar och cirkulär m.m. angående medicinalväsendet i Sverige: omfattande åren 1962–1964, utgiven av kungl. Medicinalstyrelsen.
[271] Hellberg, "Trends in Swedish Drug Culture," 6.
[272] Bertil Johansson, "Statens farmaceutiska laboratorium Gemensamma ärendens inledning," Nationell Arkivdatabas, 1977: https://sok.riksarkivet.se/nad?Sokord=Statens+farmaceutiska+laboratorium+&EndastDigitaliserat=false&BegransaPaTitelEller-Namn=false&lk=Ladda+kategorier&AvanceradSok=False&typAvLista=Standard&page=1&postid=Arkis+880b391a-1432-471b-9fb1-9693a7dfe184&tab=post&FacettState=undefined%3ac%7c&s=Balder (accessed 20 September 2020).
[273] Ibid.
[274] Ibid.
[275] Hellberg, "Trends in Swedish Drug Culture," 1.
[276] Ibid.
[277] Ibid. 7.
[278] "Bengt H. Perssons anmälan av klinisk prövning av nytt läkemedel, F6066," 338/64, medicinalstyrelsens cirkulär, 1964, Gemensamma ärenden, Handlingar rörande kliniska prövningar, F7:3, Statens farmaceutiska laboratorium (hereafter SPL), RA.

seems that having groups of ten or twenty subjects was acceptable.[279] SPL could also request supplementary information on the trials if they saw fit, such as more detailed accounts of side effects.

Engström's trials coincided with an increasing interest in tracking the body in clinical trials by regulatory organizations. New historical work has begun to examine the emergence of various devices and organizations in the 1960s, such as the inception of a national malformation registry and the establishment of research ethics committees.[280] Bodily reactions to drugs first became a hot button issue in Sweden following the thalidomide scandal of the early 1960s.[281] Thalidomide was marketed under 60 different names worldwide, and the negative side effects impacted many people. There were roughly 10,000 babies born with birth defects globally, and as such, Sweden was far from the only country negatively affected by this drug.[282]

In several accounts of Swedish medical history, the thalidomide disaster holds a momentous position and is often reflected on as a turning point in medical regulation. In a 2011 *Swedish Medical Journal* interview with Barbro Westerholm, a distinguished member of the Swedish medical and research community, she reflected on how the thalidomide disaster initiated a whole new regulation system, which she herself helped to implement in her role on the National Swedish Board of Health in the 1960s. These new regulation mechanisms would take the form of the Malformation Register (Missbildningsregistret), founded in 1964, and then the 1973 Medical Birth Register (Medicinska födelseregistret).[283] The Malformation Register was the result of both an "international movement to curtail pharmaceutical disaster by surveilling birth defects," and a longer national tradition of social engineering.[284]

Alongside these registers, a side effects board was also established. This was done partially in response to an investigation into the contraceptive pill in Sweden.[285] The combination of the thalidomide scandal and the adverse reactions to the contraceptive pill in the early 1960s stimulated action; side effects

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[279] "Nils Lundgrens anmälan av klinisk prövning av nytt läkemedel, F6066," 132/66, medicinalstyrelsens cirkulär, 1966, Gemensamma ärenden, Handlingar rörande kliniska prövningar, F7:8, SPL, RA.

[280] See Francis Lee and Helena Tinnerholm Ljungberg's forthcoming contributions to the anthology *Medicine at the Borders of Life,* ed. Jülich. There is also the book *1962–2003: En epok i svensk läkemedelskontroll,* which was written by industry insiders.

[281] Björkman, "Thalidomide in the Welfare State," in *Medicine at the Borders of Life*, ed. Jülich, (book manuscript under preparation).

[282] Kerstin Hulter Åsberg, "Neurosedynkatastrofen blev ett startskott," *Läkartidningen* 48/108 (2011).

[283] Francis Lee, "Unruly Bodies, Unruly Statistics: Thalidomide and the Birth of Swedish Reproductive Epidemiology in the Early 1960s," in *Medicine at the Borders of Life*, ed. Jülich, (book manuscript under preparation); Agerberg, "Barbro Westerholm,".

[284] Lee, "Unruly Bodies," in *Medicine at the Borders of Life*, ed. Jülich, (book manuscript under preparation).

[285] "Meddelande från Nämnden för utredning av läkemedelsbiverkningar 1/66," Barbro Westerholm's personal archive; Barbro Westerholm, "Biverkningsregistreringen i Sverige," *Nordisk psykiatrisk tidsskrift* 23/3 (1969).

became something worth monitoring on a large scale. The goal was to begin tracking and mapping side effects through a reporting system.[286] The board was established in 1965, the same year that Engström began his clinical trials, and while the board was not directly involved in Engström's research, side effects had mobilized drug regulatory bodies and were of increased importance.

In comparison with thalidomide, abortifacients differ in the intended effect. While thalidomide was a drug thought to ease the toil on pregnant women with no ill effect on the fetus, abortifacients are designed to terminate a pregnancy. Yet in Sweden abortifacients still required clinical testing on pregnant women which, in light of the thalidomide disaster, fell within a new pharmaceutical control culture. How the body reacted, and how patients felt about these reactions, became a serious element to consider in the world of drug development and research. Following the thalidomide scandal of the early 1960s, pregnant women were considered particularly vulnerable to drug testing. The risks of adverse reactions to drugs and negative side effects worried physicians, researchers, and policy makers.[287] Yet, here, in the mid-1960s, Swedish researchers had arranged to test abortifacients on pregnant women. The specificities of pregnant women as research subjects subsequently warrants a close examination.

In sum, the clinical trial infrastructure played an important role in how clinical trials were run and what was possible for researchers. There was state oversight of clinical trials and various bureaucratic steps so as to monitor and evaluate the merits of the research. The 1960s also saw a heightened interest in tracking side effects of drugs, with the thalidomide scandal highlighting adverse effects on pregnancies. Regardless of risks and increased scrutiny, reproductive research still remained an appealing field of research for various actors. For those actors involved in the field, more research presented as a way to potentially avoid new scandals.[288]

Ethical regulation and informed consent

In addition to the state's surveillance of clinical trials, there was also emerging infrastructure concerned with the ethics of medical research. Despite various international efforts to create ethical standards for experimentation following the Second World War, effective initiatives floundered until the mid-1960s. Scholars have shown that the cumulation of many factors led to informed

[286] Westerholm, "Biverkningsregistreringen," 306.
[287] Several contributors to the book *1962–2003: En epok i svensk läkemedelskontroll,* described how thalidomide affected drug regulation.
[288] Jülich, "Fosterexperimentens produktiva hemlighet," 18.

consent becoming a component of medical research.[289] The measures adopted in the United States would be of particular importance to Sweden.

In 1966, the American Food and Drug Administration (FDA) made informed consent a requirement and the National Institutes of Health (NIH) made ethics approval mandatory in order to receive their funding.[290] The first research ethics committee (REC) in Sweden was established in 1966 in response to the new funding demands from the NIH.[291] Receiving funding from abroad was an important component of Swedish research and changes in the clinical trial standards in the United States created a ripple effect. In order to receive funding from the NIH, Swedish researchers would need to have their work approved by an ethical committee. Standards for RECs in Sweden were negotiated in response to American initiatives.[292] The first Swedish REC was established at Karolinska Institute and was designed to evaluate research applications. Part of this evaluation included ensuring that research subjects gave informed consent.[293] However, there were exceptions to these new regulations. For example, these new informed consent requirements did not apply to women who had undergone an abortion—they did not need to give consent for material from their abortions to be used in research.[294] The RECs were new institutions in the process of formalizing their roles and responsibilities and informed consent had only recently been added as a research requirement.

However, these new requirements did not impact the F6103 abortion pill research. Engström's first trials occurred in 1965, ahead of the establishment of the first REC in Sweden. But even in the later years of clinical testing, Engström was not funded by the NIH and was consequently not reliant on ethical committee approval. While ethical regulatory infrastructure was emerging, it would not play a decisive role in testing F6103. Still, as shown in the next chapter, Swedish legal conditions would still threaten to end the experiments.

Testing F6103: corporate interest in reproduction

Among the earliest stakeholders in reproductive research were pharmaceutical companies. Internationally, hormones had been of commercial interest for several decades. Adele Clarke has shown that pharmaceutical industry interest in reproductive research began earlier in Europe than in the United States.[295]

[289] Hoeyer, "Informed Consent," 274.
[290] Ibid.
[291] Ibid. 273; Solveig Jülich and Helena Tinnerholm Ljunberg, "Från medicinskt avfall till rättighetsinnehavare: Framväxten av värdekonflikter kring aborterade foster i Sverige" *Tidskrift för genusvetenskap* 40/3–4 (2019), 43.
[292] Tinnerholm Ljungberg "The Moral Imperative of Fetal Research," in *Medicine at the Borders of Life*, ed. Jülich, (book manuscript under preparation).
[293] Ibid.
[294] Ibid.
[295] Clarke, *Disciplining Reproduction,* 224.

The Dutch company Organon, for instance, pursued endocrinological research from the 1920s, while real industry interest in the United States did not occur until after the Second World War.[296] In Sweden, Leo, a Danish/Swedish pharmaceutical company, had been working with hormones since the 1930s.[297] The pharmaceutical company Ferrosan was one of the earliest stakeholders working with F6103.

Ferrosan was established under Leo in 1919 and eventually became a daughter company of A/S Ferrosan in Copenhagen.[298] Initially funded to experiment with an iron substance, by the 1960s Ferrosan was interested in reproduction. Ferrosan actively pursued research that could impact the regulation of reproduction and compounds such as F6103 were described as "promising substances."[299] In research reports from the 1960s, Ferrosan emphasized their interest in abortifacients. They wrote, "Our substances' ability to induce abortion in the first third of pregnancy is still at the center of our interests."[300] They were working with several different chemicals, and those which impacted early pregnancy were viewed as promising.

The company also actively kept an eye on larger abortion and contraceptive trends in Sweden. In 1964, a Ferrosan working group reported that RFSU had taken up the issue of inducing early abortion in a letter to the legal committee concerning the review of abortion legislation.[301] The working group wrote, "We need to make sure we join this discussion!"[302] Ferrosan was interested in the ongoing abortion investigations in Sweden, hoping to contribute to any developments regarding early abortion policies.

But the company also had broader aspirations. In 1968, Ferrosan considered sending a representative to observe the 6th Congress of Fertility and Sterility in Tel Aviv. They saw this as a good opportunity to make contacts with foreign clinics, which could test their compounds.[303] The opportunity for developing abortifacients went further than Sweden or Scandinavia. If possible, Ferrosan was interested in casting its net in whichever direction. This involved broadly testing its compounds, keeping in touch with Swedish abortion and reproductive trends and laws, and scouting for international opportunities.

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[296] Ibid.
[297] Christer Nordlund, "Hormones for Life? Behind the Rise and Fall of a Hormone Remedy (Gonadex) Against Sterility in the Swedish Welfare State," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 38/1 (2007).
[298] Stig Nylén, *Leos och Ferrosans rötter: En komplicerad och ostrukturerad berättelse om uppkomsten (födelse och uppväxt)* (Pharmacia Leo Therapeutics, 1992), 118, 131.
[299] "Tertialrapport från arbetsgrupp B-tertial III 1964," Forskningsrapporter, diverse, 1964–1967, P a B: 1133, Ferrosan, Skånes näringslivsarkiv (hereafter SN), 2.
[300] Ibid.
[301] "Tertialrapport från arbetsgrupp B, 27 juni 1964," Forskningsrapporter, diverse, 1964–1967, P a B: 1133, Ferrosan, SN.
[302] Ibid.
[303] "Protokoll från möte i arbetsgrupp B den 15.1.68," Forskningsrapporter, diverse, 1966–1969, P 1 B: 1139, Ferrosan, SN.

Ferrosan had several chemical compounds with what they saw as potential reproductive regulation qualities. To take chemical compounds into clinical testing required abiding to the state's regulations. In order to justify testing chemical compounds on humans, researchers had to submit evidence that other work had been previously conducted that showed potential for the compound.[304] Clinically testing a new compound required a series of experimentations before researchers, and SPL, felt the compound was appropriate to use on human subjects.

This being the case, before it would be considered appropriate to test on humans, F6103 went through several rounds of investigations by Ferrosan and by different sets of researchers. To these researchers F6103 held a variety of possibilities. It was produced by Ferrosan, and one of the key scientists involved with the clinical study of F6103 as a potential abortifacient was Engström. There were, however, several different researchers involved in studies on F6103, and at least seven who worked with the compound in clinical trials in Sweden.[305] The purposes of their trials varied and not everyone was interested in F6103 as a potential abortifacient.

Ferrosan worked with the compound in early research stages, relying on their own animal laboratories to run various tests. According to a 1962 report titled *Pharmacological and Toxicological valuation of F6103*, Ferrosan had their own closed colonies of mice, rats, and rabbits, and a breeding stock of dogs on which they tested F6103 for various effects.[306] They tested F6103 for several properties including toxicity, teratological effects, and whether it worked to induce abortion. The report noted that "abortifacient action of F6103 in rats was demonstrated to a certain extent" which seems to be their most promising summary of animal tests.[307]

In order to then test F6103 on humans, Ferrosan relied on a network of physicians.[308] While Engström was the main researcher involved with the abortion focus, he was still a part of a larger research community and not

[304] Hellberg, "Trends in Swedish Drug Culture," 7.
[305] In addition to Engström's co-applicants, see the applications of Gunnar Nylander (363/65), Bengt Persson (335/65), and Lars Philip Bengtsson (368/66), in Gemensamma ärenden, Handlingar rörande kliniska prövningar, F7:6, SPL, RA.
[306] "Pharmacological and Toxicological Valuation of F6103," Forskningsrapporter, diverse. 1962. P 1 B: 1128, Ferrosan, SN.
[307] Ibid. 23, 29. The company also compared their work on F6103 with work on some of their other compounds: F6066 and Stilbestrol. They stated that the three substances all showed properties of antifertility in the context of their rat experiments.
[308] In Sweden, this network came to include Lars Engström, Bengt H. Persson, Gunnar Nylander, Åke Hanngren, Egon Diczfalusy, Karl-Gunnar Tillinger, and Lars Philip Bengtsson.
[308] "Tertialrapport från FU. 13.5.66," Forskningsrapporter, diverse, 1964–1967, P 1 B: 1133, Ferrosan, SN. Ferrosan also had contact with physicians in Denmark, Germany, and Japan, although the majority of their clinical work on F6103 was conducted in Sweden.

working in isolation. In clinically testing F6103 Engström worked with Åke Hanngren, Egon Diczfalusy, and Karl-Gunnar Tillinger.[309]

Thus, the first research steps with F6103 involved a number of actors. Clinically testing F6103 required previous research and animal testing, in this case done by the pharmaceutical company who provided the drug. Ferrosan also relied on a handful of researchers who experimented with different compounds to try to develop an abortifacient. Corporate actors were an early component of the research network. By the time F6103 was being clinically tested, pharmaceutical companies, even in the United States, largely considered it safe and lucrative to produce contraceptives.[310] By the 1960s, governments were also increasingly investing in reproductive and contraceptive research.[311] Reproductive research was not the exclusive domain of academia, medicine, or the state. Getting a drug to clinical testing stages was a collaborative effort between a pharmaceutical company, researchers, and then physicians. Once approved, it would also require clinical trial participants.

The first trial: entangling state, industry, and private actors

Starting in 1965, F6103 was clinically tested by researchers for different purposes. That year there were three applications submitted to SPL by researchers all interested in reproductive elements of some kind, from menstruation, postmenopausal women, and effects on uteruses.[312] The final application of 1965 was submitted by Engström, who was deputy head of the women's clinic at Karolinska Hospital.[313] This research plan was designed to test F6103's menstruation inducing effect and impact on the uterine mucosa of ten healthy women. The trial was approved by SPL.[314] It would, however, expand from Engström's ten-participant projection.

From November 1965 until at least October 1966, Engström tested F6103 on fifty women, twenty-six of them being pregnant. He would document this

[309] "Anmälan om klinisk prövning av nytt läkemedel d:r 135/66," Gemensamma ärenden. Handlingar rörande kliniska prövningar. 1966. F7:8, SPL, RA; "Anmälan om klinisk prövning av nytt läkemedel d:r 372/66," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966–1967, F7:11, SPL, RA.
[310] Clarke, *Disciplining Reproduction,* 229.
[311] Ibid.
[312] "Anmälan om klinisk prövning av nytt läkemedel d:r 335/65," Gemensamma ärenden. Handlingar rörande kliniska prövningar. 1965–1966. F7:6, SPL, RA; "Prövning av F6103 vid cancer prostatae i 1 månads pilotstudie," d:r 362/65, Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966. F7:6, SPL, RA; "Anmälan om klinisk prövning av nytt läkemedel, d:r 405/65," Gemensamma ärenden. Handlingar rörande kliniska prövningar, 1965–1966. F7:6, SPL, RA.
[313] "Anmälan om klinisk prövning av nytt läkemedel, d:r 405/65," Gemensamma ärenden. Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.
[314] Ibid.

trial in paperwork later submitted on request to SPL, and in an article written for the journal *Acta Endorinologica*.[315] The documents submitted to SPL would use the same diary number (405/65) that was used for his approved trial to study the impact on the uterine mucosa of ten healthy women. There is no further archival material to explain the discrepancy between what his application stated he would do and what he later carried out. There is, however, archival material showing that SPL reached out to Ferrosan in September 1966 to find out what had happened with Engström's trial, which reportedly finished in February, indicating that there was a possible communication issue between these actors.[316] Nevertheless, it appears that Engström conducted a more comprehensive trial than initially described in his SPL application.

Testing F6103 in the manner which Engström did required specific measures, most importantly women in early pregnancy. In this sense, Engström's trials went up against an obstacle absent from other trials: the legal abortion system. These firsts tests were done on pregnant women who had legal permission for abortion and who would subsequently receive a D&C abortion. This system created specific circumstances for both the researchers and the trial participants. The experience of entering the trial would be very different from other trials, and the stakes to get in were high for the women.

As abortion had been legalized in various forms since 1938, the state had obligations to provide abortion to its citizens, if and when they fulfilled the criteria. In this sense, the abortion infrastructure was beneficial to Engström. It was possible to provide legal abortions and the state was invested in this service. However, the legal abortion system still complicated matters, for both researchers and trial participants. The ways in which pregnant people were able to access legal abortion changed throughout the decades. What stayed somewhat consistent, however, was a gatekeeping of abortion which prevented any immediate abortion services. This became an important component of the abortion pill research network.

In order to receive an abortion, one would first have to know they were pregnant. In the British context, Jesse Olszynko-Gryn has shown that it was difficult to get tested for pregnancy.[317] Home tests kits were not available until the 1970s, and the familiar modern pregnancy test only appeared in the 1980s.[318] Before this, pregnancy testing was done in laboratories and diagnosis

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[315] M. Bačić, Lars Engström, Elisabet Johannisson, T. Leideman and Egon Diczfalusy, "Effect of F-6103 on implantation and early gestation in women," *Acta Endorinologica* 64 (1970).
[316] "Letter from Margit Nordlander to Ferrosan," Gemensamma ärenden. Handlingar rörande kliniska prövningar, F7:6, SPL, RA.
[317] Jesse Olszynko-Gryn, "The Demand for Pregnancy Testing: The Aschheim-Zondek Reaction, Diagnostic Versatility, and Laboratory Services in 1930s Britain," *Studies in History and Philosophy of Biological and Biomedical Sciences* 47 (2014).
[318] Jesse Olszynko-Gryn, *Pregnancy Testing in Britain, c.1900-67: Laboratories, Animals, and Demand from Doctors, Patients and Consumers* (PhD diss. Robinson College, Cambridge, 2014), 251.

centres.[319] This was also the case in Sweden. In 1937, RFSU established a laboratory where they could analyze women's urine for signs of pregnancy by using the Friedman-Schneider method of injecting the urine into rabbits.[320] Women could send in urine samples to determine whether they were pregnant or not at the cost of eight kronor.[321] By the end of the 1930s, RFSU's laboratory conducted roughly 1000 tests a year.[322] Otherwise, women relied on their own assessments and guesses as to what was occurring with their reproductive cycle.

In order to apply for an abortion women would visit centres that had counselors, gynecologists, and psychiatrists, and would submit an application that contained a descriptive biography of their life, including, among other elements, their living conditions, sexual history, childhood environment, finances, and sexual development.[323] The decision to grant abortion rested with a social-psychiatric committee at the National Swedish Board of Health, or after the assessment and agreement of two doctors.[324] All the clinical trial applicants would have had to go through this process, which involved visiting and getting the approval from two doctors and a social worker. This would have also included a gynaecological examination.

In her work on abortion in Sweden, Lena Lennerhed has studied the psychiatrization of abortion that occurred in the 1940s and 1950s. She shows that "weakness" increasingly replaced "disease" as the dominant reasoning behind abortion permission.[325] Weakness was mainly considered a psychological issue and not a physical one.[326] Women could also be referred to psychiatric hospitals as part of the abortion evaluation.[327] In the 1950s, some professionals in the abortion evaluation process would also try to dissuade women from choosing an abortion.[328]

While it is difficult to get the abortion applicant's patient records, I have managed to access twelve from Engström's F6103 trial. These records include the application for abortion and evaluation by the gynecologist and social worker. Of the available patient files, Engström was listed as the main doctor on all the records and eleven of the twelve records had Kjell Öhrberg as the second doctor.[329] Ten of the cases had Gunnel Beander as the social worker.[330]

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[319] Ibid. 245.
[320] Lennerhed, *Sex i folkhemmet,* 72.
[321] Today's conversion would be 243 Swedish kronor. https://www.scb.se/hitta-statistik/sverige-i-siffror/prisomraknaren (accessed 22 November 2020).
[322] Lennerhed, *Sex i folkhemmet,* 72.
[323] Lennerhed, "Troubled Women," 91.
[324] Ibid.
[325] Ibid.
[326] Ibid.
[327] Ibid.
[328] Ibid. 96.
[329] "Patient Charts 1–12," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
[330] Ibid.

The applicant would have needed to have at least three meetings to see everyone, with some having to go multiple times to one professional. The longest wait between the three meetings was fifteen days, the shortest was four, while most waiting periods landed around six days. Six of the applicants also had their husband, and/or the biological father, interviewed by the social worker.[331]

These patient records were designed to be used and completed by medical professionals. They are not an archival document that the clinical trial participants had control over, and it is difficult to tell how the individuals would have really felt about the whole experience. The social worker generally had two interviews with the clinical trial participant in which they took down many details and narratives about the clinical trial participant's life, but these are details filtered through another person. Additionally, the circumstance of seeking a legal abortion was nuanced and difficult to interpret from these files. The patients could only receive a legal abortion for a handful of reasons, and it is hard to say how that shaped the social workers', and doctors', evaluations.

Nevertheless, these records are important as they help to expand the details around the first clinical trial. They also further illustrate how clinical trials for abortion methods differed from other clinical trials. The legal infrastructure of abortion intersected with the clinical trial design, creating specific entrance requirements for the clinical trial participants that were absent in other clinical trials.[332]

All of the patients entered the clinical trial in less-than-ideal personal circumstances. This has been shown to be the case in a wide range of clinical trials, but I argue that unwanted pregnancy is a specific type of "less-than-ideal." While there are similarities to other trial power dynamics, the specificity of pregnancy positions these trial participants in a different labour-exchange than other trial participants. Incentives, especially financial ones, have played a role in healthy volunteer participation and there are ethical implications masked by the term volunteer.[333] Some healthy volunteers participate for financial gain, some as a means to access healthcare.[334] People with AIDS and HIV, for instance, insisted on participating in clinical trials in order to develop therapies when there were none.[335] The range of different clinical trial motivations and circumstances is vast, and to be in less-than-ideal personal circumstances is not unique to the medical abortion trials.

But in the case of these F6103 trials, the participants looked to end their unwanted pregnancy, and this is distinctive from other exchanges. These trial

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[331] Ibid.

[332] The exception to this being a handful of other trials which also included pregnant women. These, too, would need to go through similar steps. See, for example, page 91 of this dissertation.

[333] Shadreck Mwale, *Healthy Volunteers in Commercial Clinical Drug Trials When Human Beings Become Guinea Pigs* (Palgrave, 2017), 2.

[334] Ibid. 10.

[335] Steven Epstein, *Impure Science: AIDS, Activism, and the Politics of Knowledge* (Berkeley: University of California Press, 1996), 298.

participants wanted a solution and for many this was time sensitive. They were not trying to manage or treat a long-term illness, or directly financially profit from a clinical trial, they were trying to legally end their unwanted pregnancies. They were, similarly to other trials, closest to "accessing healthcare" in exchange for their bodies. Acquiring a legal abortion was not simple. That they would also be involved in a clinical trial for an abortion pill might have been perceived to be difficult to negotiate, as getting permission for a legal abortion at all was difficult.[336]

The stakes were high for these clinical trial participants. In their interviews two of the participants said they would get an illegal abortion if they were rejected.[337] One of the participants described themselves as suicidal.[338] For all the participants abortion was articulated as a tool to shape and control their lives. For one it was thought to be the only way to reconcile with her husband after an affair, for another it was seen as the only way to ever be accepted by her parents. For many participants abortion was framed as a way to create opportunity for work and social lives outside of the home. Abortion was seen as a solution, and pregnancy was seen as an obstacle. Several participants openly described earlier pregnancies as redirecting their lives, for example, through marriage because of pregnancy or loss of income and space.[339]

All of these twelve participants wanted abortions, and all of them went through a similar process to access one. There were multiple meetings, physical examinations, and in-depth interviews. They all were forced to reveal intimate private details of their lives to medical professionals.[340] As will be shown, they were all judged and evaluated on their appearances, their backgrounds, their relationships, and their choices. In most other regards the clinical trial participants differed. They were of varying ages, marital status, incomes, and education levels. They had inconsistent physical and psychological status as measured by the doctors. According to the social worker, some of the participants described having supportive husbands and happy family lives, while others said they were in abusive relationships or estranged from their families. Some already had children, some had never been pregnant before, and one had previously given a baby up for adoption.[341] Some of the participants were already happy to be parents, and some did not know the identity of the biological father. All of these details were included in their patient charts and considered relevant for evaluating the possibility of obtaining a legal abortion.

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[336] Lennerhed, *Historier om ett brott*, 174, 177. Lena Lennerhed has studied women traveling to Poland in the 1960s to receive abortions in the face of Swedish restrictions and difficulties in accessing legal abortion.
[337] "Patient Charts 8, 12," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
[338] "Patient Chart 10," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
[339] "Patient Charts 1–12," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
[340] Ibid.
[341] "Patient Chart 6," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA

In their interview with the social worker, who was most often Beander, she would begin her notes of the interview by physically describing the applicant.

In one file she wrote,

> Tall, slender, simply dressed young woman with clean features and discreetly but effectively highlighted, remarkably beautiful eyes.[342]

In another the applicant was described as,

> A large, light-haired woman, completely without make-up. She has a heavy face with slightly protruding teeth in her upper jaw, dressed somewhat old-fashioned in sullen colours.[343]

These descriptions were not limited to the applicants. When their husbands or the biological fathers were interviewed the social worker also described their appearance. She described one husband as,

> Slim, blond man with a small pencil mustache and Finnish looks, high cheek-bones and narrow eyes.[344]

Lennerhed has speculated that the focus on appearance in abortion applications could have helped to build sympathy or reluctance towards the applicant on the part of the doctors, but based on the available archival material she could make no decisive analysis of how these descriptions affected the applicants.[345] This very small sample of twelve had a range of different descriptions, and all the applicants received abortion permission.

After describing them, the social worker would then assess the mental and physical state of the applicant, including their relationship to the biological father and other details the social worker found relevant. This often meant descriptions of the applicant during the interview, whether they were crying, nervous, anxious, speaking quickly, loudly, or softly. It could also include how the applicant felt about their present children, housing situation, and details from their childhoods. All of this was taken into account.

In the case of these twelve applications, they were then judged to be worthy of a legal abortion. Most of the applications explicitly stated on which grounds the applicants could receive an abortion. Out of the twelve patient records, nine stated weakness (svaghet) as the reason for an abortion. The records also have lengthier descriptions of the patients' perceived overall state. The doctors wrote notes on the application such as 'suicide threat', 'paranoid', 'depressed', 'neurotic', 'emotionally isolated', 'tired', and 'immature', to describe the

342 "Patient Chart 11," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
343 "Patient Chart 10," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
344 "Patient Chart 9," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
345 Lennerhed, *Kvinnotrubbel,* 32.

patients.[346] The difficulty with interpreting this material lies in the intersection between abortion access and law. Did the doctor actually consider the participant depressed, or did he see the participant as needing an abortion and knew what he needed to write to make her case legally convincing? Or was the participant acting in a certain way to ensure their evaluation resulted in an abortion? Whatever may have been the reality, the result was vivid descriptions of the participants' apparent states of mind.

These patient files give a good idea of the obstacles these participants had to face to get a legal abortion, and to then be included in the clinical trial. Whether or not they would have wanted to be a part of a clinical trial is difficult to say. Nevertheless, these participants endured many meetings, examinations, long and personal interviews, and the judgement of their lives and choices. All the details that were gathered to make an assessment for abortion access were also relevant to the clinical trial. This process, with its various steps and vast information gathering, acted as a gateway to the clinical trials. Without these steps and questions, there would not be a legal clinical trial of abortion substances. The clinical trial participants endured intrusions on their privacy and most likely a great deal of stress to obtain an abortion, and subsequently entrance to the clinical trials. The files also reveal how the trial participants, as implicated actors, were configured by researchers and social workers. They were configured as weak and vulnerable in order to gain entry to the clinical trial.

Once the participants were approved for abortion, they became included in the study. Clinical trials of F6103 occurred at Karolinska Hospital's women's clinic and the final report of the first trial gave detailed accounts of sixteen of the fifty patients. This report outlined the hospitalization period, the amount of blood lost in millilitres during the abortion, whether the patient bled at any point in the care afterwards, signs of infection, whether the patient required a blood transfusion, what kind of medications the patients were provided, whether the ovaries were impacted, if there was pain or fever, and the general gynaecological status of the women.[347]

F6103 was given to the participants over two to six days in 600 mg doses, administrated in gelatin capsules.[348] The average in patient care was roughly five days.[349] The length of gestation was between forty-four and seventy-nine days, there was prolonged bleeding in seven cases, of which three received additional surgical abortions, and six cases had signs of inflammation. In a

[346] "Patient Charts 1–12," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
[347] "Preliminära resultat beträffande inverkan av F6103 under tidig graviditet," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.
[348] Bačić, Engström, Johannisson, Leideman and Diczfalusy, "Effect of F-6103," 705. In a report to SPL, Engström also said that some participants received tablets instead, see "Preliminära resultat beträffande inverkan av F 6103 under tidig graviditet," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.
[349] "Preliminär resultat beträffande inverkan av F 6103 under tidig graviditet," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.

final report, Engström listed seven patients with prolonged bleeding and six patients with signs of infection. Signs of infection were predominantly fever and the patients were treated with penicillin and sometimes sulphur.[350]

In order to evaluate the effect of F6103, Engström studied "the histological appearance of foetal and placental tissues obtained" by scraping the uterus, as well as by examining vaginal bleeding, and using hormone assays.[351] Specifically, Engström used a new hormone method developed by the Swede Leif Wide to measure HCG levels in the urine, as well as an older pregnanediol method.[352] These technologies translated pregnancy into physical forms, such as hormones, blood, and tissues.

The potential experience for the patients in the F6103 trials ranged from minimal pain and bleeding to more serious complications such as infection or prolonged bleeding. In material submitted to SPL, Engström showed that approximately a quarter of the patients administrated with F6103 experienced complications. All patients required in hospital care for roughly five days, and they would have also received a surgical procedure, some more than once. The patients would have most likely received follow up inquiries from the medical staff several weeks and then months after the abortion.[353]

Engström favoured certain descriptions in the documentation of the trial complications. Blood, temperature, medication, palpations, and growths were regularly tracked during the procedure and documented for SPL. Pain, however, was only mentioned in four of the sixteen cases. Engström documented one case of menstruation-like pain, one patient who did not feel pain, one patient who had pain that came and went, and one patient was described as having pain in the lower abdomen.[354] In terms of what was categorized and given importance, measurable data, such as blood and temperature, was consistently tracked. The patient's pain was less reliably reported. In her work on the IUD during the same time period, Chikako Takeshita noted a similar trend. Researchers measured blood loss and not pain, "Because pain is difficult to measure objectively."[355] Pain was present in Engström's reports, but it was not systematically recorded in the same way as other elements.

In a report on the trial for SPL, Engström wrote that thirteen cases had vaginal bleeding during the trial.[356] He described this bleeding as insignificant. In a letter to the National Swedish Board of Health Engström wrote, "No discomfort [due] to the medication has been recorded by any patient."[357]

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[350] Ibid.
[351] Bačić, Engström, Johannisson, Leideman and Diczfalusy, "Effect of F-6103," 706.
[352] Ibid.
[353] "Patient Charts 1–12," Psykoterapiinstitutet (f.d. Mentalvårdsbyrån), Patientjournaler, F1, RSA.
[354] "Preliminär resultat beträffande inverkan av F 6103 under tidig graviditet," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.
[355] Takeshita, *The Global Biopolitics of the IUD*, 144.
[356] "Preliminär resultat beträffande inverkan av F 6103 under tidig graviditet," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.
[357] Ibid. 2.

Engström described what the participants' experienced in his trials as reasonable and unproblematic to SPL.

Despite Engström's assurances about the trial, SPL wanted more evidence. After eleven months of testing F6103, in October 1966 Engström brought his first clinical trial of F6103 to a close. He had administrated F6103 to fifty patients, with a control group of twenty-six, and submitted a preliminary report to SPL. Åke Liljestrand, the director of SPL's pharmacotherapy department, responded to Engström's report in December. He wrote that on the grounds of the complications mentioned in the preliminary report, SPL wished to see a complete final report "with a detailed account of all cases in which complications occurred."[358] Engström wrote a new final report with descriptions of all the complicated patient cases.

Conducting the first trials of abortion pills was more than a process between a pharmaceutical company, SPL, researchers, and clinical trial participants. First, women needed to determine on their own that they may be pregnant, relying on their own knowledge of their bodies and sex lives, and possibly using laboratory services. Then they needed to be considered eligible for an abortion by the state. This brought in social workers, psychiatrists, and gynecologists, who, through their various practices, configured the trial participant as vulnerable. There would also need to be a doctor to perform a surgical abortion at Karolinska Hospital. Sometimes this would be the gynecologist who first examined the abortion applicant during the evaluation, sometimes not. There would also be a researcher, Engström, who administered the abortion pills. Staff at the women's clinic would have also helped to take care of the trial participants while hospitalized. Depending on how the trial went for each individual, they would also require various aftercare and contact.

Most pregnant women took F6103 in this clinical trial environment, with one notable exception. In 1966, a woman who had access to a veterinary medicine college ingested F6103 from the college's laboratory.[359] F6103 was being used at the college to test as an abortifacient on animals, and the woman, who was familiar with what the compound was tested for, wanted to abort her own pregnancy. Over the course of two days, she took eight tablets. However, she did not begin to bleed. She felt pain in the lower back and groin and was worried about eventual birth deformities if she did not successfully abort. The woman had already been looking to abort, and now, having taken F6103, she absolutely did not want to go on with her pregnancy.

Much like the official trial participants, this woman then underwent various interviews to determine her eligibility for a legal abortion, alerting the medical system to her own experimentation. Engström, who ended up evaluating the woman, decided that the entire process of taking F6103 had made her sensitive

[358] "Betr. Klinisk prövning av F 6103 under tidig graviditet" December, 9 1966, Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.
[359] "Patient Chart 1," Karolinska sjukhuset – Kvinnokliniken/BB, Patientjournaler, F1, RSA.

and worried, and that she should be granted a legal abortion on grounds of weakness.[360] While this seems to be an exception to how women ingested F6103, it demonstrates effects of a restrictive abortion legal system on its citizens. Without assurance that one will receive an abortion, people may look for alternative answers. New technologies could then inadvertently also impact the way illegal abortions were done.

The research network of F6103 was more complex than for other trials which did not require pregnant women. To run these trials legally, the state needed to be involved in both its oversight of clinical trials and of abortions. But domestic, private lives were also an important component of the trials. Without living them, and then revealing them, there would be no abortions. Several applicants noted how abortion shaped their private lives, highlighting the social aspect of abortion. Women needed to have an understanding of their own bodily processes in order to seek out abortions. Menstruation, and sex lives, were also a part of this research network.

F6103 and the beginning of new scripts

The abortion pill trials occurred at the intersection between the domestic lives of the trial participants and the state's official interest in controlling abortion, primarily through their abortion application process. However, the trials also intersected with the state's ongoing evaluation of the abortion system. As shown in the previous chapter, the state had been commissioning official inquiries into abortion since 1935. The 1960s were also a time of heightened abortion activity—there was increased political movement to address abortions and the 1965 Abortion Committee was working to evaluate the state of abortion services.[361] The clinical trials of F6103 would become enmeshed in this movement in more ways than one. As will be illustrated, this would expand the practices in the research network, creating more research avenues and more tasks for some of the trial participants, as well as contributing to the creation of new abortion scripts.

By the mid-1960s, there was public interest in the official abortion process, particularly in the time between application and abortion. In 1965 and 1966, major Swedish newspapers reported on the length of time one needed to wait for an abortion. In October 1965, *Expressen* wrote,

> The most objectionable and most criticized of the current abortion legislation is the bureaucratic quarrel that allows abortion-seeking women to wait—sometimes several months—before being informed of their abortion claims.[362]

[360] Ibid.
[361] Lennerhed, *Historier om ett brott,* 174.
[362] "Abortväntan," *Expressen* 1-10-1965.

Over the next few months this time gap was also reported on by *Svenska Dagbladet*, *Aftonbladet*, and *Dagens Nyheter*.[363] The media reports on this issue show exasperation with the abortion process. It was also a concern and interest of Engström's. As he was clinically testing F6103, he was simultaneously studying the effects of abortion waiting times on applicants.

In parallel to his clinical tests with F6103, Engström was conducting abortion experiments at Stockholm City's Mental Health Bureau with the psychiatrist Kjell Öhrberg.[364] While different in intention and structure, these two separate experiments would eventually overlap. In their study, Engström and Öhrberg sought to know more about the reasons women wanted abortions.[365] Specifically, they wanted to know "whether the woman is constant in her abortion desire, and if her motive for this desire is such that it can be predicted that she will be better, not only physically and mentally but also in social health, if she gets an abortion than if she gives birth to the child."[366] In this study, abortion was positioned as an intervention which impacted the physical, the mental, and the social health of women. This focus on abortion attitudes and experiences was also of interest to the 1965 Abortion Committee, who asked to be briefed on the research.[367] Monitoring the mental and social health of abortion patients could help the Abortion Committee with their overall evaluation of the legal issue of abortion.

Engström and Öhrberg assumed that extended waiting times for an abortion put mental pressure on the women, and that earlier abortions were better.[368] The researchers suspected that they could improve the abortion experience by reducing the overall time from application to abortion.

In this study, abortion applicants would go through the normal abortion process—visiting a social worker, psychiatrist, and gynaecologist, but with shorter waiting times.[369] The applicant only had to meet with each professional once, and the researchers made the waiting time between appointments as short as possible.[370] The patients would then receive a D&C abortion. There would then be follow up interviews post abortion to see how the patient was faring. Engström and Öhrberg collaborated with the psychologist Sylven Schmidt who conducted the interviews.

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[363] Sive, "Allt längre väntan för abort," *Dagens Nyheter*, 27-1-1965; Heng, "En tiondel av de abortsökande får vänta i tio veckor eller mera," *Svenska Dagbladet,* 27-11-1965; Olle Wigander, "Gynekologerna räcker inte till för långa abortköerna," *Aftonbladet*, 7-01-1966; Nils Öhquist, "Snabb-abort! Ny giv för legala aborter riskfriare och enklare," *Aftonbladet,* 2-12-1966.

[364] Sylven Schmidt, "Kvinnors upplevelse av tidig abort," Forskningsrapport från pedagogiska institutionen, (Stockholms universitet, 1970), 4. In her book, *Kvinnotrubbel*, Lennerhed has also commented on this report. See page 123.

[365] Schmidt, "Kvinnors upplevelse av tidig abort", 4.

[366] Ibid.

[367] Ibid. 11.

[368] Ibid. 5.

[369] Ibid. 5.

[370] Ibid. 6.

In 1970, Schmidt published a psychology/pedagogy licentiate thesis on women's experiences of early abortion, based on her work with Engström and Öhrberg. Schmidt was thought to be specially qualified for this research as she had worked on abortions at the Mental Health Bureau before, in 1958 and 1965, and consulted on abortion at a county level.[371] Schmidt interviewed 80 women about their abortion experiences from October 1966 until July 1967.[372] The interviews consisted of 350 questions and 150 statements.[373]

In her evaluation, Schmidt described the National Board of Health and Welfare method of obtaining an abortion as Kafkaesque and impersonal.[374] Schmidt was critical of the abortion scripts of *last resort* and *specific conditions*. She argued that the process for obtaining an abortion was long, had unnecessary steps, and was sometimes purposefully slowed down by gynecologists. In this matter, Schmidt saw the delay as just as biased as letting a patient have an early abortion. For Schmidt it was difficult to say what the normal state of mind actually was, and there was a bias both ways. It would be helpful to determine whether a shorter abortion application process was seen as beneficial from the patient's perspective.[375]

This study was separate from Engström's clinical trials of F6103. The clinical trials were looking to study effects of a compound on a pregnancy, and the psychological study was looking to examine the motivations behind abortions and the psychological toll of the abortion system. But Engström was involved in both studies and these studies converged.

In Schmidt's report on abortion experiences, she had a section on abortion pills—evidently Engström had blended his two experiments together. Of the twelve patients who have patient records, three were noted to have contact with Schmidt, so most likely also belonged to the experience-of-abortion group. A handful of patients in the experience-of-abortion study were also given doses of F6103. Of the eighty women in the experience-of-abortion study, Schmidt reported that twenty women had received abortion pills when they met the gynecologist.[376] The pills were given to test their effectivity at later stages of pregnancy and were all supposed to be followed up by a D&C, regardless of their success.[377]

In her interviews, Schmidt discovered that only six of the twenty patients were aware that they received an abortion pill.[378] In her report, Schmidt wrote,

[371] Ibid. 11.
[372] Ibid. 20.
[373] Ibid. 17.
[374] Ibid. 6.
[375] Ibid. 9.
[376] Ibid. 66. It does not explicitly say that these pills were F6103, but there are no other records showing another abortifacient being used or tested at this time, and Lars Engström is also involved in these tests.
[377] Ibid.
[378] Ibid.

> I have not found any relationship that could explain why the majority, who received abortion pills, stated that they had not received abortion pills. Maybe they received insufficient information about the medicine and its purpose? Perhaps they did not understand the information given? [379]

Schmidt could not understand why so few patients knew that they had taken an abortion pill. While there is no definitive explanation, it illustrates that there was a chance that patients involved in F6103 trials were not even aware they had become clinical trial participants. They simply wanted an abortion. It also shows that some clinical trial participants spanned more than one experiment. Becoming a trial participant for one of Engström's trials could also mean further participation in another trial. It also explains why the waiting times for some of the clinical trial participants was so short. Some applicants waited only five days to find out whether they were eligible for abortion. This could be due to being part of this parallel study, which was looking to assess the processing times.

Abortion, and abortion technologies, were more than a physical process of emptying a uterus. They were a state interest, a public concern, and a professional concern. On the one hand, Engström treated abortion as a multifaceted issue. How, exactly, did pregnant women feel about abortions? What were the effects of the current abortion system? And could there be another way to induce abortion? How were researchers to consider the physical, mental and social health of applicants? These were all components of his studies. On the other hand, clearly informing trial participants of their participant may not have been as important. While in a period on the cusp of a change in research ethics, the regulatory infrastructure did not demand any evidence of consent. The trial participants were then entering into a system which regulated their access to abortion and made no demands on transparency for trial participants. How each participant felt about their time in the trial is impossible to ascertain, but the system created room for exploitation.

The clinical trials of F6103 were entangled in larger concerns over the abortion process in Sweden. The 1965 Abortion Committee, Engström, Öhrberg, and Schmidt were all interested in the experience of abortion. While Lennerhed has mapped the psychiatrization of abortion which occurred in the 1940 and 1950s, here a shift occurred. Instead of focusing on the psychiatric status of the women, these researchers were looking to study the psychology of undergoing an abortion. While the input of women was important, it was not the women themselves who were under evaluation, but rather the impact of the abortion system. The long waiting times was of particular interest and the researchers suspected earlier abortions were better.

In this way, Engström and the F6103 research were beginning to contribute to the making of new abortion scripts. While existing abortion scripts of *state service, specific conditions,* and *last resort* all configured legal abortion to be

[379] Ibid.

done on select women and in a delayed manner, abortion pills could change that. As will be shown in the next chapter, a pill could be given early in pregnancy and in their research practices researchers would challenge the existing scripts. As has been shown in this chapter, the script of *last resort* was contested by researchers early on. The abortion queue system was not just a concern of the researchers—the 1965 Abortion Committee and the newspaper coverage indicate that this was a larger social issue. But by examining the development of medical abortion, it is clear there was a potential scientific avenue for solving abortion issues and making new abortion scripts. Earlier abortions would benefit from early abortion techniques, a demand which F6103 was being designed to meet.

Conclusion

In investigating how the first trials occurred, this chapter has followed a network of actors who both made the trials possible and impacted their structure. It has shown how the clinical trial network extended from the state, to a pharmaceutical company, to doctors, patients, social workers, and psychologists. As pregnancy and abortion were state affairs, the trials for F6103 were more complicated than trials which did not require pregnant participants. There were legal requirements for both abortions and clinical testing, and while informed consent was not necessary, ethical aspects of medical research were becoming increasingly surveilled. To be pregnant and to want an abortion was viewed as an event that extended beyond the physical process of emptying the uterus. To have an abortion was seen as a medical procedure that could have physical, psychological, and social ramifications. The legal abortion system intersected with the clinical testing system, and the trial participants were at this apex.

As implicated actors, they endured first one system to arrive at the next. To be a trial participant for F6103 required a complicated entrance procedure which threatened to jeopardize the trial participant's bodily autonomy, a hospitalization stay of approximately five days, varying amounts of bleeding, infection and discomfort, and further abortion interventions in the form of surgery. A handful of participants were also involved in a parallel study on the experience of abortion which would have required answering hundreds of questions from a psychologist. The clinical trial participants contributed their time and bodies to these experiments, and their labour was significant.

Abortion in itself was not a guaranteed matter for these implicated actors and whether they felt they had a choice in participating in the clinical trial is difficult to measure. It also seems that some participants were not informed of the trial or of what was going into their bodies. But it is not clear if that was the case for more than the fourteen participants who were interviewed by Schmidt. The clinical trial landscape of the time, which was undergoing various changes, did not yet require informed consent.

For the researchers, the abortion system added many steps to the clinical trials. The thalidomide scandal had recently illustrated the risks of pregnant women using drugs, amplifying the state's surveillance through malformation registers and side effect boards. Additionally, the ongoing state investigation into the abortion system intersected with the clinical trials, with Engström studying the impact of the legal abortion system on women's well-being alongside his experiments on medical abortion. The working hypothesis was that shorter queue times would improve the entire process for the abortion applicants.

This intersection of clinical trials, abortion laws, and domestic lives created an obstacle for the research. Existing abortion scripts of the time, which configured abortion as being for the weak and sick, as a state regulated procedure, as an expert controlled space, and as an act that occurred later in pregnancy impacted the research. To clinically test F6103 took more time than other trials which did not require pregnant participants. To further complicate matters, Engström was looking to develop abortion technologies which impacted early pregnancy, which then required not only pregnant trial participants but those in early pregnancy, creating a much smaller window of testing opportunity. As will be seen in the following chapter, Engström hoped that some procedural adjustments could be made.

4. The Ambiguity of Abortion

Developing an abortion pill required the participation of pregnant women in the clinical trials. This resulted in a special kind of trial which relied on the state's mechanisms for providing legal abortion, a process which delayed the moment at which the researchers could administrate F6103 to the participants. As this chapter shows, the time at which the abortion pills were administrated was an important element of the clinical trial. Engström wanted to develop a technology which could work on early pregnancies and consequently wanted to find women who were as early in their pregnancies as possible.

Sometime during the first trial, Engström began to envision a smoother method of running the experiment, a method which would provide participants who were no more than 55 days pregnant. This vision would prompt a chain of events which would bring the research to the parliament's attention. Subsequently, the trials had to be broadly understood by people outside of the reproductive research field.

This chapter investigates the ways this research was both presented to and received by various actors in the research network. As other scholars have shown, despite abortion being legally permitted, it was still a controversial topic in Sweden.[380] In the decades leading up to the trials, prominent doctors, politicians, and church authorities opposed abortion, at times due to their religious beliefs.[381] Abortion was far from a benign topic, and actors in support of abortion pill research would need to explain the research to broader audiences. In the face of potential controversy, how was abortion, and subsequently the abortion pill, depicted in these first clinical trials?

By examining clinical trial paperwork, legal documents, parliament debates, and media material, I expand the network from the pharmaceutical industry, social workers, psychiatrist, psychologists, clinic workers, trial participants, and researchers to include government officials, lawyers, parliament members, and the public. In this extended network, I investigate how abortion, and the abortion pill, was constructed and to what effect. I examine how actors negotiated amongst themselves to both expand the network and create new abortion scripts. These negotiations involved actors presenting their visions for the research and how they wanted the network to look. I argue that

[380] Jülich, "Picturing Abortion Opposition in Sweden," 285; Annulla Linders, "Victory and Beyond: A Historical Comparison of the Outcomes of the Abortion Movements in Sweden and the United States," *Sociological Forum* 19/3 (2004), 389.
[381] Ibid.

supporters of the research emphasized the ambiguity of abortion, which helped to make the abortion pill more palatable to those with ideological grievances against it. The intersection of Swedish law and abortion pill research would co-produce new abortion scripts.

In examining the depictions of the reproductive processes under experimentation, I contribute insight into how reproductive concepts were treated in Sweden during the 1960s. Pregnancy and abortion were not static, and the introduction of a new technology further destabilized these concepts. Scholars of reproductive technologies, such as the contraceptive pill and in vitro fertilization, have shown how these technologies have changed the ways facts of life are understood.[382] Scientific developments during the mid-20th century challenged ideas of fertility and reproduction, with the difference between preventing pregnancy and ending pregnancy enacted as an important boundary in several cases.

In connection to these boundary changes, the relationship between the law and science has been of academic interest. Particularly from the 1960s forward, scholars have examined major legal reforms on reproduction.[383] In her work on the intersection of biology and law, Sheila Jasanof wrote, "The constant, mutually constitutive interplay of biological and legal conceptions of life, the former focusing on life's definition and the latter on its entitlements, is a fundamental feature of scientific and technological societies".[384] Along these lines, this chapter examines how actors who can be constituted as legal, parliamentary, and scientific co-produced abortion scripts.

I show that alongside other technological developments of the mid-20th century, abortion pills forced discussions of boundaries between anti-conception and anti-development technologies.[385] Anti-conception refers to technologies which would prevent a pregnancy from occurring, while anti-development refers to technologies which end a pregnancy.

These were not the first discussions of reproductive processes to occur in Sweden, nor the first to find their way to parliament. The Abortion Laws had created opportunity not only for the abortion pill researchers, but for others as well.[386] As early as the 1950s, Swedish researchers used material from legal abortions, chiefly to develop vaccinations. This research would stir up the issue of when life began and whether the fetuses being used in experiments could be considered alive.[387] The Swedish government met criticism of the

[382] Sarah Franklin, "Making Miracles: Scientific Progress and the Facts of Life," in *Reproducing Reproduction: Kinship, Power, and Technological Innovation*, eds. Sarah Franklin and Helene Ragoné (Philadelphia: University of Pennsylvania Press, 1998); Watkins, *On the Pill*, 79.
[383] Nick Hopwood and Martin Johnson, "Modern Law and Regulation," in *Reproduction*, eds. Hopwood, Flemming and Kassell.
[384] Sheila Jasanoff, *Reframing Rights: Bioconstitutionalism in the Genetic Age* (Cambridge Mass: MIT Press, 2011), 3.
[385] Takeshita, *The Biopolitics of the IUD*, 105–136.
[386] Jülich, "Fosterexperimentens produktiva hemlighet," 11.
[387] Ibid. 17.

research with assurances that the fetuses were not alive and instead similar to other bodily organs in their research suitability.[388] Science and objectivity were used to establish credibility and authority.[389] Similarly to this earlier instance from the 1950s, abortion pill research would also demand certain boundaries be established. However, as this chapter shows, instead of creating certainty around reproductive processes, such as the insistence that fetuses used in research were not alive, various actors would mobilize ambiguity.

This chapter begins by following Engström's efforts to streamline the process of recruiting trial participants. It then examines the effects of this effort, highlighting the state's involvement and the legal difficulty of the research. It shows how an investigation into the trials impacted the research process, motivating Ferrosan to look elsewhere for clinical testing opportunities. Then the legal dilemma of the clinical trials is outlined, focusing on the assessment made by the lawyer Hans Thornstedt. This is followed by examining parliamentary discussions of the research. Finally, the chapter examines how the researchers and Ferrosan used the media to describe the clinical trials, and how ambiguity worked in their favour.

Finding the right trial participants

Following his first trial in 1965, Engström, along with Åke Hanngren, submitted another application to SPL in April 1966.[390] The purpose of this trial was to test F6103 as a medicated early abortion and as a pregnancy prevention agent. The trial would be hosted at Karolinska Hospital's women's clinic and would end on the first of May 1967. This application to SPL included a four-page written report.[391] In comparison to other researchers' applications it was rather extensive and covered previous trial results, including the pilot tests that they themselves had carried out.[392]

The report described two ways of testing F6103. The first method consisted of giving the substance to the subjects directly before their menstrual period began on a monthly basis. The second involved the test subjects refraining from contraceptives and instead using F6103 if the expected menstruation did not occur.[393] The boundary between contraceptives and abortion pills was

[388] Ibid. 22.
[389] Sarah Franklin, "Rethinking Reproductive Politics in Time, and Time in UK Reproductive Politics: 1978–2008," *The Journal of Royal Anthropological Institute* 20/1 (2014). This is a similar strategy to that which Sarah Franklin studied in the UK in the 1980s with the "primitive streak," a concept that guided legislation on IVF.
[390] "Anmälan om klinisk prövning av nytt läkemedel, d:r 135/66," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966, F7:8, SPL, RA.
[391] Ibid.
[392] "Ansökan om tillstånd till klinisk prövning av preparatet F 6103 (Ferrosan) använt som medikamentellt tidigabortivum och graviditetsförebyggande medel," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966, F7:8, SPL, RA.
[393] Ibid.

already blurred. In the first method, the abortion pill would resemble practices around contraceptives as it was intended to be used regularly and without confirmation of pregnancy or menstruation. However, the report went on to argue that the second option was of more interest as an object of study.[394] They argued that consistently taking measures to prevent pregnancy had been, up until then, difficult for couples to manage. Providing a method which women could use when they realized they were early in their pregnancy was then seen as a preferable means of birth control. In designing an abortion pill, contraceptive uses and patterns were of interest to the researchers. However, the distinction between drugs and methods that worked as anti-conception, such as the birth control pill, versus methods that worked as anti-development, such as the abortion pill, would become important legal terrain for the researchers to navigate.

These methods were not how Engström's first trials functioned—the researchers were looking to design a new way of including pregnant women in their study. Engström and Hanngren sought advice from the National Swedish Board of Health, which had jurisdiction over SPL, in how to best proceed with their investigations. Their report put emphasis on the importance of developing such an abortive method and doing so within existing legal parameters. The researchers requested the National Swedish Board of Health's direction on how to create a better participant recruitment system.[395]

Concerning the test subjects, the written report contained a detailed plan. The researchers had established a collaboration with the Mental Health Bureau of the City of Stockholm so as to readily have access to women who were no further along than 55 days pregnant. Pregnant women who turned to the Mental Health Bureau would be fast tracked into the abortion pill trial. The researchers would use the two-doctor note procedure to legalise the abortion.[396]

The trial's boundaries consisted of finding women who were early in their pregnancy and had permission for abortion, and the researchers thought that using existing medical infrastructure such as the Mental Health Bureau would simplify this process. Engström and Hanngren concluded their report by reiterating their choice of subjects:

> We want to present the following suggestion as a solution. The subjects - who all are thoroughly informed about the trial and thereafter voluntarily participate - are chosen so that they already before a potential pregnancy happens can be said to fulfill the criteria for abortion according to present law.[397]

From Engström and Hanngren's perspective, the women who were in contact with the Mental Health Bureau were appropriately informed and volunteering for the study. This attention to informed consent differs from the first trial.

[394] Ibid. 3
[395] Ibid.
[396] Ibid. 2
[397] Ibid. 4

While the researchers were not obligated to apply to a REC, the concept of informed consent made an appearance in the paperwork for the new trial. As will be shown, it would also become a discussion point amongst other actors in the network. The report also stated that they partly chose the Mental Health Bureau as the women involved with the bureau would already fulfill the criteria for a state sanctioned legal abortion. This, as will soon be illustrated, was not an undisputed claim.

Thus, in the second wave of clinical tests, Engström and Hanngren constructed abortion, through F6103, as occurring on consenting adults who were early in their pregnancies. It was also a procedure that they viewed as a state issue. They considered the National Swedish Board of Health a potential ally in their endeavours, a source to help them navigate the legal situation surrounding abortions. In many ways, the abortion script of *state service* was beneficial to the researchers.

Midway through testing F6103 on 50 clinical trial participants, Engström imagined a new and different way of testing, one that would require even less bureaucracy and waiting times. Instead of waiting for individuals to be granted abortion through the normal system, which could be delayed for various reason, they would design a method to get women straight into their trials. This would allow clinical testing to potentially produce technologies to be used in even earlier pregnancies. In response to Engström and Hanngren's inquiry, the National Swedish Board of Health opened an investigation into the abortion pill trials. This investigation would make the issue of testing substances on pregnant subjects into an issue for the Swedish parliament. In the meantime, Engström and Hanngren's trial would need to be put on hold until the National Swedish Board of Health finished their investigation and until the parliament had their say.

Stalling clinical trials: the uncertainty of abortion

The investigation into F6103 had consequences not only for Engström's trials but impacted other trials as well. The compound would become a complication for researchers and pharmaceutical companies alike. Other researchers were also interested in using pregnant women in their own clinical trials, and the investigation would alter their plans. Yet the investigation only held sway within Swedish borders and the pharmaceutical company Ferrosan considered the benefits of international collaboration.

While the National Swedish Board of Health was investigating the matter of F6103 as an abortion pill, two more applications to test F6103 would be submitted to SPL. The first would arrive at SPL November 21st, 1966. Lars Philip Bengtsson, docent at the women's clinic in Lund, sent the application

to get permission for a clinical trial of F6103 that would test hormone secretion in both non-pregnant and pregnant women.[398]

The research plan stated that Bengtsson would require six to twelve normally menstruating women who were using diaphragms or condoms as contraceptive. It would also require six women who were pregnant in the range of sixteen to twenty weeks with permission for legal abortion. SPL only permitted the trial for the non-pregnant women.[399] Whether researchers could test compounds on pregnant subjects was still under investigation, limiting the extent of other trials as well.

The final application submitted to SPL for a clinical trial of F6103 was received on November 23rd, 1966, in the midst of the National Swedish Board of Health's investigation. Engström, along with Egon Diczfalusy and Karl-Gunnar Tillinger, applied to SPL again in order to test the substance, this time specifically with 200 mg tablets.[400] The aim of the study was to investigate whether F6103 inhibited progesterone production during early pregnancy, again, in women who had permission for abortion.[401] The study would span six to eight months and required fifteen patients with abortion permission and fifteen non-pregnant patients. Considering the uncertainty of the legality of testing abortifacients, SPL urged the applicants to withhold on the trial until the matter was properly dealt with by the parliament and government.[402]

While the National Swedish Board of Health investigated F6103, clinical trials that included pregnant women were no longer approved. In this way, F6103 became a complication for the researchers. F6103 also became problematic for Ferrosan. The quarterly reports from Ferrosan show that they were aware that the government investigation was slowing down the work.[403] In a report from January 1967, they noted that Engström's research was being postponed, but in the same section they also reported that Dr. Erling at Fredriksberg's Hospital in Copenhagen had started working on F6103 in a similar capacity as Engström.[404] Ferrosan also noted that while work was being carried out in Copenhagen and Lund, the results were difficult to interpret.[405] According to this report only Engström's studies had had similar effects to the earlier

[398] "Anmälan om klinisk prövning av nytt läkemedel, d:r 368/66," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966. F7:10, SPL, RA.
[399] "Letter from Åke Liljestrand to Bengtsson," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966. F7:10, SPL, RA.
[400] "Anmälan om klinisk prövning av nytt läkemedel, d:r 372/66," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966–67, F7:11, SPL, RA.
[401] Ibid. Furthermore, Engström wished to study the effect of F6103 on steroid secretion in non-pregnant women.
[402] Ibid.
[403] "Tertialrapport från Fu. 9.1.67," Forskningsrapporter, diverse, 1964–1967, P 1 B: 1133, Ferrosan, SN.
[404] Ibid.
[405] "Tertialrapport från Fu. 26.5.67", Forskningsrapporter, diverse, 1964–1967, P 1 B: 1133, Ferrosan, SN.

tests on animals. Ferrosan believed that this had to do with an uneven absorption of F6103.[406]

In light of the legal situation in Sweden that was impacting SPL's processing times, Ferrosan were willing to move trials outside of the country. In an undated status report of tests on F6066 and F6103 they wrote that:

> we have decided to investigate the possibility that clinical trials of F6103's antirophysic effect on humans may be made outside Sweden. Docent Engström has stated he in principle is in agreement with this and the intention is to draw up a test plan in consultation with Professor Diczfalusy.[407]

This illustrates that the reservations about F6103's performance and absorption levels were not significant enough to drop investigations when faced with legal obstacles to clinical work. It suggests instead that the potential of developing F6103 into a drug was too appealing to ignore. In the minutes of a working group meeting from January second, 1968, Ferrosan said again that they were considering moving the work abroad to achieve clinical results. They wrote:

> The possibility of conducting trials abroad was discussed again. Among other things, Yugoslavia was mentioned as one of the countries where abortion legislation is sufficiently liberal to allow the trial of the M-pill idea.[408]

Given its liberal abortion legislation, Yugoslavia was brought forth as a potential alternative to Sweden as a research location. For Ferrosan, Sweden was not the only country that held abortion research potential. Further international collaboration can be seen in a Ferrosan report from December of 1968 covering HL's travels to Berlin. The identity of HL was not revealed in the report, but it seems likely it was Hans Larsson, who worked at Ferrosan's department of biochemistry.[409] HL met with Professor Hammerstein who was interested in testing F6103 and reported that:

> Also for F6103, Hammerstein showed great interest and he had some suggestions for further trials of this substance. He declared (if the in vitro tests with the F6103 give good results) willing to carry out some clinical trials with the substance, and claimed to be convinced that there are possibilities for detecting pregnancy before the expected menstrual period. This would mean that

[406] Ibid.
[407] "Statusrapport betr kliniska prövningar av F6066 och F6103," Forskningsrapporter, diverse, 1966–1969, P 1 B: 1139, Ferrosan, SN.
[408] "Protokoll från sammanträde i arbetsgrupp B den 2.1.1968," Forskningsrapporter, diverse, 1966–1969, P 1 B: 1139, Ferrosan, SN.
[409] "Effects of F6060 and F6204 on biogenesis of steroids in vitro, 8.10.68," Forskningsrapporter, diverse, 1966–1969, P 1 B: 1139, Ferrosan, SN.

> according to Hammerstein, 6103 can be administrated at such an early stage that, in his opinion, it is not considered an abortion.[410]

Hammerstein was drawn to F6103's potential to avoid even discussing the idea of abortion in its early administration.[411] F6103 was not constructed as an abortion pill, but rather something unique to early pregnancy. In their correspondences, Ferrosan referred to the trials as testing "the M-pill" which was shorthand for menstruation-pill. With the right methods for detecting it, the compound could be used before a common sign of pregnancy appeared: a missed menstruation. The pill could then be seen as bringing back a delayed menstruation. In this way, early pregnancy was seen as a time when abortions could be avoided. As will be expanded on shortly, the pharmaceutical company was creating an abortion script of *menstruation restoration*— using technologies during early pregnancy kept the specifics of the procedure open to interpretation.

F6103 was also positioned as an untapped resource by Ferrosan. While they perceived F6103 to be full of research potential they were restricted in their movements by other actors. Ferrosan's own collaboration with Engström was viewed as beneficial and yet Engström's inquiries to the National Swedish Board of Health contributed to the investigation that prevented specific testing with F6103. During the late 1960s, Sweden was not positioned as an ideal research location. Instead, other countries such as Yugoslavia and Germany held potential.

Turning dilemmas into incentives

Due to the National Swedish Board of Health's investigation, Ferrosan looked at other research alternatives abroad. Meanwhile, in Sweden, F6103 would have a significant impact on legislation. Engström and Hanngren's trials of F6103 sparked a wider debate about laws regulating clinical trials. The potential of F6103 motivated various actors to collaborate in order to see the compound successfully tested. The legal process would reveal the ways reproductive research was valued by the parliament and how critics framed their concerns. It would also highlight the difficulties of discussing uncertain scientific processes and show how abortion was presented and received by different actors.

By the 1960s, Sweden had two main pieces of legislation that governed abortion: the Swedish Penal Code, chapter 3, section 4; and the Abortion

[410] "Rapport från resa till Berlin," Forskningsrapporter, diverse, 1966–1969. B: 1138, Ferrosan, SN.
[411] "Möte i arbetsgrupp B den 29.8.68," Forskningsrapporter, diverse 1966–1969, P a B: 1139, Ferrosan, SN. In addition to collaborating with researchers in Germany, Ferrosan also reported that Dr. Gibson at Schering Corporation had informed them that they had contacts in Japan who were willing to start a clinical trial of F6103.

Act.[412] From 1734, a criminal law provision sentenced abortion providers to death, which changed to hard labour in 1864, and changed once again in 1921 to a six-month sentencing.[413] As shown in chapter two, by the late 1930s, Sweden introduced an Abortion Act that permitted abortion on certain grounds. This Abortion Act focused not on punishment, but on allowances. From its induction there were then two central pieces of law guiding abortion: the Penal Code that outlined punishments and the Abortion Act that outlined exceptions. Engström and Hanngren wanted to pursue a clinical trial of an abortive substance, and they wanted to find a way to do so that legally permitted such experiments and allowed earlier entrance to the trials.

They were not the only ones interested in this issue. Employees of the National Swedish Board of Health were also invested in F6103's clinical trials. In an internal note, Gunnar af Geijerstam, the gynaecological expert working at the National Swedish Board of Health, wrote about the "very delicate legal decisions" of testing F6103.[414] Geijerstam described a meeting between the minister of social affairs, the 1965 Abortion Committees Chairman, the State Secretary, the general director of the National Swedish Board of Health, and a lawyer from the Social Department, who had gathered to discuss F6103. Arthur Engel, the general director of the National Swedish Board of Health, had emphasized the importance of the clinical trials and was keen to see them conducted.[415]

The importance of developing abortion pills was related to what Swedish newspapers called "the child bomb," or "population explosion."[416] In the mid-1960s, there was media and medical interest in how new birth control methods could combat overpopulation and Engström himself actively discussed overpopulation issues in the press.[417] Overpopulation was considered a cause of mass starvation and an issue that Sweden, despite having no overpopulation issues itself, should engage with.[418] The Fifth World Congress on Fertility and Sterility, held in Stockholm in June 1966, brought together different professionals, both researchers and government administrators, and stressed the

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412 "Hans Thornstedt's letter to the National Swedish Board of Health, 1966," D:nr LU 203, Till Konungen (Justitiedepartementet), med förslag till tillägg, osv, 21 oktober 1966. Lag- och utredningsbyrån, Medicinalstyrelsens arkiv, RA, 2.

413 Hans Thornstedt, "The Beginning and the End of Life from the Perspective of Swedish Criminal Law," *Scandinavian Stud. L.* (1970), 228, 229; *Abortfrågan, betänkande avgivet 1941 års befolkningstutredning*, SOU 1944:51.

414 "Handwritten note," Gemensamma ärenden, handlingar rörande kliniska prövningar, 1965–1966, F7:6, SPL, RA.

415 Ibid.

416 Heng, "Optimism i kampen mot befolkningsökning," *Svenska Dagbladet*, 16-06-1966; "Världskongress söker vapen mot 'barnbomben'," *Svenska Dagbladet*, 25-05-1966.

417 Schoug, "Större svensk insats krävs i kamp mot överbefolkning," *Dagens Nyheter*, 17-07-1966.

418 Ibid.; "Svensk jättechans rädda miljarder från svältdöden: Lättare familjeplanera," *Svenska Dagbladet,* 19-06-1966.

importance of reproductive research for family planning purposes.[419] The director general of the Swedish International Development Authority (SIDA) gave an address in which he stressed that "Scientists, teachers of all kinds and administrators all over the world have a common responsibility to plan and operate a great programme in the field of population".[420] Improving family planning services was considered one solution to overpopulation and birth control research was viewed as one of the best ways for Sweden to help with this global issue.[421] Various government employees were invested in this overpopulation task, as was Engström. Being able to legally develop more birth control methods was an important step.

The National Swedish Board of Health employed Professor Hans Thornstedt to investigate the matter of F6103's legality. At the time, Thornstedt was a professor of criminal law at Stockholm University. The investigation centered around whether testing drugs on pregnant women in the manner in which Engström and Hanngren were doing conflicted with the existing law. This investigation would require Thornstedt to closely examine a handful of concepts, such as fetus, conception, and implantation. The Penal Code made it unlawful to abort or kill a fetus, although the specificities of these terms had changed over time.[422] In 1734, the law discussed when the fetus had "truly come to life".[423] In 1864, "early stages of fetal development" were discussed,[424] and in 1906 jurists were referring to fetal displacement and egg cell fertilization.[425] Based on legal sentencing, there seems to have been an understanding that fetuses developed and penal measures needed to take this into account.

Engström and Hanngren wanted to test F6103 as a medicated early abortion method and as a pregnancy prevention agent. Thornstedt saw his role as specifically determining whether F6103 could be considered a pregnancy prevention agent. In his mind, the Abortion Act of 1938 clearly indicated that tests of an early abortion method would not be legal and thus required little interpretation.[426] The real issue was whether F6103 acted as a preventative method. From Thornstedt's understanding of the researchers' application, the contraceptive aspect of F6103 required that the fertilized egg was not implanted in the uterus. The intention was to inhibit progesterone metabolism in the ovaries, making the uterus membrane ill-suited for implantation. Thornstedt needed to determine if this use of F6103 was an abortion, "which may be

[419] Nils Wiqvist, V. Pickles, and Björn Westin ed., "Fertility and Sterility: Proceedings of the Fifth World Congress, June 16-22," (Stockholm: International Congress Series, 1966).
[420] Ibid. 939–41.
[421] "Preventivmedelsforskning bästa svenska u-hjälpen," *Svenska Dagbladet*, 9-10-1966.
[422] Thornstedt, "*The Beginning and the End of Life,"* 28.
[423] Ibid. 29.
[424] Oudshoorn, *European Women's Movements and Body Politics*, 121.
[425] "Hans Thornstedt's letter to the National Swedish Board of Health, 1966," D:nr LU 203, Till Konungen (Justitiedepartementet), med förslag till tillägg, osv, 21 oktober 1966. Lag-och utredningsbyrån, Medicinalstyrelsens arkiv, RA, 2.
[426] Ibid. 1.

undertaken only under certain conditions provided for in the Abortion Act, or if it is to be compared to contraceptive measures, which are in principle allowed."[427]

Thornstedt wanted to investigate how the legal tradition had treated the concept of fetus, as the Penal Code centred around killing and aborting fetuses. In surveying the legal literature Thornstedt found two interpretations: before 1938 it appeared that a fertilized egg was a fetus, while in the prework for the 1938 Abortion Act Thornstedt saw one scholar refer to implantation in the uterus as the beginning of fetus status.[428]

Thornstedt's focus on the precise legal definitions of fetus would determine whether Engström and Hanngren were actually harming a fetus with the use of F6103 or if they were using the compound on women before a fetus was thought to exist. At the end of his investigation, Thornstedt believed the legal tradition showed that the fetus was a fertilized egg. This then meant that clinical trials of F6103 conflicted with the Penal Code.[429]

While abortion was legal in certain circumstances, Thornstedt read the law as not leaving room for scientific experimentation, especially in the way that Engström and Hanngren had presented their trial. Specifically, Thornstedt interpreted their proposed collaboration with the Mental Health Bureau as not complying with the Abortion Act. In their application they proposed that they would use women who were not pregnant but still had permission for abortion in the case that they did become pregnant. However, Thornstedt argued that the law was not designed in that way. Instead, he saw this suggestion as a way to circumvent the law, as the law did not take into account offering women abortion before they were pregnant. Thornstedt thought that women should be prevented from becoming pregnant, rather than being provided with assurances of abortion ahead of pregnancy.[430]

In his investigation Thornstedt ultimately declared that,

> [the] use of the aforesaid drug may conflict with the provisions of the Criminal Code on Fetal Expulsion and that new legislation is required to allow for trials with such a compound.[431]

Thornstedt had focused on legal tradition and ultimately found the clinical trial of F6103 to potentially conflict with the Penal Code. The issue of "what is a fetus" was settled as being a fertilized egg. Both of Engström and Hanngren's suggestions were then unlawful.

But the advantages and uses of this research on a societal level were not absent from Thornstedt's report. In his final report he briefly discussed grounds for impunity as a possibility for conducting research despite the legal

[427] Ibid. 2
[428] Ibid. 5.
[429] Ibid. 10, 11.
[430] Ibid. 15, 16.
[431] Prop. 1967:18, Kungl. *Maj:ts proposition nr 18*.

conflicts. Grounds for impunity would position the positive interests of conducting trials as worthwhile despite the legal tradition. He suggested that the grounds for impunity would be the eventual means to control overpopulation, which he positioned as a humanitarian issue. This argumentation mirrored perspectives given by the state and by Engström. Ultimately, Thornstedt suggested a legal amendment be made in order to conduct clinical trials on pregnant women.

The National Swedish Board of Health agreed with Thornstedt's recommendation that new legislation be made.[432] In order to create new legislation, the National Swedish Board of Health would need to get a proposition through the Swedish parliament. The Swedish parliament consisted of two parliamentary chambers, both of which assessed propositions. Parliament members had the opportunity to respond to propositions through motions, which they then also submitted to the chambers. All documents were then reviewed by a smaller legal committee of parliament members. This committee created a legal opinion that would go back in front of the chambers. Before voting on any proposition, the chambers had the chance to discuss all documents.

In October 1966, the National Swedish Board of Health submitted an official letter regarding the issue of testing certain birth control means, through the department of justice, to the Swedish parliament. The letter included a copy of Thornstedt's report. The minister of justice, Herman Kling, then put forward a proposition based on this letter, along with referrals, to the parliament. The referrals were from the 1965 Abortion Committee and the prosecutor general.[433]

The prosecutor general supported the research on humanitarian and overpopulation grounds.[434] The referral from the 1965 Abortion Committee was lengthier and discussed the definitions of fetus, conception, and implantation which Thornstedt had contended with. They attributed recent medical advancements to this confusion over reproductive definitions.[435] New technologies which prevented fertilization had forced discussions about what these reproductive processes actually consisted of. The Abortion Committee was interested in this difference between anti-conception and anti-development technologies. However, there was not a clear consensus on these definitions among the committee members.[436] Despite the lingering uncertainty of where to draw boundaries, supporting F6103 held appeal. In the text submitted to the chambers, it was stated that the Abortion Committee thought,

> An agent whose use would cause early pregnancy to be discontinued without surgery, must be seen as a major advancement. What seems to be the most important, however, is the importance of such an agent for family planning. In

[432] Prop. 1967:18, *Kungl. Maj:ts proposition nr 18*, 3–4.
[433] Ibid. 3, 6.
[434] Ibid. 6. The prosecutor general was Holger Romander.
[435] Ibid. 4.
[436] Ibid. 4.

> all endeavors to assist developing countries, one of the more important elements must be to help master the overpopulation problem. Although this problem is not relevant in our country it is internationally so significant that Sweden too should help in approaching its solution by making an easy and effective means of birth control available.[437]

In justifying their support, the Abortion Committee emphasized the use of abortifacients internationally. Having consensus over reproductive definitions was not as important as developing new birth control methods. This would improve family planning systems and reduce global populations. In their work, the government, researchers, and lawyers co-produced a new abortion script—that of *family planning applicability*. This abortion script was compatible with the earlier script of *state service*, as it continued to make abortion into a state issue. However, it differed from the *state service* script in how it configured abortion users and providers as being abroad and in an overpopulation crisis. As will be illustrated, this abortion script of *family planning applicability* was one that supporters and opponents of the research could both see as beneficial. With this script, abortion pill research, and abortion, was constructed as having value as a family planning tool.

While their research was under investigation, Engström and Hanngren were still supported by various state actors. The main issue of the investigation was whether they were harming fetuses with their research, and consequently finding a definition for fetus. But even after Thornstedt found that the research conflicted with the law, a solution was presented. Employees of the National Swedish Board of Health, Thornstedt, the 1965 Abortion Committee's chairman, the State Secretary, and Herman Kling all played their part in getting the proposition together. The research was seen to have important uses. F6103's clinical trials were delayed, but the network expanded in a productive manner. This did not, however, play out without criticism.

How abortion pill research shaped the law

The process of passing legislation shows just how many ways medical abortion was positioned as a matter of concern. While a majority in parliament supported the research, there were those who opposed it and they did so in different ways. An examination of the motions, legal opinions, and parliamentary discussions shows that medical abortion had moral, practical, and scientific repercussions that parliament members contended with. Those that supported the research would mobilize ambiguity to meet these issues.

While the Abortion Committee supported the research, not all of its members were pleased. Astrid Kristensson, a jurist and member of the committee from the Conservative Party, outlined her views in a separate letter.[438] She

[437] Ibid. 5.
[438] Ibid. 6.

wrote that any new law should focus on testing substances that affected the uterus. This would interfere with implantation and not destroy fertilized eggs. To Kristensson, permitting testing of substances that "in a real sense" interrupted pregnancy was questionable.[439] Reproductive definitions were not unanimously established, but there were still firm ideas of when pregnancy began. For Kristensson this was when a fertilized egg implanted in the uterus.

In January 1967, proposition 18 was submitted to the Swedish parliament. Parliament members then responded to the proposition through motions that they submitted to the chambers. These motions were then reviewed by the legal committee of parliament members, who created a legal opinion. Soon after, this opinion would be circulated through the chambers. In the final stage, both chambers discussed the proposition, the motions, and the legal opinion before voting. To pass legislation, a majority was needed. By February 1967 three motions were submitted to the second chamber.[440] These motions were submitted by four parliament members representing the Center Party, the Liberal People's Party, and the Conservative Party.[441] They raised issues with the proposition.

Representatives from the Center Party were concerned that the type of research described in the proposition failed to protect life.[442] However, they did see the value of the research for international ends, such as overpopulation and limited global resources.[443] They conceded that the research could be permitted if the women gave written consent and had been legally granted abortion for medical reasons.[444] A parliament member from the Liberal People's Party also submitted a motion.[445] He maintained that pregnancy was when a fertilized egg was implanted, and that research should respect this boundary and the "integrity of life". He referred to the letter that Kristensson had submitted and he agreed with her proposal to limit research. A new law on clinical trials of certain methods of birth control should not end pregnancy.[446] A parliament member from the Conservative Party raised similar points about the "integrity of life".[447] He agreed that the research held international value, such as it could help with overpopulation issues, but he could not support research which ended pregnancies.[448] In this case, pregnancy was also defined as the implantation of a fertilized egg.

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[439] Ibid.

[440] Motion 1967:855, *Motioner i Andra kammaren nr 855*; Motion 1967:856, *Motioner i Andra kammaren nr 856;* Motion 1967:857, *Motioner i Andra kammaren nr 857.*

[441] Motioner 1967: 855, 856, 857.

[442] Motion 856, 8; Lindberg and Johansson were the only members of the Centre Party to support these issues in the motion.

[443] Ibid.

[444] Motioner 1967: 855, 856, 857.

[445] Motion 1967:855, 7. Axel Gustafsson, a pastor, submitted the motion and six other members of the Liberal People's Party signed it.

[446] Ibid. 7. The representatives were Arne Lindberg and Sven Johansson, a curate and a pastor.

[447] Motion 1967: 857, 11. Six other members of the Conservative Party also signed the motion.

[448] Ibid. 10.

In total, sixteen parliament members supported these motions. In 1967, the Social Democrats held almost half of the parliamentary seats, while the conservative and liberal parties shared the rest. [449] The motions came from parliament members from the Conservative Party, the Liberal People's Party, and the Centre Party, but they still failed to obtain unanimous backing. The official concerns with the proposition were contained to a few members, but the motions illustrate how the issue of abortion pill research was handled by critics in parliament.

The issue hung between harming fetuses and improving population issues, and the boundary between anti-conception and anti-development was crucial for some parliament members to be able to support the research. The authors of the motions all wrestled with the implications of allowing research on fetuses and with who should be involved as subjects in the trials. The legal committee would need to address these concerns.

The motions, proposition, and referrals were evaluated by the legal committee.[450] The committee wrote a legal opinion that analyzed the research and introduced their own recommendation. This legal opinion was then circulated through both chambers in April, at which point the parliament members had the chance to discuss all matters once again. On the 5th of April, the second chamber met to discuss the legal opinion and the motions.[451]

Many of the issues raised in the motions and which had been addressed by the legal committee were again brought up in this meeting. The ambiguity of both how the technology would act and of how to characterize biological development underlined the discussion. The parliament, much like Thornstedt, struggled to find one definition of a fetus. A parliament member from the Liberal People's Party noted the difficulty of deciding legislation on issues that were not held in consensus. He spoke of how lawyers and gynecologists had different views on the matter and said "There should be consensus among medical professionals and other professionals, including ethics, of when pregnancy begins, before it is requested that legislators take a position on such an important issue. It is not now, and we must act in the best sense of the day."[452] There was a general understanding that there was no one universal definition of "fetus" and that parliament members may approach this debate with different fundamental perspectives

For example, helping to reduce world populations and subsequently solving "the nutritional issues in the world and prevent[ing] people from giving birth to starvation death," was seen by some to be done at the expense of "the defenseless fetus." [453] In order to circumvent this issue, some parliament

[449] *Riksdagsmannavalen Åren 1961–1964, I*, (Statistiska centralbyrån, Stockholm 1965), 8.
[450] Utlåtande 1967:19, *Första lagutskottets utlåtande nr 19,* 9. The legal committee was headed by a Social Democrat and consisted of seven members from the first chamber and eight from the second.
[451] Riksdagens protokoll, Andra kammaren 1967:17–23, *onsdagen den 5 april 1967 nr 17*, 93.
[452] Ibid. 96.
[453] Ibid. 93.

members suggested having a firm biological boundary for the research: only allow research before implantation.[454] From their perspective, this would prevent fetuses from being involved in the experiments. However, researchers had made it clear that implantation could vary between four and six days, so an anti-conception/anti-development boundary was difficult to guarantee.[455]

In their response to this recommendation, the legal committee argued that biological differences between women made it difficult to draw clear boundaries that could assure that research would only occur before implantation. A parliament member from the Social Democrats who supported the research added that those who worried about the implantation boundary were "to some extent fighting with windmills, because they do not yet know how these substances actually work in this respect."[456] It was not possible to create definitive rules for the research that could determine an anti-conception/anti-development boundary, and some parliament members felt it was pointless to worry about this issue beforehand.

Then there was also the issue of who should be tested and the conditions of their involvement. One of the motions stipulated that written informed consent from the women participating in the study should be obtained. The authors of this motion were Arne Lindberg, a curate, and Sven Johansson, a pastor, from the Centre Party.[457] These men thought it was far from optimal to make pregnant women, fetuses, and fertilized eggs into clinical trial subjects, especially considering there was no guarantee of safety. But they could also see that the research could help to improve medical science and, in that way, also safeguard lives.[458] To this end, one of their conditions in supporting the research was having written informed consent be a part of the process. In their response to this point, the legal committee vaguely stated that they assumed the National Board of Health and Welfare would guarantee appropriate testing conditions.[459] While many aspects of the research were up to debate, there was still a faith in experts to use their best judgment.

In the motions, some parliament members had also requested that women who had permission for abortion be the subjects of the trials.[460] This would mean researchers could conduct their experiments on a small scale at a few select hospitals on women who had legal permission for abortion.[461] However, other members of parliament argued that this would reduce wider scientific applicability of the trials. One member from the Liberal People's Party actually changed his mind on this issue, saying "after a thorough examination and after hearing the supporting reasons presented by the experts, I found that it

[454] Ibid.
[455] Ibid. 96.
[456] Ibid. 102.
[457] Motioner 1967: 855, 856, 857.
[458] Ibid.
[459] Utlåtande 1967:19.
[460] Motion 856.
[461] Riksdagens protokoll, Andra kammaren 1967:17–23, 95.

should be so, that precisely these women—who, therefore, due to illness, body defects or weakness were unquestionably entitled to abortion according to medical indication—should not be subjected to trials of the kind in question."[462] The Abortion Act restricted the use of abortion to a handful of conditions, usually phrased in a manner which positioned the woman as ill or weak. While the trial participants had been configured as ill or weak in the first trials, this was now seen as problematic.

A member from the Social Democrats agreed that there were too few women with legal permission and that they were "generally in a poor state of health" which would reduce the applicability of the results to a normal population.[463] Limiting the research along those lines was seen as questionable to several parliament members. During these debates, parliament members made trial participants into implicated actors. Trial participants were not present to make their own positions known but were instead a point of negotiation. Their role in the network was significant and how they were selected and for what reasons was perceived to have lasting ramifications on the outcomes of the trials. Healthy Swedish women were configured as the most appealing trial participant.

The proposition was also discussed in the first chamber, where definitional issues prevailed. In this instance, the recent emergence of another reproductive technology, the intrauterine device (IUD), added further complexity. A member from the Liberal People's Party, Ingrid Segerstedt Wiberg, and the Minister of Justice Herman Kling, representing the Social Democrats, discussed proposition 18 at length.[464] The conversation mainly revolved around a decision made the year before to allow the use of IUDs. Segerstedt Wiberg was dissatisfied with how that entire process had been handled. She felt that the government had not paid attention to the parliament's position on the matter and had passed the legislation regardless of it conflicting with the Penal Code.[465]

Kling took issue with Segerstedt Wiberg's position on the government and parliament's interactions. He reminded the chamber that February 18, 1966, the Royal Majesty had made plastic IUDs acceptable for use, which aligned with recommendations from the National Swedish Board of Health in which they considered IUDs to be contraception. Kling said, "Now, one year later in a completely different matter, it has been said that 'it can be doubtful' etc. 'some believe,' that these spirals not only serve the purpose for which they are intended, to be used before sexual intercourse, but perhaps also after."[466] He then asked whether they wanted the Penal Code to have retroactive effect.

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[462] Ibid. 97.
[463] Ibid. 102.
[464] Riksdagens protokoll, första kammaren 1967:33, *fredagen den 26 maj 1967 nr 33*. Torsten Gudmund Ernulf (fp), Allan Hernelius (h), and Erik Olsson (s) were also involved in the discussion to a lesser extent.
[465] Riksdagens protokoll, första kammaren 1967:33, 7.
[466] Ibid 13.

Segerstedt Wiberg maintained the merit of her point. She said that IUDs had been seen as fetal displacement since 1938. Now, the IUD was seen as a contraceptive, prompting Segerstedt Wiberg to ask, "What is considered fetal displacement, according to current opinion?"[467] Segerstedt Wiberg argued that to know when fetal displacement had occurred, one had to know when fertilization had happened. She saw the IUD as acting on a fertilized egg, thus displacing a fetus. Another parliament member interjected that he did not agree that a fertilized egg should be regarded as a fetus.[468] The status of the fetus remained malleable and a point of tension in discussions of reproductive technologies.[469]

Overall, the discussion was muddled. There was confusion about why the IUD debate was relevant to proposition 18. Segerstedt Wiberg saw a connection between the two cases, while others did not. Kling made his own disbelief that the IUD issue should be considered in the case of proposition 18 explicitly known. The IUD was to be used before intercourse, the pills after. During the discussion, Thornstedt's report and definitions were brought up by various speakers. There was no consensus over terms, over the meaning of the discussion or how it applied to proposition 18. In both chambers, the ambiguity of the research and reproductive phases dominated discussions. Nonetheless, the merits of the research were also folded into these deliberations. The abortion script of *family planning applicability* was seen to be beneficial even by those most critical of the research.

In these discussions, proposition 18 and its following motions and legal decisions were framed as ideological. One parliament member described the case as having a "compromising spirit. So it usually happens, so most controversial political issues are determined. But the question here is not a practical political issue. It is a question where the answer reflects an ideology, and in ideological questions, compromises are rarely appealing."[470] The signatories of the motions set themselves as being concerned with fetal life and protecting defenseless beings. But there were more practical issues with the research as well, and several of these parliament members took a pragmatic approach in the discussions.

A small number of parliament members who had grievances with proposition 18 made their concerns explicitly known. There could not be certainty about the boundary between anti-conception and anti-development and restricting the research to subjects with legal abortion permission was not seen to be scientifically promising. On the other hand, they could not be sure the research actually harmed fetuses either. The majority of the parliament, however, did not take issues with these conditions.

On May 12th, proposition 18 was written as the *Law of clinical trials of certain means of birth control* and came into effect June 6th, 1967. It states:

[467] Ibid. 14.
[468] Ibid. 19.
[469] Ibid.
[470] Ibid. 93.

"In order to find suitable means of birth control, clinical examination may be undertaken after being granted special permission, which may inhibit the development of fertilized eggs in women."[471] The family planning value of the research prevailed and research on abortifacients could be conducted in Sweden. This law put the trials under the jurisdiction of the National Swedish Board of Health, cleared up confusion for Engström and Hanngren, and opened up new opportunities for other researchers.[472]

Ambiguity was an advantage in discussing such ideological issues as supporters of the research could position ambiguity against the concerns of their peers. It was impossible to tell what was going to occur until the research had been done, which became a rhetorical device for those who wanted the proposition passed. But ambiguity alone did not pass the proposition. There were reasons to support the research which spanned across party lines, regardless of ideological worries. Mainly, the potential of abortion pill research to reduce overpopulation problems globally was an important factor in making a decision about legislation.

In addition to contributing to the abortion script of *family planning applicability*, proposition 18 was an important step in making abortion pill research a valid research domain in Sweden. However, validity was not one simple act and certain aspects continued to be challenged. What did this research do? What was a fetus? Should pregnant women be research subjects? As the discussions around proposition 18 indicate, there was no consensus on reproductive knowledge and stages. During this process, a re-examination of key concepts arose in legal discussions. This re-examination of key concepts would also surface in public discussions of this research, including an examination of the very idea of abortion.

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[471] Svensk Författningssamling 1967:185, *Lag om klinisk prövning av vissa medel för födelsekontroll nr 185.*

[472] At times, the Swedish political system has been depicted as one based on consensus, a system with low levels of corruption and public opposition and with high levels of coalition. However, the idea of Scandinavian countries as "consensus democracies," has been challenged as a romanticized vision with light empirical support. See, Paul Cairney and Anders Widfeldt, "Is Scotland a Westminster-style Majoritarian Democracy or a Scandinavian-style Consensus Democracy? A Comparison of Scotland, the UK and Sweden," *Regional and Federal Studies* 25/1 (2015), 1, 4.

In terms of consensus democracies, what has been shown is a steady trend from the 1970s forward of increased conflict between Swedish political parties. As the passing of proposition 18 occurred in the late 1960s, it falls outside of the scope of Loxbo and Sjölin's study, and before the parliamentary reform of 1970. In this case, the opposition to the proposition was minor, which could in itself contribute to a study of parliamentary opposition in the 1960s. See, Karl Loxbo and Mats Sjölin, "Parliamentary Opposition on the Wane? The Case of Sweden, 1970-2014," *Government and Opposition* 52/4 (2017).

Co-producing a new technology for the public

Receiving clear government and legal support to conduct their research was a victory for the researchers, but they also needed to generate interest from future users. The marketability of F6103 was an important aspect to Ferrosan, and ambiguity would prove to be useful in their public communications as well. The pharmaceutical company's marketing strategy consisted of heightening and tempering expectations, and emphasizing the menstruation restoring qualities of the compound. Newspaper coverage would also generate a new wave of reports abroad connecting Sweden to sex.

Scholars have shown that the idea of Swedish Sin emerged in the 1950s, partly in connection with the export of films, such as the Ingmar Bergman film, *Summer with Monika* (1953).[473] Swedish Sin came to denote nudity and premarital sexual intercourse.[474] Sexual education in school, which began in 1955, also contributed to this image of Sweden internationally.[475] A 1955 article "Sin and Sweden" by the American journalist Joe David Brown, added to this imagery.[476] Brown's article, which has several factual errors, painted a specific sex fixated picture of Sweden. Among other things, he criticized the sex education in schools, and reported dismally that there were 27,000 unwed mothers and 5000 legal abortions performed a year.[477] Brown's article spurred further coverage in foreign newspapers and magazines, effectively spreading the idea of Swedish Sin abroad.[478]

This Swedish Sin phenomenon continued into the 1960s, and scholars have shown how imagery of Swedish women, specifically depictions of tall blondes, were circulated internationally in erotic films, reinforcing the idea "that the Swedish woman was an especially daring participant in the sexual revolution of the mid-20th century."[479] The actors in the Swedish abortion pill networks did not actively use the existing narratives of erotic and sexually liberated Sweden, although they did refer to sex. While they spoke of sex in connection to using F6103, they tried to associate the compound with menstruation, as opposed to abortion. In this way, abortion was depicted as more problematic than sex.

There was newspaper coverage of both Ferrosan's research activities and the parliament's decision regarding clinical trials on pregnant women. Coverage was mostly in Swedish media, but there was some communication of the

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[473] Glover and Marklund, "Arabian Nights in the Midnight Sun?"; Björklund, *The Most Delicate Subject.*
[474] Glover and Marklund, "Arabian Nights in the Midnight Sun?," 491.
[475] Björklund, *The Most Delicate Subject,* 16.
[476] Frederick Hale, "'Time' for Sex in Sweden: Enhancing the Myth of the 'Swedish Sin' during the 1950s," *Scandinavian Studies* 75/3 (2003).
[477] Ibid. 356.
[478] Ibid.
[479] Elena Lindholm Narvaez, "The Valkyrie in a Bikini: The Nordic Woman as Progressive Media Icon in Spain, 1891–1975," in *Sexual Revolutions,* eds. Hekma and Giami, 199.

research abroad.[480] In these instances of public outreach, F6103 simultaneously acted as the "Swedish abortion pill" and a compound with ambiguous birth control qualities. This ambiguity, which had been raised in the Swedish parliament, became a way to explain the compound to the public and contributed to the abortion script of *menstruation restoration*. In this way, F6103 became a technology which addressed menstruation irregularities rather than one which ended pregnancies.

Public discussions of the research, rather than internal company communications, depicted F6103 as an abortion pill. The first mention in the newspapers of an abortion pill was in March 1966. *Aftonbladet* reported that a new abortion pill seemed to work with mice. While the compound F6103 was not directly mentioned, the article listed Ferrosan as being the one working with the abortion substance.[481] In internal Ferrosan communications, F6103 was not directly referred to as an abortion pill. It was described as a "medicated early abortion" and as a "so called pharmacological abortion agent."[482] The substance was, however, administrated in tablets, reducing the leap from "so called pharmacological abortion agent" to "abortion pill". But this depiction as an abortion pill would be consistently challenged by Ferroson and Engström in the press, creating further ambiguity around the research.

On the 23rd of September 1966, *Dagens Nyheter* wrote an article titled, "Swedish abortion pill 'Risk free without discomfort.'"[483] In this article they wrote that the "Swedish Month Birth Control Pill" had already been tested on a few women. According to their report, a research group led by docent Engström had tested the pill on about 50 women who had been pregnant a short while and sought an abortion.[484] Tellingly, Engström did not refer to F6103 as an abortion pill in this *Dagens Nyheter* article. Instead, the article reported that Engström thought the compound was safe and without discomfort for women and that he hoped the compound worked as a "day after pill" in the sense that the pill only needed to be taken if one had been sexually active since the last menstruation.[485]

In the early newspaper reports of F6103, the compound became an abortion pill, a "Swedish Month Birth Control Pill", and a "day after pill." However, Ferrosan was not passively leaving coverage in the hands of the press. The

[480] I have only touched upon an American, English, Canadian, and Australian database.
[481] Lars Östberg, "Nytt abortpiller verkar bra—på möss!" *Aftonbladet*, 17-03-1966. According to the applications submitted to SPL, it is very likely that *Aftonbladet* reported on F6103.
[482] "Ansökan om tillstånd till klinisk prövning av preparatet F 6103 (Ferrosan) använt som medikamentellt tidigabortivum och graviditetsförebyggande medel," Gemensamma ärenden, Handlingar rörande kliniska prövningar, 1966, F7:8, SPL, RA.
[483] "Svenskt abortpiller 'riskfritt utan obehag,'" *Dagens Nyheter,* 23-09-1966.
[484] Ibid. This could be interpreted as being Engström's proposed trial from April 1966, the one in which he and Hanngren looked to test F6103 as a medicated early abortion and as a pregnancy prevention agent. However, there is no indication from the SPL archive of when this trial was approved. The note in the archive suggested they had not received a response by June, and it is difficult to tell when they began the trial. The newspaper coverage would obviously suggest a time between June 1966 and September 1966.
[485] Ibid.

effects of this coverage were a concern for the pharmaceutical company and they released information when they saw it to be beneficial. In a very short comment from a protocol in May 1967, Ferrosan refused to publish Engströms' ongoing experiment of F6103.[486] Then, in December 1967, they wrote that a key question was whether they should allow a researcher to publish their dissertation. They stated,

> In addition to that, a publication of this work was not dedicated to inspire interest in the F6103, even remotely close to the extent that some early articles in daily and weekly press release.[487]

Ferrosan was actively discussing the repercussions of making their work available to the public. The press releases that were published over the years, especially which relied on interviews, were likely seen to be advantageous to the company. There was also international coverage of Ferrosan's activities. For example, there were a handful of articles in American and Canadian newspapers during 1967 and 1968 that reported on F6103.[488] Many of the earlier articles were very similar, having based their content on the same *Ladies' Home Journal* issue.

In June, *Ladies' Home Journal* published an article by Ruth Link, titled "Those New Swedish Abortion Pills." Link wrote that the researchers could not decide "whether to call it the A-pill (for abortion) or the M-pill (for menstruation). But whatever the name, doctors agree that a spectacular new drug known as F-6103, now being tested, may represent the safest answer yet for women carrying unwanted children."[489] In the article, Link wrote about the early studies, the 50 women trial, and the benefits of F6103 as a new drug. The article also compared it to the morning-after pill, informed readers about the new law permitting research of this kind in Sweden and outlined general international interest. Link also wrote that the researchers involved warned it could take some time before F6103 was available for widespread use.

In *The Arizona Daily Star's* coverage the newspaper stated that a new abortion pill being developed in Sweden was "nearing perfection". They also reported that the Population Council and U.S. drug firms were investigating the substance and that F6103 was "more popularly known as the M-pill among Swedish researchers". This article, much like the others, was sure to state that

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[486] "F6103: frågan publikation av kliniska iakttagelser, protokoll från möte i arbetsgrupp B den 5.10.67," Forskningsrapporter, Diverse, 1966–1969, P 1 B:1139, Ferrosan, SN.
[487] "Protokoll över möte i arbetsgrupp B. 12. 12. 67," Forskningsrapporter, Diverse, 1966–1969, P 1 B:1139, Ferrosan, SN.
[488] "Magazine Reports on New Abortion Pill Being Developed by Swedish Researchers," *Arizona Daily Star*, 31-05-1967; James Wilkinson, "New Swedish Pill Can Cause Abortion," *The Miami Herald*, 4-01-1968; "Month-After Pill Tested," *The Gazette (Montreal),* 09-01-1968; "New Drug Induces Abortion," *The Indianapolis Star*, 30-07-1967; "New 'Abortion Pill' Effective When Used Within One Month," *El Paso Herald-Post,* 05-01-1968; "Drug Called Effective Abortion Inducer," *Press and Sun Bulletin*, 31-05-1967.
[489] Ruth Link, "Those New Swedish Abortion Pills," *Home Ladies' Journal* 84/6 (1967), 42.

the drug had been safely tested on 50 women in Sweden. While they quoted Engström, *The Indianapolis Star's* report from the 20th of July has a less fragmented version of the same quote. They wrote:

> Dr. Lars Engstrom, directing the experiments, suggests the drug might become a standard method of birth control, the magazine says.
>
> It quotes him: "A woman could take the M-pill at the end of every 28-day cycle in which she had intercourse. Then her period will occur, whether she has a fertilized egg in her or not. In fact, she doesn't even have to think about the question (of pregnancy) at all."[490]

Just as Ferrosan had done in their correspondences, Engström positioned F6103 to an international audience, not explicitly as an abortion pill, but instead as an M-pill. In fact, the idea of pregnancy was purposefully dismissed. While F6103 was seen as an abortion inducing compound in various instances, here it was taking an ambiguous shape. Actors in the research network of F6103 made an abortion script of *menstruation restoration*. This allowed slippage between abortion and menstruation. Considering that Ferrosan was concerned about the impact of the press and had internal communications which outlined the advantages of not referring to pregnancy, this ambiguity seems to be a strategic choice.

There were also possibly concerns about over emphasizing the success of F6103. On the 6th of January 1968, a Canadian newspaper reported that Ferrosan had become more secretive about their research. A short piece from *The Ottawa Journal* titled, "Secrecy Shrouds Abortion Pill" said that:

> Progress on the development here of an "abortion pill" designed to end pregnancy safely with one dose will remain shrouded in secrecy.
>
> Dr. Nils Sterner, research director of the Swedish company, Ferrosan, which is working on the drug, said Friday no further progress reports will be issued to the public.
>
> The decision was made because "a lot of people have already been caused a lot of unhappiness and disappointment."[491]

This, perhaps, could be in response not only to Swedish coverage of Ferrosan's developments, but to the international audiences as well. It is difficult to say who was unhappy and about what, but potentially the inability to turn F6103 into a marketable drug on a time frame that they envisioned was creating this issue. This, in turn, impacted the researchers' and pharmaceutical companies' practices. They no longer felt that they could share or update on their research results, as F6103 existed as a public concern.

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[490] "New Drug Induces Abortion," *The Indianapolis Star*, 30-07-1967.
[491] "Secrecy Shrouds Abortion Pill," *The Ottawa Journal*, 06-01-1968.

Through the research practice of sharing results, an important abortion script was made available to the public. F6103 was being constructed as blurring the boundary between abortion and contraception, and consequently the abortion script of *menstruation restoration* emerged. Actors in the research network simultaneously configured the user as a woman in early pregnancy, the technology as simple, and the experience as relatable to menstruation. The compound also had many names: it was referred to as the Month Birth Control Pill, a day after pill, abortion pill, the A-pill, and the M-pill. While international news coverage frequently used the term "abortion pill," researchers and pharmaceutical professionals were less inclined to do so.

In this way, ambiguity was mobilized by researchers and the pharmaceutical company to pitch F6103 to the public. They were creating a new technology, one which occupied a space between abortion and contraceptives, an M-pill rather than an A-pill. When Engström was interviewed by foreign press he emphasized that women would not "even have to think about the question (of pregnancy) at all."[492] Contributing to associations between Sweden and sex was more appealing than contributing to associations between Sweden and abortion. Ferrosan researchers also danced around the issue of abortion in internal communications. Hammerstein articulated that F6103's potential to impact very early pregnancy could mean avoiding the issue of abortion altogether. Deciding what exactly F6103 was and how it should be classified seemed not only difficult, but for the researchers somewhat unappealing.

F6103: not a practical approach to abortion

F6103's journey left lasting impressions on Swedish clinical trial culture and on reproductive research. It was the first of its kind in Swedish laboratories; a chemical compound tested on humans to induce abortion. It faced obstacles of its own in clinical testing as the guidance from the National Swedish Board of Health turned into a formal investigation. It created a stir in parliament and helped to shape future clinical trial landscape. And yet, F6103 never became a marketable abortion pill.

In a 1968 article published by Engström in *IPPF Medical Bulletin*, he summarized his results with F6103. He described how twenty women in early pregnancy were given F6103 with a follow up thirty-six days after the drug had been administrated. Out of the twenty cases, three experienced a complete abortion. The other women showed changes, but Engström's conclusion was "Even if there was some evidence for an abortifacient effect of F6103 in humans, this was [not] completely convincing."[493] However, he did advocate for further studies at different stages in the menstrual cycle. He concluded

[492] "New Drug Induces Abortion," *The Indianapolis Star*, 30-07-1967.
[493] Lars Engström, "The Swedish Post-Conception Pill," *IPPF Medical Bulletin* 2/2 (1968), 923.

"Knowing that the abortifacient effect of oestrogens in animals does not seem to be transferable to humans, a warning must be given against much optimism about F6103, a weak non-steroid oestrogen."[494]

Then, in 1970, Engström, along with several coauthors, wrote an article for *Acta Endocrinologica* about the effects of F6103. The article focused on three different studies and concluded that using F6103 was "not a practical approach to interfere with early gestation in the human species. Other approaches, for instance the administration of prostaglandin F2alpha … appear to be much more promising in this respect."[495] The trials with F6103 did not lead in the promising direction once hoped. Instead, the researchers involved suggested that a prostaglandin might be the way forward.[496]

Despite this failure to be used as a marketable abortifacient, F6103's lasting legacy was in the way the compound opened up discussions in parliament regarding the legality of clinical trials of birth control methods. Abortion pill research was legitimized by the parliament during the years of F6103 research and created expectations in the media. This helped to further secure a constructive research environment for other researchers interested in reproduction. It was not, however, always clear how this new law worked.

For instance, in 1970, several researchers submitted an application to SPL to test a new steroid, R 3918, as a contraceptive.[497] In correspondence to the National Board of Health and Welfare, they explained that the *Law of clinical trials of certain means of birth control* secured their rights to conduct the research. The National Board of Health and Welfare responded that they considered the permission for the trials from SPL and from Karolinska Hospital's isotope committee to be sufficient, and that the researchers did not need to rely on this law.[498] This shows that the law created both possibilities and degrees of uncertainty for contraceptive testing. It was not always clear how to interpret the law or when to apply it, just as it was not always clear to researchers in 1970 where authorization for the trials should come from.

As outlined in the previous chapter, drug monitoring in Sweden shifted during the time period of medical abortion development. Old institutions disappeared and new ones emerged. The demands on the researchers also fluctuated. During this time period the Drug Department began emphasizing different components when it came to their drug evaluations. This drug control was designed for evaluating drugs entering the market, and not unregistered drugs in the process of testing, but the new requirements would still have impacted the clinical trial designs of the time. Research Ethics Committees (REC) were

[494] Ibid.
[495] Bačić, Engström, Johannisson, Leideman and Diczfalusy, "Effect of F-6103 on Implantation," 716.
[496] Ibid.
[497] "Anmälan om klinisk prövning av nytt läkemedel, R3918," Kliniska Prövningar, Farmaterapeutiska enheten, F I:89, 1970, SPL, RA.
[498] "Letter to Socialstyrelsen from Axel Ingelman-Sundberg, 19.12.1969," Kliniska Prövningar, Farmaterapeutiska enheten, F I:89, 1970, SPL, RA.

now present at several institutions around Sweden, and even in the time between the first trials of F6103 and the processes of starting a second round, the issue of trial participant consent was visible. Engström presented the trial participants as consenting adults and the parliament members also wanted written consent to be mandatory. Changes in clinical trial standards were occurring and while Engström and his clinical tests of F6103 transpired on the verge of this change, for the researchers following Engström clinical trial parameters shifted even further.

Conclusion

Abortion, and subsequently the abortion pill, were unstable entities. This chapter has illustrated that these concepts, and the network itself, were under negotiation, resulting in the emergence of different abortion scripts. The F6103 networks co-produced an abortion script of *family planning applicability* and *menstruation restoration*. In these scripts, abortion pills were enacted by researchers, pharmaceutical companies, and various parliament members as a procedure intended for early pregnancy and as something different than abortion. By the various actors representing the Swedish state, abortion pills were enacted as a tool for family planning. In these enactments, abortion was simultaneously a goal and a procedure to avoid. These abortion scripts reveal the making of different values when it came to abortion. There was the emerging value that abortion treatments should be done quickly, and that abortion had an international political use.

The main depictions of abortion pills centered around their ambiguity. I have argued that the ambiguity surrounding F6103 made it easier to come to a compromise in the parliament and was also used by the pharmaceutical company and researchers to pitch their work to the public. In this way, ambiguity was a part of configuring technology and users in the *menstruation restoration* script. Ferrosan constructed F6103 as a pill unique to early pregnancy. Early pregnancy was then seen as a point in time when abortions could be avoided. To members of the parliament, this ambiguity was both unsettling and comforting. At this stage it was not possible to know when or how the technology acted, so how was it possible to say if it was acting as an abortifacient? Engström also relied on this ambiguity in the press—classifying F6103 as an abortion pill was not seen as advantageous. Among other things, F6103 was an abortion pill, an M-pill, a day after pill, and a way to not even discuss pregnancy at all.

Still, ambiguity was not the driving force behind this research, abortion was. Abortion was simultaneously being constructed as an important international family planning tool. While actors mobilized ambiguity to pitch the research, the idea of creating an abortion pill is what energized their initial enthusiasm for the compound. While Engström and Hanngren were stalled by an investigation into their research, they were still supported by various state

actors who saw abortion pill research as an important way of advancing Sweden's research profile internationally and as a way to contribute to family planning efforts.

While there were those in parliament who opposed the research, they were far from the majority and they were willing to negotiate the terms of experimentation. The sanctity of life was raised in debates over the proposition, as were the conditions for trial participants. Several of these parliament members were religious, but there was no organized religious opposition to the research. Overpopulation concerns and the promise of technological solutions prevailed in this new reproductive research context.

Engström's clinical trials played an important role in enhancing Sweden's clinical testing desirability and in challenging reproductive concepts. The legitimization through proposition 18 and the international value of abortion would help the next wave of researchers who worked with reproduction in Sweden. It would be of particular importance for Marc Bygdeman and Nils Wiqvist, who took up the search for medical abortion.

5. Abortion: "A Difficult Decision"

While research on F6103 was dying down, another Swedish research team worked at developing medical abortion with a different type of compound: prostaglandins. Just as Lars Engström and his colleagues had speculated in their *Acta Endocrinologica* article, if one wanted to "interfere with early gestation in the human species" prostaglandins became the direction to go in.[499] The hunt for a new abortion method continued.

The early work on prostaglandins in an abortive capacity overlapped with the years of clinically testing F6103. Engström did not work with prostaglandins, but in the late 1960s the research networks were similar. The prostaglandin researchers moved through the same professional and research spaces as those working with F6103. The work done by the F6103 network had also made some elements easier for this next wave of researchers. The significant legal amendment and governmental approval of abortion pill research, provoked by research on F6103, helped to improve research conditions for the prostaglandin researchers. As I will show, the abortion script of *family planning applicability*, which included the desire to solve global overpopulation issues, was also articulated in the prostaglandin networks. There are, though, significant differences between these two research endeavours.

This chapter examines the prostaglandin research that occurred in Sweden. As the next chapter illustrates, prostaglandin research was also done on an international scale through the WHO, but here the focus is on the changes and similarities in Swedish clinical trial conditions. Efforts to develop prostaglandins into medical abortion spanned several decades, from the late 1960s until the late 1980s, with the passing of the 1975 Abortion Law occurring in the midst of this research. As chapter three illustrated, the state's regulation of abortion was an important prerequisite for Engström's clinical trials. The trials of F6103 also occurred just as the state's mechanisms for monitoring clinical trials began to change. The initial modifications, such as the introduction of research ethics committees (RECs), would become increasingly normalized. Laws and regulations governing abortion and clinical testing underwent significant changes in the 1970s.

What did abortion clinical trials in Sweden look like during these decades of new abortion laws and state clinical trial regulations? In what ways did abortion pill research change in the 1970s and the 1980s? What stayed the

[499] Bačić, Engström, Johannisson, Leideman and Diczfalusy, "Effect of F-6103 on Implantation," 716.

same? And what type of abortion scripts were being made by these networks? To answer these questions, I study the prostaglandin research network through RFSU archival material, research applications, ethical committee documentation, scientific papers, WHO Task Force material, and newspaper and TV interviews. The continuities and discontinuities between F6103 and prostaglandin research are worth mapping as they help to highlight the effects of legal and regulatory requirements on clinical trials, and vice versa, but also how abortion scripts were maintained or changed over time. As I will illustrate, these research practices and constructions of abortion created various values. I argue that an abortion script centred around the difficulty of deciding whether or not to abort helped to make this new technology more acceptable.

The issue of what practices did or did not change speaks to the intricacies of clinical testing. As scholars have noted, clinical trial procedures are the result of negotiations among many actors.[500] In the case of prostaglandins, these negotiations occurred in different networks than in the case of F6103. With prostaglandins, the research network expanded and the implicated actors, both trial participants and future users, came to have a more public role in representing abortion pill research and its effects.

Other studies have examined conditions of clinical testing in contraceptive development.[501] They have problematized power relations while also showing cooperation between actors.[502] The structures guiding clinical testing, such as the US Food and Drug Administration (FDA), have been shown to alter participant selection, and the influence of journalists and feminist health movements has also played a role in drug regulation.[503] This chapter takes the case of prostaglandin research to examine how reproductive research played out in the Swedish context. Studying how clinical trial standards shifted, and the range of trial participant experience, gives an idea of the power dynamics between regulatory bodies, researchers, and trial participants in the prostaglandin research network.

In order to investigate Swedish clinical trial standards and the roles of researchers and implicated actors in the prostaglandin network, the chapter begins by examining how the researchers entered into the field of prostaglandins. Then, the top-down demands on clinical trials from surveillance bodies, such as SPL and ethical committees, are presented, highlighting new standards while simultaneously introducing the first clinical trials of prostaglandins. The following section focuses on the design decisions the researchers made themselves and gives details on the varied research practices, including new types of media work. The final two sections dive into the ways researchers and trial participants portrayed the research to the public. This includes an examination

[500] Elizabeth Siegel Watkins and Andrea Tone, eds. *Medicating Modern America: Prescription Drugs in History* (New York: New York University Press, 2007), 5.
[501] Prescott, *The Morning After*; Takeshita, *The Global Biopolitics of the IUD*; Marks, *Sexual Chemistry*.
[502] Ibid.
[503] Prescott, *The Morning After,* 36; Watkins, *On the Pill,* 103–131.

of different abortion scripts, illustrating which concepts and values were being made in the development of medical abortion.

Prostaglandins: a lively research field

Unlike F6103, prostaglandins were a popular research compound internationally. The researchers involved with prostaglandins as medical abortion would be entering into a lively research field, which offered various opportunities. There were many possible directions for prostaglandins, but the compounds found a use as abortifacients.

In the 1930s, two researchers, Maurice W. Goldblatt in England, and Ulf von Euler at Karolinska Institute made separate but parallel discoveries that seminal fluid caused contractions in animal uteruses.[504] After testing the fluid on strips of human uterine muscles it seemed clear to both Goldblatt and von Euler that they had discovered an important hormone-like substance, which they mistakenly identified as only coming from the prostate gland.[505] In 1935, von Euler named the substance prostaglandin.[506]

The Second World War interrupted von Euler's focus on prostaglandins and research was suspended until 1946 when von Euler convinced his younger colleague, Sune Bergström, to isolate and purify prostaglandin's chemical structure.[507] Through a previous contact, Bergström was able to procure sheep glands from the Upjohn Company for his experiments. In 1958, Bergström and his collaborator Jan Sjövall isolated two prostaglandin compounds: prostaglandin E1 (PGE1) and prostaglandin F1 alpha (PGF1a).[508]

Bergström continued to work with prostaglandins into the 1960s, as did laboratories in the USA and the Netherlands.[509] Prostaglandins were thought to offer exciting possibilities, but natural supplies were not easy to acquire, prompting Upjohn to work on creating a synthetic version. By 1965, Upjohn was the world's leading distributor of synthetic prostaglandins.[510] Research on prostaglandins continued on an international level, with various individuals contributing discoveries along the way.

In Sweden, Marc Bygdeman and Nils Wiqvist would collaborate to test prostaglandins as abortifacients. This chapter largely follows their research activities as they were the main researchers initiating and overseeing clinical

[504] Tunc, *Technologies of Choice*, 115; Sune Bergström and Bengt Samuelsson, "Isolation of Prostaglandin E2 from Human Seminal Plasma: Prostaglandins and Related Factors 11," *The Journal of Biological Chemistry* 237/9 (1962).
[505] Anthony Norman and Gerald Litwack, *Hormones* (Academic Press, 2014). Prostaglandin was later found to be present in almost every tissue of the body.
[506] Tunc, *Technologies of Choice*, 116.
[507] Ibid.; Bergström and Samuelsson, "Isolation of Prostaglandin E2 from Human Seminal Plasma," 3005.
[508] Tunc, *Technologies of Choice*, 115.
[509] Ibid. 116.
[510] Ibid.

trials of prostaglandins as medical abortion. Bygdeman and Wiqvist had been involved in prostaglandin research from early in their careers, with Bygdeman writing his PhD dissertation on the effects of prostaglandins on human uterine muscles.[511] As a graduate student, Bygdeman worked with both von Euler and Bergström, and he would credit Bergström as being an important support to him throughout his career.[512] There was a certain prestige of working with prostaglandins, which, when covered in the media, was often done in a manner that expressed national pride over von Euler's early contributions.[513] Their work with prostaglandins also resulted in Bygdeman and Wiqvist having influential professional contacts, such as Bergström and Egon Diczfalusy. Diczfalusy, who was one of Lars Engström's co-applicants, is most recognized for his research on maternal and fetal endocrinology and was also involved in prostaglandin research in Sweden.[514]

During the clinical trials of prostaglandins, Bygdeman was a doctor in obstetrics and gynaecology at Karolinska Hospital, but he also had other medical positions and responsibilities. He worked at the women's clinic at Karolinska Hospital, eventually presiding as head doctor of the clinic from 1975, and he became a professor in obstetrics and gynaecology in 1978.[515] Similarly to Engström, in the early years of clinically testing prostaglandins, Bygdeman also worked at RFSU. Wiqvist was first a docent in experimental endocrinology at Karolinska Hospital, then in obstetrics and gynaecology in 1964. He was the head doctor at the women's clinic at Karolinska Hospital from 1967 and achieved a professorship in obstetrics and gynaecology the same year.[516]

As practicing physicians, and physicians who specialized in women's health, Bygdeman and Wiqvist had encountered various issues in their profession. From the mid-1960s and into the early 1970s, when the researchers were beginning to investigate prostaglandins' abortifacient uses, there were a number of contraceptive counselling problems that impacted their clinical work.[517] The introduction of the hormonal contraceptive pill had first flooded women's clinics with interested patients, but the wide appeal of the pill faded with reports about side effects.[518] Hospitals began reporting cases of patients, who were otherwise healthy, suffering from blood clots.[519] The common

[511] Marc Bygdeman, *The Effect of Different Prostaglandins on Human Myometrium in Vitro* (PhD diss. Karolinska Institute, 1964).
[512] Interview with Marc Bygdeman, December 16th, 2016.
[513] See, for example, these articles: "Ny svensk metod: Abort framkallas med injektion," *Aftonbladet,* 21-01-1970; Bernt Bernholm, "Nytt 'svenskt' preparat kan ge abort inom två timmar," *Expressen,* 30-04-1970; "Nytt piller framkallar tidig abort" *Dagens Nyheter,* 18-01-1972.
[514] Giuseppe Benagiano, "Egon R. Diczfalusy, The Discovery of the Fetoplacental Unit and Much More," *Contraception* 84 (2011).
[515] Uddling and Paabo, eds. *Vem Är Det*, 188.
[516] Ibid. 1200.
[517] Margareta Klingberg, "Läkarbrist tvingar fram fler aborter," *Aftonbladet*, 12-09-1971.
[518] "Förbundsstyrelsen 17.4.1971," 1962–1982, 1197/A/2/5, RFSU, ARAB.
[519] Barbro Westerholm, "Thromboembolism and Oral Contraceptives," in *Current Problems in Fertility*, eds. Axel Ingelman-Sundberg and Nils-Olov Lunell (1972).

denominator among these healthy patients was oral contraceptive use and RFSU saw an increase in people asking for IUDs.[520]

Regardless of the type of contraceptive, there continued to be a shortage of skilled staff able to give counselling, which was then used to explain an increase in abortions and lengthy abortion queues.[521] RFSU and the Swedish state looked for solutions. By the early 1970s, this increase in abortions prompted government bodies, such as the National Board of Health and Welfare, to look into shifting abortion practices to out-patient care. This model was expected to require less hospital space and personnel and could subsequently reduce abortion queues. They assembled a working group, which examined techniques, personnel, and material resources needed for early abortions.[522]

In their professional roles, Bygdeman and Wiqvist were familiar with abortion procedures, trends, and availability in Sweden. Prostaglandins bridged their earlier basic research, which had been done on a popular compound and given them important professional contacts, with their interests in obstetrics and gynecology. During the same time period, the Swedish government was concerned about contraceptive counselling and hoped that moving abortion to out-patient care could help the situation. In this way, technical solutions and reproductive research were hoped to help the failing contraceptive and abortion situation.

Shifting clinical trial standards

Bygdeman and Wiqvist both worked with contraceptives in their clinical work, and at the same time they were also conducting reproductive research on prostaglandins. Like Engström, Bygdeman and Wiqvist would have to run their trials in conjunction with larger surveillance systems and by the time they began clinical testing there were new standards to abide by. There were increased demands relating to trial size, transparency, and in the detail of reasoning behind the trials.

Bygdeman and Wiqvist began clinical trials of prostaglandins as an abortive method in 1969.[523] The trials mostly ran at the same hospital and at the same women's clinic as the tests with F6103.[524] By 1971, they had tested

[520] "Rapport om förbundets, klinikernas och bolagets verksamhet under perioden 1/1–1/11 1971," 1962–1982, 1197/A/2/5, RFSU, ARAB.
[521] Margareta Klingberg, "Läkarbrist tvingar fram fler aborter," *Aftonbladet*, 12-09-1971.
[522] "Socialstyrelsens cirkulär med råd och anvisningar rörande tidiga abortingrepp. Operationsteknik och patientomhändertagande," Medicinalväsendets författningssamling, MF 1972: 59, 1. Members of the working group: Kurt Roos, Lars Philip Bengtsson, Karin Edström, Viking Falk, Gunnar af Geijerstam, Anders Westgren, and Marianne Thoren.
[523] "Ansökan om forskningsbidrag. B67-17X-2019-0," Ansökningshandlingar, 1965–1970. 2009–2036. F1:305, Medicinska forskningsrådet, RA.
[524] Wiqvist eventually moved to Gothenburg, where he continued testing prostaglandins.

prostaglandin on 126 trial participants.[525] According to a report by Bygdeman and Wiqvist, the women had been admitted to hospital for legal abortion and were between the sixth to twentieth week of gestation.[526] They considered the abortion to be a success when "the foetus or the placenta was expelled through the cervical canal into the vagina."[527] In these trials, Bygdeman and Wiqvist reported being able to "interrupt about 90% of pregnancies before the 9th week of gestation."[528] In their reports it seems that these early trials showed promise, but that they still needed to investigate the relationship between doses, length of pregnancy, and side effects.

Trials continued throughout the 1970s and the researchers tested a variety of ways to administrate prostaglandins, such as through injection or as vaginal tablets.[529] Bygdeman and Wiqvist tested a steady stream of patients who came to Karolinska Hospital for an abortion. In 1972, for example, they wrote that 166 patients had been given a prostaglandin treatment, while in 1974 they reported administrating six to eight abortions a week.[530] The prostaglandin trials went on for much longer and tested more trial participants than Engström's tests with F6103. When commenting on pharmaceutical and medical requirements for drugs in 1971, Hans Hellberg who worked at the National Board of Health and Welfare, wrote: "as a rule, broad clinical trials are required, carried out at separate hospitals over a sufficiently long period of time. If possible, the combined patient material should comprise at least several hundred cases."[531] Since the mid-1960s, there were more requirements for assessing drug suitability—it was no longer considered adequate to run trials of ten to fifty people.

By the 1970s, researchers were also required to submit an application to a research ethical committee (REC) at the hospital that oversaw human clinical trials. RECs consisted of different representatives, such as gynecologists and obstetricians, colleagues to Bygdeman and Wiqvist, who would assess their research applications.[532] This application included a summary of the research

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[525] Marc Bygdeman and Nils Wiqvist, "Report II", *Prostaglandins in Fertility Control. The First Conference on Prostaglandins in Fertility Control*, March 8-9, World Health Organization (1971), 52.
[526] Ibid.
[527] Ibid.
[528] Ibid.
[529] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1974," Forskningsetiska kommittéer, regionala forskningsetiska kommitténs protokoll 1974 A1:6, Karolinska institutets forskningsetiska kommittéers arkiv 1967–2003 (hereafter KIKFA), Karolinska institutet (hereafter KI); "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1972," Forskningsetiska kommittéer regionala forskningsetiska kommitténs protokoll 1972 A1:4, KIKFA, KI.
[530] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1972," Forskningsetiska kommittéer, regionala forskningsetiska kommitténs protokoll 1972 A1:4, KIKFA, KI.
[531] Hellberg, "Trends in Swedish Drug Control," 7.
[532] Tinnerholm Ljungberg "The Moral Imperative of Fetal Research," in *Medicine at the Borders of Life*, ed. Jülich, (book manuscript under preparation).

program, motivations, and planned procedures. There were several places on the application where the researchers were asked to justify taking a compound to human testing stages. They needed to show previous research, animal testing, and explain why the next stage should be clinical trials.[533]

The application also focused on potential effects on the clinical trial participants. It had a specific section called: *Complication risks (including pain and discomfort) and measures to prevent or reduce them*. Here, the researchers listed the expected side effects and complications. There was also a section called: *An account of how the subjects are informed about the study, its purpose and possible risks, and how consent is given. If information is given in writing, attach the form; if information is given orally, indicate who is giving it*.[534] In their applications, the researchers described how they both would inform the patients orally. In doing so, they would give a brief overview of administration forms, side effects, and sample collection. They also noted that trial participants would willingly volunteer.[535] In comparison, Engström submitted rather simple applications to SPL. Consent, which was not clearly obtained in the F6103 trials but had been an issue that the parliament discussed, had become formally incorporated into clinical trial surveillance.

The trials, and subsequently the risks of the trials, were positioned against a legal two-step abortion method: saline injection. During the decades that they were active researchers, certain abortion trends dominated. By the end of the 1960s and the early 1970s, vacuum aspiration and injection-based abortions were increasingly popular.[536] Most abortions were done during the first trimester and it was reported that only a small number of doctors used traditional dilation and curettage (D&C) methods.[537] By 1971, the SOU on abortion stated that vacuum aspiration had increasingly replaced the D&C methods previously used.[538] In considering length of pregnancy and ease of use, vacuum aspiration was the main alternative to prostaglandin abortion. The researchers were not aspiring to replace vacuum aspiration, but rather to offer another option. However, they were aiming to replace other injection-based methods.

In their applications, Bygdeman and Wiqvist compared prostaglandins to injection-based abortion methods. In paperwork sent to the ethical committee, they described the saline treatments and the prostaglandin treatment as similar in abortion rate, with the prostaglandin treatment having the advantage of a shorter induction-abortion period. This was viewed as an improvement, as

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[533] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1974," Forskningsetiska kommittéer, regionala forskningsetiska kommitténs protokoll 1974 A1:6, KIKFA, KI.
[534] Ibid.
[535] Ibid.
[536] SOU 1971:58, 39.
[537] "Socialstyrelsens cirkulär med råd och anvisningar rörande tidiga abortingrepp. Operationsteknik och patientomhändertagande," Medicinalväsendets författningssamling, MF 1972: 59, 1.
[538] SOU 1971:58, 39.

long as they were able to mitigate any potential side effects. Bygdeman and Wiqvist wrote, "injection of hypertonic saline solution has thus been shown to cause serious life-threatening complications in some cases."[539] The risk assessment of testing prostaglandins was weighed against a technique that they perceived as having the potential to threaten the life of the patients.

As the researchers designed their clinical trials there were additional steps to complete that had not been present a few years earlier. The trials were larger, required more detailed accounts of trial participant awareness, consent, and an overview of the risks of partaking in the trials. Acceptability in clinical trials had shifted, and the trial practices shifted with them. Bodies such as hospital RECs and SPL were important actors in the research network, influencing conditions for the trials. However, the researchers also made their own decisions, shaping certain clinical trial parameters themselves.

The varied practices of the prostaglandin network

The top-down demands on the prostaglandin researchers differed from the F6103 trials, and their process of running clinical trials changed as well. Participant selection, trial advertisement, trial location, and information collecting not only changed between Engström and the prostaglandin researchers, but also throughout the prostaglandin trials.

Clinically testing F6103 had forced different actors to confront who should be eligible for clinical testing—those who fulfilled legal requirements for abortion or not—and this set the groundwork for later trials. The issue of testing women who had been legally deemed worthy of abortion had been considered problematic by some parliament members. "Normal, healthy" participants were considered the best for scientific applicability.

Bygdeman and Wiqvist ran clinical trials for longer than Engström and also had larger trials, testing prostaglandins on significantly more participants. Yet, despite proposition 18, up until 1975 the prostaglandin researchers only conducted tests on women who had come to the clinic to receive a legal abortion.[540] Unlike the parliament members, Bygdeman and Wiqvist did not consider the use of women with legal abortion permission as compromising their results. But over the years they varied the parameters, and subjects, of their trials.

In the early days of their research, they also hoped to test prostaglandin on women who were not pregnant on entry into the trial but had an active sex life. In August 1970, Bygdeman and Wiqvist looked to pursue a large clinical trial

[539] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1972," Forskningsetiska kommittéer, regionala forskningsetiska kommitténs protokoll 1972 A1:4, KIKFA, KI.
[540] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1974," Forskningsetiska kommittéer regionala forskningsetiska kommitténs protokoll 1974 A1:6, KIKFA, KI.

of 200 women. According to several different newspaper reports from that month, the National Board of Health and Welfare had administrated a license for the researchers to conduct such a trial over the next two years. Unfortunately, it has been difficult to find this license or further archival material that documents this particular trial.

Regardless, the newspaper material allows an examination of how the researchers presented their work. *Aftonbladet* ran a detailed report of the projected trial. They wrote:

> This fall, 200 women in Stockholm will have a completely free and normal sex life. But they do it without using birth control pills, intrauterine devices, pessaries or other protection, not even coitus interruptus. If menstruation does not arrive on time, they will simply go to Karolinska Hospital's Women's Clinic. They get an injection. After a few hours, they can leave the clinic. Then menstruation has started. The drug is called prostaglandin F 2 alpha. Bygdeman and Wiqvist are currently looking for those 200 women who are 'most suitable.' They say: Most important is that they have very regular menstruations.[541]

In ideal circumstances, Bygdeman and Wiqvist were interested in finding 200 women who would refrain from using birth control to test prostaglandin F2alpha. To qualify, the women would need to have regular menstruation, an active sex life, and obviously a willingness to experiment with a newly developed injection. It would also be convenient if the women lived within a reasonable commuting distance to Karolinska Hospital, so within the greater Stockholm region. By October, it was reported that a group of 22 women were using prostaglandin as their only form of birth control.[542]

These participants would be entering into the trial not on the grounds of having an unwanted pregnancy, but instead to test prostaglandins in the event that they missed a menstruation. Their circumstances would have been very different to the participants from the F6103 trials who were dealing with an unwanted pregnancy on entry to the trial. Still, the prostaglandin trials also included participants who were pregnant before admittance to the trial and paperwork from some of the later trials show that criteria for pregnant participants also varied over time.

In later years of testing, the researchers began to screen participants based on whether they had previously had a full-term pregnancy. In addition, the current pregnancy had to be categorized as normal and they had to have had gone without menstruation for forty-nine days or less.[543] Determining whether

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[541] Carlösten Nordmark, "De kan ge oss ett nytt och bättre p-piller," *Aftonbladet,* 30-08-1970.
[542] "Svenskor prövar abortpiller. Effektiviteten begränsad," *Svenska Dagbladet*, 14-10-1970.
[543] "Randomized Comparison of Prostaglandin Treatment in Hospital or at Home with Vacuum Aspiration for Termination of Early Pregnancy," by Rosen, Knorring, Bygdeman and Christensen, Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, H9/445/21, August 1983 to September 1985, Archives of the World Health Organization (hereafter WHO).

participants met these criteria involved a gynecological examination and a urine test.[544] The selection criteria in the prostaglandin trials adapted as the trials progressed. The researchers went from wanting women with legal permission for abortion, to sexually active but not pregnant participants, to pregnant participants who fulfilled specific criteria. The 1975 Abortion Law permitted wider selection and more opportunities for participants and researchers alike.

The method for finding trial participants also varied. For the first years of the clinical trials, Bygdeman and Wiqvist worked with women who sought out the women's clinic for a legal abortion. In later years, they used other strategies, relying to some degree on media exposure. Media contact was not a new practice for researchers. In the 1940s, for instance, press conferences were an important part of the physician Axel Westman's work, while in the 1960s, photos of the Swedish endocrinologist Carl Gemzell in his laboratory circulated in the Swedish media.[545] In addition, the renowned photographer Lennart Nilsson, made famous for his pictures of human fetuses in the 1960s, had established a working relationship with a laboratory at the Karolinska Institute.[546] Through this collaboration, Nilsson was able to take photographs which propelled his own career, while also contributing to popular media reporting. In the 1970s, his embryonic images were printed in the *Swedish Medical Journal* and in the women's magazine *Ladies World* (Damernas Värld).[547] Researchers, journalists, and photographers had established mutually beneficial relationships.

While there was media interest in F6103, there was an increase in media coverage of clinical trials in the 1970s. Between 1969 and 1985 there were at least 86 news items on abortion pills in major Swedish newspapers.[548] While Lars Engström's work on F6103 was featured in several newspaper articles, as well as an international magazine, it did not appear in broader media spaces. In contrast, along with print, the prostaglandin researchers utilized radio and television to disseminate their work.

Beginning in 1970, Bygdeman and Wiqvist were occasionally interviewed about prostaglandin research. The television, newspaper, and radio exposure helped the researchers spread awareness of the trials. In this way the media attention indirectly encouraged women to get in touch with the researchers. In the early 1980s, a trial participant reported on how she came in contact with the trial. She wrote that she had read about the abortion research, so when she

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[544] Ibid.

[545] Nordlund, *Hormones of Life*; Sofia Koernig, "Det är honom kvinnorna ber om barn," Master thesis, Uppsala University, Dept. of the History of Science and Ideas, 2017.

[546] Solveig Jülich, "Colouring the Human Landscapes: Lennart Nilsson and the Spectacular World of Scanning Electron Micrographs," *Nuncius 29* (2014), 465, 467.

[547] Ibid. 479.

[548] A search in the Swedish newspaper database (Svenska dagstidningar) showed that in the first three years of testing there were nineteen pieces on prostaglandin research. From 1969 until 1985, the words "Marc Bygdeman" and "abortion pill" appeared together in twenty-four stories.

had an unwanted pregnancy, she knew to call Marc Bygdeman at the women's clinic.[549] Another participant also learned of the clinical trials through the press and received further information on how to get involved when she called the maternity clinic.[550] Women with unwanted pregnancies could initiate their own involvement, and institutions such as maternity clinics in Stockholm helped to facilitate these connections.

The researchers could also use the media in a more forthright manner to bring trial participants into their studies. In the mid-1970s, Wiqvist used a newspaper to advertise for the prostaglandin trials. By this time, Wiqvist had relocated to Sahlgrenska hospital in Gothenburg, where he continued to conduct research on prostaglandins. In January 1976, Wiqvist put out a call for clinical trial participants in *Göteborgs-Posten*, a local newspaper of Gothenburg.


I dag hedrar vi
Göteborgs-professor söker frivilliga
Ni som just blivit gravid
Vill ni testa "abortpillret"
Privatläkarna försvinner?
Känner sig inte önskvärda
Dagboken
MÖBEL-REA
Söndagsöppet 12-17
pixbo päls

Figure 5.1. The newspaper page from *Göteborgs-Posten* featuring the clinical trial advertisement (1976). Photograph © National Library of Sweden.

[549] Ingegerd Ekstrand, "Jag fick blodpropp efter abort-pillret," *Aftonbladet*, 19-10-1982.
[550] Ann-Hjördis Larsson, "Det kändes bara tryggt och fint," *Expressen*, 19-10-1982. These newspaper articles were published on the same day by competing newspapers. Unfortunately, it has been difficult to find information as to why this occurred.

The headline stated: You who have just become pregnant, would you like to test "the abortion pill"?[551] The newspaper piece explained that Wiqvist was looking for participants to try an abortion pill, cost free, although the participants would need to stay at the hospital for 24 hours. Wiqvist was looking for women who were very early in their pregnancy, maximum 14 days after a missed menstruation. To find such early pregnancies, women were encouraged to call the clinic as soon as they suspected that they were pregnant.

The newspaper described how the researchers would conduct a normal gynecological examination and then administrate the abortifacient in a series of four pessaries. They would determine if the women were pregnant by conducting a blood test, which they described as being effective for detecting very early pregnancies. The participants would also need to collect all menstrual material which could be used to measure how much blood was lost during the procedure. This meant collecting pads and tampons used at home in the following days and giving them to a doctor at a check-up when the bleeding had stopped. The paper also described the potential side effects, such as vomiting and diarrhea.

At the bottom of the article there was a photograph of Wiqvist and Bygdeman. The caption stated, "They are the pioneers of the Swedish abortion pill and are now, after ten years of basic research, starting to test it on Swedish women, professor Nils Wiqvist (to the left) and docent Marc Bygdeman." To the right of the photograph was text describing how to get in touch with the women's clinic. It stated that as soon as one suspected a pregnancy to call Sahlgrenska Hospital and connect with Sonja Farshell, a laboratory worker who would take down their information and interest. The text stated, though, that there was limited capacity so that women should prepare to be rejected. The clinic only had the ability to take one or two women a day. It ended by saying, "Again: the offer is, of course, only aimed at women who, regardless of circumstances, intend to request an abortion."[552]

In another instance, Bygdeman informed the public in a television segment to contact the hospital if they were interested in using a new abortion method.[553] Media communication was, in more ways than one, an important research practice for the researchers. This was a way for the researchers to reach out to women as early as possible in their pregnancies. Due to earlier abortion laws, using media in this manner would have been an issue only ten years earlier.

The trials did not just vary in terms of who was prioritized, screened, and recruited, the procedures and locations for the trials also changed. During the first trials the researchers had specially trained nurses monitoring the patients during the prostaglandin infusion in order to study the frequency and degree

[551] Allan Fredriksson, "Ni som just blivit gravid: Vill ni testa 'abortpillret,'" *Göteborgs-Posten*, 17-01-1976.
[552] Ibid.
[553] Magasinet – SVT, TV2 1980-12-09.

of side effects.[554] Bygdeman and Wiqvist anticipated that side effects would be an important component to track and they had framed their research as improving an existing method that had the downside of being life threatening. This could have opened up a large space for "acceptable" side effects, as long as they did not come close to the risks of hypertonic saline injections. From the researcher's descriptions, side effects manifested mostly as vomiting, diarrhea, bleeding, and uterine pain.[555] A report from 1972 documented an average of 2-3 side effect episodes per patient. Along with the nausea, vomiting, and diarrhea, the researchers described cases of painful uterine contraction.[556]

While many of the prostaglandin trials occurred at the same women's clinic as the trials for F6103, a notable difference was that by the time the trials reached the vaginal suppository phase, some of the trials occurred in the participants' homes. At the women's clinic there were staff who explained and took the participants through the steps of administration. A participant was given two vaginal suppositories at six-hour intervals and was required to stay in bed for an hour after insertion.[557] The side effects, and bleeding, were documented by clinical staff. The participants who took vaginal suppositories at home needed to be instructed on how and when to insert the suppositories and needed to record the side effects, bleeding, and degrees of pain themselves.[558] The structure and process of the trial were very different than having specialized nurses monitor and keep track of the participant. This change of location was enacted in various ways by researchers and trial participants alike.

While there was overlap between F6103 and prostaglandin testing, the clinical testing landscape of prostaglandins looked very different from what Engström experienced. Engström had smaller trials over a shorter time span and was confined to more restrictive legal abortion conditions. While the experience of the trials varied for each participant based on their own complex configurations (including age, education, race, and class) the actual parameters stayed relatively constant. With the exception of those who partook in the psychological evaluation, all the F6103 participants went through similar processes in the same spaces.

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[554] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1971," Forskningsetiska kommittéer, regionala forskningsetiska kommitténs protokoll 1972 A1:4, KIKFA, KI.
[555] Ibid.
[556] "Självdeklaration rörande forskningsprojekt som innefattar humanförsök 1972," Forskningsetiska kommittéer, regionala forskningsetiska kommitténs protokoll 1972 A1:4, KIKFA, KI; "Intra-Uterine Administration of Prostaglandin F2alpha for Induction of Abortion. Intra-Amniotic Method," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973), 27.
[557] "Randomized Comparison of Prostaglandin Treatment in Hospital or at Home with Vacuum Aspiration for Termination of Early Pregnancy," by Rosen, Knorring, Bygdeman and Christensen, Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation H9/445/21, August 1983 to September 1985, WHO.
[558] Ibid.

Conversely, during the years of testing prostaglandins, the selection criteria, selection method, trial procedures, and media communication fluctuated. The researchers explored different administration routes, different testing settings, and using different types of people in their clinical trials. Characterizing the prostaglandin trials as a specific set of practices is difficult.

However, studying these regulations and design choices shows that the power dynamics between actors in the network was less pronounced in the prostaglandin trials. After 1975, the trial participants were entering the trials in very different legal circumstances than the participants in Engström's case. Abortion was an option up until the 18th week of pregnancy and trial participants could seek out the prostaglandin experiments on their own. There were also new requirements for consent and transparency, making it more likely that the trial participants understood the circumstances of the trial. The participants, as will soon be shown, would also occupy a more public role as actors in the network. While researchers expanded their use of media, it was not an exclusive space and the trial participants would also come to enact their own versions of the technology to the public.

The ambiguity of abortion as restoring menstruation

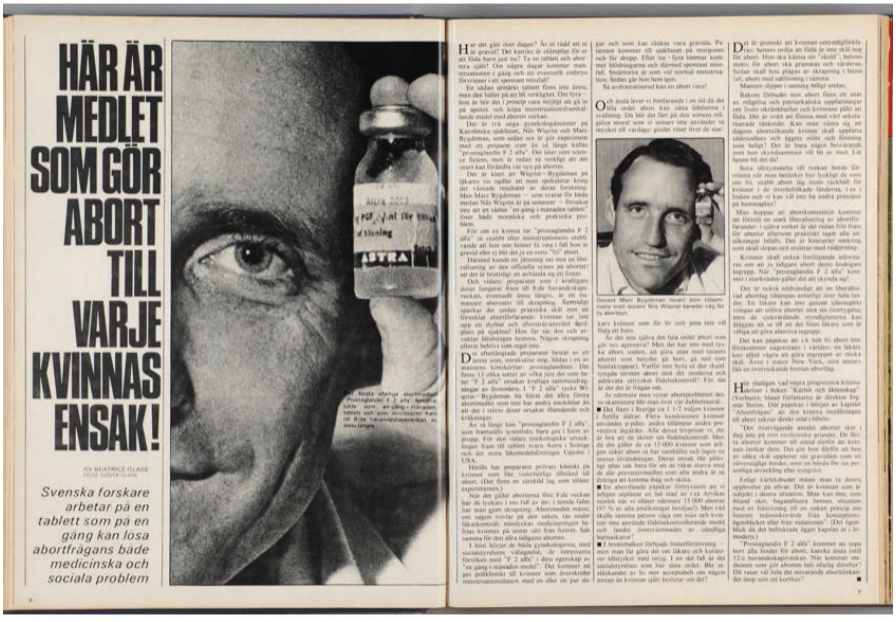
Bygdeman and Wiqvist spoke about prostaglandins and the clinical trials in the press from the early 1970s until the 1980s. This was an important part of their research practice not only as a form of advertising the trials, but also in how they could present the technology to the public. Their work became part of a larger public discussion about abortion, which was a topic that people held strong views about. While media coverage has been shown to have mainly negative ramifications in other cases of reproductive technological development, for Swedish prostaglandin research it also fostered an acceptability of the technology.[559]

Bygdeman and Wiqvist communicated findings with peers, regulatory bodies, and with the public. What they shared and with whom overlapped and varied in different ways, but the larger research results would often be reported on by various media outlets. Over the course of their research, Bygdeman and Wiqvist were interviewed on television, in newspapers, and on the radio. These media appearances were also sometimes a part of a larger story on abortion or reproductive research efforts.

In a 1970 article from the Swedish weekly paper, *Vecko-Journalen*, the writer, Beatrice Glase announced, "Swedish researchers work on a tablet that can immediately solve both the medical and the social problems of the

[559] Oudshoorn, *The Male Pill*, 204. Nelly Oudshoorn treated the media coverage of male contraceptives as another site of testing, one different in aims, subjects, and criteria from laboratory testing, but which still impacted feasibility. In her case, the media attention did not help the feasibility of male contraceptives.

abortion issue."[560] The article included a large picture of Bygdeman holding up a vial of prostaglandin—this gesture would be repeated several times over the years, acquiring an iconic status.[561]


HÄR ÄR MEDLET SOM GÖR ABORT TILL VARJE KVINNAS ENSAK!

Svenska forskare arbetar på en tablett som på en gång kan lösa abortfrågans både medicinska och sociala problem

Figure 5.2 Image of the *Vecko-Journalen* article that featured Marc Bygdeman and prostaglandin research (1970). The large text states: This is the agent that makes abortion every woman's private matter! Reproduction by Jens Östman. Photograph © National Library of Sweden.

The article enthusiastically reported that soon, in perhaps only four or five years, women would be able to take a tablet and perform an abortion themselves. Glase was hopeful that this would solve both moral and practical problems around abortion. From her perspective one of the advantages of this new abortion method was that it could renegotiate the terms of abortion. In this sense, the abortion pill could be a practical response to controversy, or at least, a way to redefine a procedure in more socially acceptable ways. Abortion, from this approach, did not really occur if one did not know they were pregnant. This angle on abortion technologies simultaneously adapted to a hostile space while also attempting to legitimize the procedure. Further reports over

[560] Beatrice Glase, "Svenska forskare arbetar på en tablett som på en gång kan lösa abortfrågans både medicinska och sociala problem," *Vecko-Journalen.* No. 31. (1970), 6–7.
[561] This is following in Nick Hopwood's use of "iconic" to emphasize the exceptional reach and iconic power that some images and motifs acquire over time. See, Nick Hopwood, *Haeckel's Embryos: Images, Evolution, and Fraud* (The University of Chicago Press, 2015), 1–2.

the years would continue to stress how prostaglandins could both change abortion and solve existing problems.

The following year, Wiqvist was featured on TV1, the first Swedish television channel, describing prostaglandin research.[562] The news piece specifically focused on research related to the population explosion and contraceptives. Wiqvist, wearing a lab coat and tie, described to the reporter how the compounds were given intravenously to induce abortion. This segment was part of coverage on Egon Diczfalusy's research at Karolinska Institute, who was promoting an upcoming symposium on prostaglandins. Bygdeman and Wiqvist's work on prostaglandins was articulated as one of the ways to deal with the perceived overpopulation issue. The voice over also stated that this method "is so simple that women in many cases can return to work already the day after their treatment."[563] Prostaglandin research was presented as useful for stemming overpopulation and a simple and important treatment for women who needed to return to the workforce. Consequently, the abortion script of *family planning applicability* continued to be constructed in the prostaglandin context.

Several months later, Bygdeman would also be interviewed by TV1.[564] This news piece focused on discussions of abortion laws and featured a short bit on prostaglandin research. The reporter interviewed Bygdeman in a room full of medical equipment. Bygdeman, also clad in a white lab coat, held a vial of prostaglandin. The reporter said, "That is what you can call an abortion pill," referring to the vial. Bygdeman responded that it was not an abortion pill but explained that perhaps in five to ten years it could be. The news piece speculated that once prostaglandins became a pill it could become a complement to current contraceptives, as opposed to replacing them.

Bygdeman discussed how the prostaglandin method was similar to inducing a missed menstruation and very different from a late term surgical abortion. Because of this difference he said, "I think a lot of the negative attitude around aborted pregnancy will disappear."[565] Bygdeman thought that if abortions could be considered menstruation, there would be little to feel negative about. Creating ambiguity began in the years that prostaglandins were still being used in intravenous form. Just as with F6103, the abortion script of *menstruation restoration* was also made in the prostaglandin research network.

This abortion script of *menstruation restoration* was approached in various ways with the researchers stressing ambiguity in several media pieces. In an *Aftonbladet* article, Bygdeman listed the pros and cons of his new prostaglandin research. One of the advantages Bygdeman listed was that surgery was avoided. Bygdeman explained, "It seems psychologically important for many

[562] Tv-nytt. Inslag 03 SR, TV1 1971-03-05 19:30-20:00.
[563] Ibid.
[564] Insyn SR, TV1, 1971-09-08 21.45-22:10.
[565] Ibid.

women that such interventions are not done. We see our method as starting missed menstruation again. In that way, it is less emotional."[566]

The interviewer, Renée Höglin, challenged Bygdeman's description. She said, "Isn't that just a seductive euphemism for an abortion?"[567]

Bygdeman responded, "It can seem so, but we have noticed that the women we work with prefer to see abortion in this way. For safety's sake, we now let women talk to a psychologist both before and after the procedure to see if it is a more anxiety provoking intervention than dilation and curettage. We have a control group of women who have received an abortion with dilation and curettage and compare the responses."[568]

Much like Engström, Bygdeman and Wiqvist wanted a better idea of the psychology behind abortions, and they also made this into a public issue. On the one hand, there was the possibility that some people would prefer to avoid surgery and that a pill would be psychologically and emotionally more tolerable. On the other hand, Bygdeman also thought that some people might prefer surgery. He noted that the disadvantages with the pill were that it took longer and resulted in more bleeding and nausea. He remarked that a surgical abortion took between ten to fifteen minutes, whereas the prostaglandin abortion required the woman to take a pill four times at three-hour intervals.[569] While a pill was positioned as positive in some ways, particularly for global health use and in combating overpopulation, it was not self-evident to Bygdeman and Wiqvist that it would be better than surgery.

Designing a new method of abortion was not just about success rates, it was also about acceptability and the researchers wanted more information on how these new abortion methods were perceived. To study acceptability Bygdeman worked with Lars Nystedt and Anne-Sofie Rosén at the department of psychology at Stockholm University. In the late 1970s, Bygdeman and Rosén compared prostaglandin treatment at home with prostaglandin abortions in hospital and with vacuum aspirations.[570] For Bygdeman, this meant combining his clinical trials of prostaglandins with a qualitative psychological study.[571]

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[566] Renée Höglin, "Om några år kan kvinnorna själva göra abort med den nya metoden," *Aftonbladet*, 20-04-1976.
[567] Ibid.
[568] Ibid.
[569] Ibid.
[570] "Randomized Comparison of Prostaglandin Treatment in Hospital or at Home with Vacuum Aspiration for Termination of Early Pregnancy," by Rosen, Knorring, Bygdeman and Christensen, Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation H9/445/21, August 1983 to September 1985, WHO.
[571] Ibid. The final study consisted of fifty-three patients. Seventeen took prostaglandins at home, eighteen had prostaglandins administered in hospital, and eighteen had a vacuum aspiration.

To be included in the study, participants would have to have had a normal pregnancy and have had "at least one previous full-term pregnancy".[572] They were interviewed by a female psychologist once before the procedure. During the first interview neither the psychologist nor the participant knew which treatment group they would be assigned to. The participant would be told this after her meeting with a gynecologist, who paired participants in a random order with the procedures. The three different groups were given their different abortion treatments and then had a follow-up interview with the same psychologist.

At the first meeting with the psychologist the participants would be read out standard information about the three different abortion treatments. They then had the chance to ask any questions they had about these procedures. The psychologist would use closed and open questions to "assess the patient's beliefs and evaluations of the procedures before and after treatment, her expectations and experiences, and preferences".[573] The participant would also fill out a set of bipolar adjective rating scales, such as Hard vs Easy, Dreadful vs Calm, Unpleasant vs Pleasant, indicating how they felt about different treatments.[574]

In the interview before the treatment, the participants were asked to share which treatment they thought they preferred and why. Thirty-five participants said they thought they preferred the medical abortion at home, eight choose medical abortion in hospital, and eight choose vacuum aspiration.[575] Reasonings varied as to why and how these participants picked a treatment. The researchers reported that for those that picked in-hospital treatments, the most common response was "one felt safer and more secure with professionals around".[576] Various motivations arose in the group who wanted medical abortion at home: for some it felt more "natural", others wanted a familiar milieu, some also wanted their husbands/partners to be with them, while others "considered an abortion an emotionally upsetting event and wanted to withdraw from the publicity of a hospital treatment setting."[577] This survey confirmed what Bygdeman and Wiqvist had suspected: some women felt medical abortion was more natural than surgical abortion.

Abortion pills were once again articulated as an ambiguous technology. They were seen to make things simpler and reduce risks, allowing women to experience restoring a missed menstruation instead of an aborted pregnancy. These articulations, which centered on the pill's naturalness and ease, were not unique. Developers of the oral contraceptive pill were also concerned with the "naturalness" of the contraceptive pill.[578] Designing a technology that

[572] Ibid. 1.
[573] Ibid. 3.
[574] Ibid. 6
[575] Ibid. 4
[576] Ibid.
[577] Ibid.
[578] Marks, *Sexual Chemistry*, 5, 130.

would reproduce a seemingly normal menstrual cycle was an important component to the oral contraceptive pill researchers. This, in the same vein as the abortion pill, was seen to increase acceptability.

The researchers would continue to emphasize this idea of "naturalness" in the media. In 1980, SVT, the Swedish public service broadcaster, did a television segment on "the inflamed abortion question".[579] In part of this segment the journalist Ann Lindgren interviewed Bygdeman at his office. Bygdeman sat in front of a wall of books, dressed again in a white lab coat. Lindgren asked Bygdeman to describe the advantages of taking an abortion pill. The first thing Bygdeman emphasized was that women could have an abortion at home with their husband's support, making it a more positive experience. He then went on to briefly explain some of the more technical details of using abortion pills.

Next, Lindgren interviewed a midwife, Monica Rubin, about the abortion pills. Rubin gave a favourable impression of the technology, stating that those patients who have used the technology were happy to have the option to do so. She also reiterated Bygdeman's point about husband involvement.

The segment then went back to another clip of Bygdeman in his office. Bygdeman said, "They fool themselves a little, they do not experience it as an abortion. They experience it as a delayed menstruation."

Lindgren then asked, "But is it too easy to have an abortion?"

Bygdeman responded, "I don't think so. I think that the simpler one can do it, the less the risk."

He went on to add that he believed "all women have an inherent desire to avoid pregnancy," and that the abortion pill should be used as a complement to birth control.

During the interview he continued to stress what a difficult decision abortion was. Near the end, SVT would show a short clip of Bygdeman saying, "If I was to think of myself, it would be a hard decision to end a pregnancy."[580] This implied that if he was to imagine himself in a situation, presumably with his wife, of having an unwanted pregnancy, it would be difficult to consider abortion. In doing so, he was emphasizing that this was not a procedure to be taken lightly.

The abortion script of *menstruation restoration*, which included simplicity and reduced risks, was sometimes criticized by journalists as making abortion, "too easy", or "a seductive euphemism for abortion". Bygdeman's response to these remarks are telling. He stressed that while the abortion pill might be seen to make things simpler, it could never reduce the overall intensity and seriousness of abortion. Abortion, in many of these interviews, was depicted as a difficult decision regardless of how it was done.

The prostaglandin network that Bygdeman was a part of made it possible to create an abortion script of *difficulty*. Several actors emphasized this script,

[579] Magasinet – SVT, TV2 1980-12-09.
[580] Ibid.

highlighting how the practice of using an abortion pill did not make abortion an easy decision. This echoed components of an earlier script made in the years before medial abortion began, when abortion providers, advocates, and critics positioned abortion as a "less than ideal" solution to unwanted pregnancy. Other abortion scripts, such as *family planning applicability* and *menstruation restoration*, brought new values to abortion—stressing how useful abortion pills were for foreign aid projects and for maintaining "normal" menstrual cycles. The script of *difficulty*, on the other hand, was impacted by existing abortion values, mainly those which made abortion a moral and emotional decision.

This abortion script of *difficulty*, I argue, helped to make a potentially controversial technology less so. In this script, the abortion pill was not a way to avoid responsibility by abandoning contraceptives and instead relying on abortion as birth control. Even in its perceived simplicity, researchers believed that no one would choose to do so. According to Bygdeman, abortion was too difficult a decision for that kind of use. It was also articulated as a technology that was used by responsible, married heterosexual couples—a way for husbands to be more involved in reproductive control. This was a part of bringing abortion back into the home and placing responsibility on the individual. An important aspect of the research was creating ambiguity, such as in the way prostaglandins were depicted as restoring menstruation, as well as creating a sobriety around abortion. In this way, abortion pills were simultaneously articulated as not being abortions and yet as a serious and difficult technology to use.

While there are similarities between the abortion script of *difficulty* and of *last resort*, the prostaglandin network did not include key components of the *last resort* script. The network did not rely on long queues, intrusive interviews, or attempt to persuade women to follow their pregnancies to term. The network configured users as capable of making up their own minds and as deserving of quick medical services. However, a part of the abortion script of *last resort*, the notion that no one wants to abort, was still present in the prostaglandin network.

In sum, media communication was used by the researchers to relay the benefits of the technology for individuals: it was simple, one could return to work quickly, and it was rather like restoring a missed menstruation. In this way, the researchers were attempting to make their technology as widely appealing as possible, creating new abortion values along the way. With abortion pills abortion became simple, easy, normal, domestic, and closer to menstruation. But they also relied on previous understandings of abortion, emphasizing the difficulty of making the decision to abort. Media spaces also included narrative challengers, such as the journalists Renée Höglin and Ann Lindgren, who introduced skepticism into the coverage. Was this method simply too easy? And, as I will show, journalists were not the only instability. The media also offered the opportunity for other prostaglandin actors, such as the trial participants, to bring different abortion scripts to the public eye.

Trial participants in the media

The researchers' media use shows which components of abortion pills they chose to articulate: that it was simple, less risky, private, and spouse inclusive. It allowed women to return to work quickly and could become a way to fight global overpopulation. It was also "more natural" and could be thought of as restoring a missed menstruation.

But researchers were not the only ones getting attention in the press. Trial participants were also being interviewed and sharing their stories. In doing so, they created a more intricate picture of the technology. Some of what the researchers maintained rang true, but there were also those ready to dispel their claims. The media, while an important research tool, was also an unpredictable space that the researchers did not control. As implicated actors, the trial participants began to take on a larger public role. By the 1980s, several women who had been in clinical trials for prostaglandins offered up their stories in major Swedish newspapers. This coverage usually reflected polar experiences, either very good or very bad.

In 1976, *Aftonbladet* reported on the abortion trial experiences of a woman, thirty-one years of age, who wished to remain anonymous.[581] The journalist Renée Höglin described how the trial participant had difficulties using both intrauterine devices and contraceptive pills as birth control and had recently had two unwelcomed pregnancies. The woman had used prostaglandins to abort on both occasions and largely felt positively about the experiences. The newspaper article included a photograph of the woman from behind, standing in a hospital corridor. In the piece, the trial participant explained that she did not want to have her name published as there was still so much prejudice around abortion. She also stated that she had no regrets over her abortions and that all women should have the option to choose a medical abortion method.

[581] Renée Höglin, "Hon har gjort abort två gånger med nya abortpillret," *Aftonbladet*, 20-04-1976.

10 AFTONBLADET Tisdagen den 20 april 1976

HON HAR GJORT ABORT TVÅ GÅNGER MED NYA ABORT-PILLRET

Inger, 31, från en förort till Stockholm, har genomgått abort enligt den nya prostaglandinmetoden två gånger.

Hon har redan tre barn och tål varken p-piller eller spiral.

— Det var ett fint sätt att göra abort på, säger hon. I framtiden borde man bara kunna gå till apoteket och hämta ut tabletterna på recept.

Inger, 31, tål varken p-piller eller spiral. Hon har tre barn redan och vill inte ha fler just nu. Hon har genomgått abort enligt den nya s k prostaglandinmetoden två gånger. — Det var ett fint sätt att göra abort på, säger hon.

Bilder: ULLA LEMBERG

Renée Höglin

Om några år kan kvinnorna själva göra abort med den nya metoden

SLIPPER INGREPP

TESTAT PÅ 300 KVINNOR

BRA METOD I U-LÄNDERNA

TIO ÅRS FORSKNING

Renée Höglin

Figure 5.3 The newspaper page featuring the trial participant’s story. This was published alongside a piece on prostaglandin research (1976). Headline states: She has aborted twice with the new abortion pill. Photograph © National Library of Sweden.

The article was one of the earliest first-hand accounts of taking prostaglandins as an abortion method and depicted abortion pills as an important method for women who were physically unable to use contraceptives. The trial participant, who reported experiencing complications with the prostaglandins on one occasion, still described it positively. While the woman felt a stigma around abortion, she still wanted to speak out in its favour. On the same page as the trial participant story, the newspaper had also featured a piece on Bygdeman.

It was not uncommon to have numerous articles on the same subject featured together.

It took several years before another wave of trial participant stories were featured in various media outlets. One such account was aired on television. The same 1980 SVT television piece featuring Bygdeman, also featured a twenty-six-year-old trial participant. In addition to interviewing Bygdeman and midwives, Lindgren went to the trial participant's home in order to interview her about her experience in the trial.[582]

The interview was held in the kitchen. The shot featured the trial participant sitting at her table. Her husband, who was seated beside her, was sometimes included in the frame. The segment began by introducing the trial participant: giving her age, her marital status, and describing her two children. Lindgren began the interview by asking why the woman choose to have an abortion at home.

The trial participant responded, "At home was more natural."

To which Lindgren asked, "You weren't afraid to be at home on your own?"

The trial participant said, "No. They said it would be like a spontaneous miscarriage."

She went on to describe her experience, how she first had a physical examination, was then given two vaginal tablets, pain killers and sent home. She decided to have the abortion during the night.

Lindgren asked, "How did it feel?"

The trial participant responded, "Good. It hurt."

The segment then cut to Bygdeman in his office. Lindgren asked him, "Aren't they tricking themselves?"

Bygdeman said, "Yes, maybe, but that's an advantage. It is already a difficult decision."

After this brief interlude with Bygdeman, the show returned to the trial participant's kitchen.

Lindgren asked, "Is it easier to have an abortion with this possibility of using pills?"

The woman said, "Yes, I believe so."

She then described how she really reflected over her decision. While lying in bed with a vaginal tablet inserted, she thought, "Am I really going to do this? Or should I get up and let the tablet fall out?"

Lindgren asked whether the trial participant thought women would use abortion pills instead of contraceptives.

The trial participant said, "No. I wouldn't do it in any case." She described how you take the abortion pills at home but that it was still properly painful.[583]

[582] Magasinet – SVT, TV2 1980-12-09.
[583] Ibid.

The trial participant mirrored some of the existing narratives: it was natural and easy to use. The SVT piece also showed the woman with her husband and gave background on their marriage and children. The abortion pill was then illustrated in a "normal" family setting. However, the trial participant also raised a new perspective that using abortion pills allowed for more contemplation over the abortion act and more responsibility on the behalf of the pregnant person.

While the researchers maintained it could be similar to restoring a missed menstruation, that women could trick themselves into believing they were not actually aborting, the trial participant said almost the opposite. She lay in bed with a vaginal suppository inserted and thought of all the implications of abortion, and how it was up to her to go through with it. Using these abortion pills did not convince her she was simply menstruating. The way she then described the process in the television piece articulated abortion pills as serious and centered around the process of aborting, not menstruating. The abortion script of *menstruation restoration*, which was made in this network, was contested by the trial participant, while the abortion script of *difficulty* was not.

In contrast to SVT's mostly positive depiction, an *Aftonbladet* article from February 1982 featured a forty-three-year-old woman, anonymized, who also described her participation in the trial. At the beginning of the piece she said, "I received an abortion pill and thought it would be simple and quite pain free. But for me it was just as painful as labour."[584] *Aftonbladet* described the trial participant's process of calling the hospital and being granted entrance to the trial. When offered three different options for her abortion, the woman chose to partake in the prostaglandin trial at home. She said that she had miscarried before and was not worried about the potential pain. The trial participant also described how a nurse told her that "women who were hesitant about their abortion more frequently felt severe pain than those who were completely decided that they really wanted an abortion."[585] She found this calming—the woman really did not want to have a baby.

The article described what the aborted tissue would look like. There would be no fetus at such an early stage, it stated, just mucous.[586] It then went on to give a detailed overview of the woman's abortion. This included an account of the side effects, such as temperature fluctuations, nausea, diarrhea, and intense pain similar to labour.

The trial participant was relieved when the abortion was over. She was also puzzled by the side effects. She had no psychological resistance to her abortion, so why had the pain been so intense? She said she was told by her doctor that different women react differently. The woman concluded her interview by saying, "In telling this, I don't want to frighten any woman– I'm just one of many cases. But for my own part, I think abortion with a D&C was much

[584] "Det kom ett brev," *Aftonbladet*, 22-02-1982.
[585] Ibid.
[586] Ibid.

easier."[587] The article gave space for the trial participant to give her own account of her experience. It both warned women, recommended other options, and maintained that it could be different for others. The pain she felt, however, was a real complication. In the face of other abortion options, she would not describe the abortion pill method as easier.

The painful experience of taking an abortion pill gave rise to a new abortion script—*pain*. While other actors emphasized abortion scripts of *menstruation restoration* and *family planning applicability*, various trial participants would also make an abortion script of *pain*. In the face of other abortion options, this was also sometimes articulated as an unnecessary script. Women did not have to lie at home and experience this pain, they could receive a D&C at the hospital. The technology, the site, and the experience were configured into a script of pain which, in earlier decades before the 1975 Abortion Law, had not been articulated.

In a subsequent newspaper piece, another trial participant told a story of a good abortion experience. In 1982, *Expressen* interviewed a woman about her time in the prostaglandin trial. The trial participant took the compound at home as a vaginal suppository and she described how she was supposed to keep a journal of her experiences. She was surprised when she did not feel any uterine contraction, nor the "difficult aches and side effects that the doctors prepared her for."[588] In her interview she said, "At eleven o'clock in the evening, the bleeding began, calmly and gently. At eleven thirty I violently vomited. But it may also have been due to the fact that I had eaten a big bag of popcorn."[589] The trial participant could not say whether the vomiting was a side effect or something different, but it did not tarnish her opinion of the prostaglandin treatment. She ultimately felt good about this abortion. She was home with her husband, and she was able to care for her children, all while having an abortion. Additionally, the difficult side effects that had been described to her had not materialized in the manner she had expected. The abortion script of *pain* was not upheld by all trial participants, but it was articulated in several instances.

Alongside this newspaper piece, Ingegerd Ekstrand also published her account of participating in the clinical trial.[590] Ekstrand worked for a Swedish paper and reported on her experiences. She said, "I belong to the 130 women in this country who had abortions at home with the so-called day-after-pill. It was an appalling experience and I would never recommend the method to anyone."[591] Ekstrand described the vomiting, diarrhea, temperature fluctuations, and terrible aches as intolerable. She also compared the contractions to those she experienced in childbirth and she was very upset with the blood clot in her

[587] Ibid.
[588] Ann-Hjördis Larsson, "Det kändes bara tryggt och fint," *Expressen*, 19-10-1982.
[589] Ibid.
[590] As outlined in the introductory chapter, due to her role as a journalist and her consistent commentary on the abortion pill trials, Ingegerd Ekstrand has not been anonymized.
[591] Ingegerd Ekstrand, "Jag fick blodpropp efter abort-pillret," *Aftonbladet*, 19-10-1982.

brain.[592] Again, the physical process of aborting was not depicted as simple or easy.

8

AFTONBLADET
Tisdag 19 oktober 1982

"Jag fick blodpropp efter abort-pillret"

Gör aborten själv

Aftonbladet i går:

Aftonbladets Ingegerd Ekstrand är en av de 130 kvinnor som gjort sin egen abort i hemmet

STOCKHOLM. Jag tillhör de 130 kvinnor här i landet som gjort abort hemma med det s k dagen-efter-pillret.
Det var en avskräckande upplevelse och jag skulle aldrig rekommendera metoden till någon.

Ingegerd Ekstrand, 44, reporter på Aftonbladet, är en av de 130 kvinnor som själva gjort sin abort i hemmet. Men hon skulle aldrig rekommendera metoden med det s k dagen-efter-pillret till någon.
Foto: TORBJÖRN GUSTAVSSON

Taxi tar upp kampen med SAS

STOCKHOLM. Nu kan de åka taxi från Arlanda till Stockholm för 25 kronor. Om du har tur.
Taxi har tagit upp konkurrensen om Arlanda-resenärerna med Freys hyrverk och SAS.

De lärde utreder våldtäkten mot rockstjärnan

Fullt jämförbart med födslovärkar

Ingegerd Ekstrand then published a piece two days later in which she recounted the case of another trial participant, age thirty-six, who also had a bad experience with an abortion at home.[593] Ekstrand wrote that after she had published her own experience, women had called and sent in letters to *Aftonbladet* with similar stories. This thirty-six-year-old woman had said her home abortion attempt was painful and did not even work; she was then required to have a surgical abortion as well.

Ekstrand made a point of stating that neither she nor this trial participant would count among the data from the trials. According to Ekstrand, the researchers said there was no connection between her blood clot and the

Figure 5.4. The newspaper page featuring Ingegerd Ekstrand's report on her own abortion experience (1982). Photograph © National Library of Sweden.

[592] Ibid.
[593] Ingegerd Ekstrand, "Abort-pillret fungerade inte," *Aftonbladet*, 21-10-1982.

prostaglandins, and the thirty-six-year-old participant simply became part of the five percent of unsuccessful abortions and her careful documentation of the side effects would be ignored. Ekstrand also wrote that neither she nor the other trial participant were given the opportunity to speak to the psychologists, as was promised as part of the routine. She wrote that when she wanted to speak to the psychologist, the woman had gone on holiday, and the other trial participant had never even heard about the psychologist. Ekstrand concluded that because the thirty-six-year-old "did not have the conversation with a psychologist that all home-abortion women should have, she doubted how serious the abortion research really is."[594] Ekstrand and the thirty-six-year-old's depiction of the trials suggested a problematic handling of the participants and called the research methods into question.

The ethics of research methods would also be commented on in a newspaper piece by Barbro Larson. Larson was a freelance journalist, not a trial participant, but she had strong views on the ongoing research. In her piece titled, "Women as Guinea Pigs," Larson wrote that the new abortion pill was being researched under the guise of simplifying matters, but for who, really? She wrote, "It does not seem particularly 'easy' to lie for hours with diarrhea, vomiting, chills and severe aches at home in your bed, without the supervision and safety that hospital care provides."[595] She further argued that women's right to control their own bodies should not be used against them just so society could "evade their social and medical responsibilities."[596] Larson contextualized this by also talking about the trials for contraceptive pills, recalling how the pharmaceutical industry had put millions of women at risk of side effects. This was a similar rhetoric to those found in feminist health movements in North America, which scholars have shown critically engaged with contraceptive development during this time period.[597] The criticism of contraceptive pills in the 1960s continued to contribute to reproductive discussions in the 1980s.[598]

Media outlets could also become a space in which to observe how the public reacted to abortion technologies. In the autumn of 1982, *Aftonbladet* published a short piece titled "Would you dare do an abortion at home" in which they interviewed women about their opinion on home abortion. Of the five women published, not one would choose to do so. One woman thought that abortion was nothing to be played around with, another, who would not have an abortion at all, thought the added element of the home made the woman vulnerable. A third woman thought abortion should stay under the control of

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[594] Ibid.
[595] Barbro Larson, "Kvinnor som försökskaniner," *Dagens Nyheter,* 12-10-1982.
[596] Ibid.
[597] Michelle Murphy, *Seizing the Means of Reproduction: Entanglements of Feminism, Health, and Technoscience* (Durham: Duke University Press, 2012).
[598] "RFSU-chefen varnar för preventivpiller," *Aftonbladet* 9-08-1962; "Farliga preventivpiller provas i Sverige," *Aftonbladet*, 4-08-1963; Nina Lykke, "Introduction," in *Between Monsters, Goddesses and Cyborgs*, eds. Lykke and Braidotti, 3; Prescott, *The Morning After*, 6.

doctors, and a fourth woman thought abortions were such major interventions that they should stay in the hospital, while the fifth woman said her first spontaneous reaction was that it sounded dangerous.[599] None of these women were actors in the prostaglandin research network, they were not researchers, trial participants, pharmaceutical companies, or government institutions. Instead, as potential future users they were implicated actors. Their impressions of the technology were mixed, and while they were a very small sample, they demonstrate how media spaces allowed for professionals and laymen's opinions to coexist in public. Unlike the 1960s, media coverage included trial participants and laypeople, and was more critical of these scientific undertakings.

The components of abortion pill use that the researchers highlighted in public spaces could be both supported and challenged. For some women it was beneficial to have their husbands involved, to be at home, and to experience something they felt was more natural. The abortion script of *difficulty* was also articulated in the network by actors who felt positively about the method. For others, abortion pills were not simple or easier than other abortion techniques. The side effects were intolerable and difficult to deal with on one's own, and in this way these actors emphasized an abortion script of *pain*. Others also had anxieties about the trial, depicting their experiences as isolating and that their concerns were not taken seriously. Further commentary on the technologies lifted up issues of reproductive responsibility. Notably, while some trial participants would truly recommend using abortion pills, none of their media narratives suggested it was similar to bringing back menstruation. The trial participant narratives kept abortion front and centre in their reflections. In this way, the abortion script of *menstruation restoration* was articulated by researchers, not trial participants.

Conclusion

This chapter has examined Swedish clinical trial standards and the roles of researchers and implicated actors in the prostaglandin network. It has shown how prostaglandin research shifted throughout the clinical trial testing: there were both new top-down regulations to abide by, and the researchers themselves adapted the trials over the years. New selection criteria, new administration routes, new research methods, and new locations developed over the course of the trials. In comparison with F6103, prostaglandins ran for much longer and during a time of increasing emphasis on consent, transparency, and after the passing of the 1975 Abortion Law, all of which improved the terms of engagement for trial participants. The power structures changed and implicated actors had more choice in their participation. Some of the participants

[599] "Skulle du våga göra abort hemma," *Aftonbladet*, 19-10-1982.

even initiated their own involvement in the trials. Overall, the entry circumstances for trial participants were more varied than in the 1960s.

One of the more important research practices, in terms of creating acceptability around a new technology, was media communication. This was a way for the researchers to create ambiguity around the technology. The abortion scripts of *menstruation restoration* and of *difficulty* made the abortion pill different from abortion and still a serious technology that would never undermine the moral dilemma of abortion. The emphasis on the difficulty of deciding to have an abortion made the technologies more acceptable. In other words, researchers made new abortion values in the ways they created abortion scripts while still contributing to previous discourses on the severity of abortion. Abortion became simple, easy, private, husband inclusive, more natural, and closer to menstruation, but remained a difficult decision.

However, the media also offered opportunities for other actors to address the technology, and of particular interest have been the implicated actors who offered up testimony of their trials. Media, as a research practice, was dynamic and out of the control of the researchers. There was not just one story of technological innovation presented to the Swedish public and abortion scripts were subsequently challenged by other actors.

Some confirmed elements of existing abortion scripts: it was easy and more natural. Others disputed these claims: it was difficult, painful, and unnecessary in the face of other abortion technologies. In several instances, actors articulated an abortion script of *pain*. Importantly, none of the trial participants who shared their experiences minimized the abortion element of the procedure, as the researchers did. There were many ways to articulate this new technology and the general difficulty of abortion as a subject did not make it easier to find common ground. As the small sample from *Aftonbladet* showed, for some people abortion should be serious, done in hospital, and not something to be played around with. The prostaglandin networks co-produced abortion scripts of *menstruation restoration*, *family planning applicability*, *difficulty,* and *pain*.

While the networks in the Swedish context made specific and sometimes conflicting abortion scripts, prostaglandin research also extended into the international arena. This chapter has clarified the specifics of the Swedish clinical regulatory and abortion systems, while also examining the implicated actors and media uses, but the next chapter adds another layer to prostaglandin research. As will be shown, the WHO also contributed to the co-production of medical abortion and values.

6. Going Global

Bygdeman and Wiqvist's research spanned several decades and occurred in different hospitals and homes around Sweden. But prostaglandins were also being used in research around the world, and the Swedish efforts to develop an abortion pill were not isolated from international interests. Even in the years of testing F6103 the Swedish government had global aspirations but following the core Swedish prostaglandin researchers illuminates a network that extends well beyond Sweden.

This chapter investigates the intersection between Swedish research and the WHO, examining how abortion pills were configured in this international research network. To do so I trace the research network through trial applications, Ford Foundation records, WHO records and publications, research publications, conference minutes, and material from RFSU. As this chapter shows, the international aspects of the research network impacted Swedish research practices and contributed to one key abortion script.

In order to examine the making of abortion scripts, both in Sweden and in this international context, there is chronological overlap between this chapter and the previous ones. While the previous chapter illustrated the different demands, structures, and practices being mobilized in Sweden, this chapter shows how infrastructures and practices impacted the research from further afield. Swedish prostaglandin abortion research was situated within a prostaglandin research explosion, with research infrastructure developing alongside the spike in research. This research and clinical trial infrastructure took the shape of buildings, researchers, staff, funding, equipment, drugs, and trial participants.

By the 1970s, major organizational changes occurred in the reproductive sciences. Moving from more fringe efforts, reproductive research featured larger teams of scientists, and, amongst academic and pharmaceutical actors, international public organizations, such as the WHO, became involved.[600] The WHO helped to facilitate research and brought local and macro-structures together.[601] During this era, Nelly Oudshoorn has shown how population control policies shaped contraceptive laboratory practices.[602] By the 1970s, the field

[600] Adele Clarke, "Maverick Reproductive Scientists and the Production of Contraceptives,1915–2000," in *Bodies of Technology,* eds. Saetnan, Oudshoorn, and Kirejczyk, 52.
[601] Nelly Oudshoorn, "From Population Control Politics to Chemicals: The WHO as an Intermediary Organization in Contraceptive Development," *Social Studies of Science* 27/1 (1997), 47.
[602] Ibid. 61.

of reproductive research was expanding and population control was still an important motivation for this work.

The basis for the WHO's efforts were task forces. In her work, Jessika van Kammen has examined ways in which users impacted technological development in the Immunological Contraceptives Task Force. To do so, she investigated researchers' representations of users, and how clinical trial participants represented future users.[603] Similarly to van Kammen, I examine how implicated actors, technology, and sites were configured in the global research network and how these configurations contributed to abortion scripts. I argue that Sweden's interest in securing its place as an international player in family planning helped to further motivate a technology that could be used with unqualified assistance

In their work on reproductive sciences, academics have illustrated certain trends. Of importance for this chapter is how Oudshoorn conceptualized a paradigm shift of "subject-object dichotomies" in reproductive sciences.[604] Oudshoorn argued that by the 1970s women went from being "othered" to being viewed as diverse. While the earlier decades had seen a tendency to reduce women to one simple category in which any technology could function, by the 1970s there was consensus that major differences between women existed and no single technology would suit every person.[605] The contraceptive pill developed in the 1950s was seen, despite the ways it was configured to suit specific women, to be a universal tool.[606] But by the time the Swedish researchers were developing an abortion pill, the reproductive research paradigm had shifted to abandon any "one-size-fits-all" solutions. Closely examining the global research network and practices illustrates how a pill, despite this paradigm shift, could still be lifted up as the desired end goal.

To investigate the impact of the international network, this chapter begins by examining the creation of the WHO Research and Training Centre, an important piece of infrastructure for Bygdeman and Wiqvist. Then it details what the prostaglandin researchers' practices looked like in this WHO context. How the researchers made design decisions is best understood in this larger international setting. This is further proven in the following two sections, which focus on the implicated actors and the impact of multicentre trials. As will be illustrated, configuring implicated actors in the international network contributed to the abortion script of *family planning applicability*.

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[603] Jessika van Kammen, *Conceiving Contraceptives: The Involvement of Users in Anti-fertility Vaccines Development* (PhD diss. Faculty of Medicine, AMC-UvA, 2000), 16.
[604] Nelly Oudshoorn, "The Decline of the One Size Fits All Paradigm: Or How Reproductive Scientists Try to Cope with Postmodernity," in *Between Monsters, Goddesses, and Cyborgs,* eds. Lykke and Braidotti, 153.
[605] Ibid.
[606] Ibid. 161

Making a Manhattan Project

Sweden was far from the only country interested in creating new contraceptives and birth control methods, and international collaboration was an important strategy of the 1970s. Of particular importance to the prostaglandin research were the initiatives to create a research and training centre, which would act as an international research hub. This, as the chapter shows, would have ramifications on Bygdeman and Wiqvist's research practices. Population control and family planning agendas were important motivations for these new research structures, and these contexts impacted technological design.

The departure point in the international contraceptive research context was the perceived population issue.[607] In 1970, Oscar Harkavy, Ford Foundation Program Officer at the Population Office, co-wrote an article with John Maier, the Associate Director of Biomedical Sciences at the Rockefeller Foundation. In this article, they stressed that better contraceptive methods were needed "to assure success of fertility regulation programs in this country and throughout the world."[608] In order to do this, they assessed that there was a general need for better fundamental scientific knowledge. Harkavy was interested in expanding reproductive knowledge through, what he referred to as, a "Manhattan Project."[609] This was a nod to the codename for the multinational efforts to develop nuclear weapons during the Second World War.[610] The kind of project Harkavy imagined would have a central administration with funding which would support several existing research centers around the world.[611] Collaboration was seen as key to developing new technologies, which would hopefully improve global health and fertility rates internationally. In the early years of bringing this collaborative idea to the forefront, Swedish actors would play important roles.

In the late 1960s, the idea of launching an international reproductive research centre appealed to several aid and research personnel in Sweden, the

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[607] Oudshoorn, "From Population Control Politics to Chemicals," 61.
[608] Oscar Harkavy and John Maier, "Research in Reproductive Biology and Contraceptive Technology: Present Status and Needs for the Future," *Family Planning Perspectives* 2/3 (1970), 5.
[609] "Population—Memoranda, Reports Re: Oral Contraceptive Research and Contraceptive Development; Population—Memoranda Re: Contraception, Family Planning and Pro-Natalism issues," Pop Date: 1972; Jan–Dec 1968; 1975–1981. Jun 23, 1970; 1967– Box 39, International Division, Office of the Vice President, Office Files of Francis X. Sutton (FA568). Series II: Program Files. Folder: Population—Memoranda, Reports Re: Research Involving Human Subjects; Ford Foundation records, RAC, 3.
[610] Bruce Cameron Reed, *The History and Science of the Manhattan Project* (Springer Berlin Heidelberg, 2014).
[611] Population—Memoranda, Reports Re: Oral Contraceptive Research and Contraceptive Development; Population—Memoranda Re: Contraception, Family Planning and Pro-Natalism issues; Pop Date: 1972; Jan–Dec 1968; 1975–1981. Jun 23, 1970; 1967– Box 39, International Division, Office of the Vice President, Office Files of Francis X. Sutton (FA568). Series II: Program Files. Folder: Population—Memoranda, Reports Re: Research Involving Human Subjects; Ford Foundation records, RAC, 3.

USA, and at international foundations. Initially, men from the Karolinska Institute, SIDA, and the Ford Foundation began planning a reproductive research centre. This interest in reproduction was not new to these actors. Karolinska Institute had hosted researchers interested in hormones and reproduction for decades, and SIDA had engaged with family planning projects for roughly ten years.[612] The Ford Foundation had invested in areas related to family planning since 1952 and in 1959 the foundation began funding reproductive biology research. By 1968 they had committed over 54 million American dollars to this field and their second largest expenditure were grants to research and training in reproductive biology in Europe.[613] But in 1968 the Foundation still felt that there was insufficient funding available from other sources for population and reproduction research.[614] As several academics have shown, by the 1960s population and reproduction become less taboo, with a number of organizations entering into the family planning and fertility control arena.[615] The UN was one of these organizations.

The WHO was, and continues to be, a specialized agency of the UN. The decision-making body of the WHO, the World Health Assembly, is attended by delegates from UN member states. One of the tasks of the World Health Assembly is to decide on policy. In the Director-General's statement at the 1962 congress, he focused on the biology of human reproduction, emphasizing the need for more research. He said, "Clearly, the importance of many medical, biological, social, cultural and economic factors in human reproduction make it a major public health problem."[616] Human reproduction was framed as complex, dependent on many factors, and a major public health issue. In 1963, the WHO assembled a Scientific Group on the Biology of Human Reproduction.[617]

SIDA, Karolinska Institute, the Ford Foundation, and the WHO wanted to increase basic research, training, and funding. For some, family planning programs were not having the desired effect of fertility regulation. The available birth control options were seen to be inadequate, and part of this problem was perceived to be a lack of knowledge on the normal, physiological reproductive processes.[618] Many actors thought that a centralized effort to increase

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[612] Annika Berg, "A Suitable Country," 303.
[613] Oscar Harkavy, Lyle Saunders and Anna Southam, "An Overview of the Ford Foundation's Strategy for Population Work," *Demography* 5/2 (1968), 541, 543. The Ford Foundation's largest expenditure was assistance to family planning programs in India and Pakistan.
[614] Ibid. 542.
[615] George Weisz and Jesse Olszynko-Gryn, "The Theory of Epidemiologic Transition: The Origins of a Citation Classic," *Journal of the History of Medicine and Allied Sciences* 65/3 (2010)*;* Alison Bashford, "World Population from Eugenics to Climate Change," in *Reproduction,* eds. Hopwood, Flemming and Kassell, 513.
[616] *Eighteenth World Health Assembly, Geneva, 4-21 May 1965*, Official Records of the WHO, 1965, from WHO IRIS, 153.
[617] Ibid. 154.
[618] Elisabet Johannisson, "Befolkningstillväxten måste mötas med nya medel för födelsekontroll," *Forskning och Framsteg* 4 (1971), 6.

knowledge was needed, and while more resources had been pouring into reproductive research, there was still a certain degree of taboo around the topic. Some countries and organizations refused to fund reproductive projects, especially those which focused on abortion.[619] It was also a tense time politically, with two superpowers, the USA and the USSR, in a geopolitical struggle for dominance. In order to bring together diverse actors under one "Manhattan Project" style endeavour, specific requirements were needed. As I show below, Sweden was considered an answer to some of the potential issues.

Sweden's Egon Diczfalusy, who had plenty of experience acquiring funding from abroad and who had already established a professional network with the Ford and Rockefeller Foundations, spearheaded efforts on the Swedish end to develop a more comprehensive, international research centre. In November 1968, Harkavy met with Diczfalusy to discuss contraceptive development.[620] They discussed the need for an international fund administrated by an international committee that could support contraceptive research programs outside of the USA. Beyond not being able to expect cooperation from governments allied with the USSR, the USA was also considered a difficult space for contraceptive research due in part "to the litigious nature of medicine in the US" and increased regulations following backlash to the contraceptive pill.[621] While the FDA's requirements impacted Swedish clinical trial infrastructure, there was still a different drug regulatory system in Sweden. According to Harkavy,

> Diczfalusy pointed out that investigations in Sweden, for example, can proceed much more rapidly to clinical trials on human patients under Swedish medical regulations than can their opposite numbers in the United States under the more conservative FDA regulations.[622]

While Diczfalusy had reservations about using funding from Americans which could not be used in the United States, it was still difficult to ignore this

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[619] Oudshoorn, *The Male Pill*, 81. The United States, for example, would not become a donor to the WHO's Human Reproduction Program until the late 1980s, when the Clinton administration challenged the existing anti-abortion policies.

[620] "Confidential Letter—to Mr. David E. Bell, from Oscar Harkavy, December 11, 1968, Subject: Recent Events re Contraceptive Development," Office Files of Oscar Harkavy (FA623), Population Program, Office Files of Oscar Harkavy (FA623), Box: Correspondence and Subject Files, Meetings, Budget. Folder: Karolinska Reproductive Biology Consortium; ACORD- Egon Diczfalusy. Box 23, Ford Foundation Records, RAC.

[621] "Conference on the Current Status of Medical and Biological research Related to the Population Problem. 9 June 1959, New York City," Collection: Population Committee, Record Group: Accession 1, FA 210, Series 4, Box 100, Folder 1890, RAC; See also, Oudshoorn, *The Male Pill,* 28; Carl Djerassi, "The Bitter Pill," *Science* 245 (1989).

[622] "Confidential Letter—to Mr. David E. Bell, from Oscar Harkavy, December 11, 1968, Subject: Recent Events re Contraceptive Development," Population Program, Office Files of Oscar Harkavy (FA623), Box: Correspondence and Subject Files, Meetings, Budget. Folder: Karolinska Reproductive Biology Consortium; ACORD—Egon Diczfalusy. Box 23, Ford Foundation Records, RAC.

advantage. Sweden also had a history of reproductive research initiatives, and in these discussions with Diczfalusy, Harkavy suggested the Karolinska Institute as an ideal location for a contraceptive research program because of its "unparalleled prestige in scientific circles."[623] In developing a large collaborative research centre, the prestigious scientific community, the regulatory system in Sweden, and the country's neutral position in the Cold War were considered advantageous. According to Harkavy, Diczfalusy then discussed creating a research centre with Ernst Michanek, Director General of SIDA, and with Sten Friberg, Vice Chancellor of the Karolinska, both of whom showed enthusiasm.[624]

In a letter to a colleague, Harkavy mentioned that he was told privately by Diczfalusy that this proposal came "at the right psychological moment, because Michanek, as he frankly indicated several times during the DAC [Development Assistance Committee] meeting, believes that SIDA has more money than it can usefully spend in support of overseas action programs (about $8 or 9 million in 1968-69) and is coming under criticism at home with regard to the amount of money SIDA is devoting to population work."[625] In addition to the other appealing qualities of Sweden, there was also the promise of funding. Population work was beginning to amass too much funding but investing in a reproductive research centre would be new, encouraged, and still impact population work.

Diczfalusy promised to draw up a proposal for a program that Michanek could submit to SIDA. In January 1969, Harkavy wrote Diczfalusy to thank him for his "beautifully worked out memorandum on the establishment of an International Council for Contraceptive Development".[626] Harkavy then wrote optimistically about the International Council for Contraceptive Development (ICCD) to his colleague. It was hoped the ICCD would find financial backing from several governments with some funding from the Ford Foundation.[627]

By November 1969, the Ford Foundation was referring to Sweden's research program initiative as the Agency for Contraceptive Research and Development—ACORD, instead of ICCD. The purpose of such a centre was also outlined in a memorandum. ACORD's main mission was to promote research that would result in efficient contraceptives. It would be a non-profit institution and mainly supply grants, distributing these funds across different geographical locations with the hopes of coordinating research across political and economic zones.[628]

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[623] Ibid.
[624] Ibid.
[625] Ibid.
[626] "Letter to Diczfalusy from Harkavy, January 2, 1969," Population Program, Office Files of Oscar Harkavy (FA623), Box: Correspondence and Subject Files, Meetings, Budget. Folder: Karolinska Reproductive Biology Consortium; ACORD—Egon Diczfalusy. Box 23, Ford Foundation Records, RAC.
[627] Ibid.
[628] "Letter to Messers, Gant, Kinglsey and Wilhelm. From Harkavy. Subject: Proposed Coordination of Aid-Giving Agencies in the population field, 5-25-67," Population Program,

But ACORD would undergo significant changes as the WHO took interest in these research centre developments. In April 1970, Alexander Kessler, Chief at the Human Reproduction Unit, WHO, contacted Diczfalusy and expressed the WHO's interest in collaborating with the Karolinska Institute.[629] Kessler wrote that a series of experts and advisers to the human reproduction programme had highly recommended establishing the first WHO Research and Training Centre in Human Reproduction and they had concluded that the Laboratory of Reproductive Endocrinology at the Karolinska Institute was an ideal location for such a centre, if directed by Diczfalusy.[630] Kessler informed Diczfalusy that they were interested in establishing several centres worldwide.

Kessler included a draft for a WHO backed centre in his letter to Diczfalusy that outlined the aims and objectives of such a centre. Very similarly to ACORD's main aims, the WHO draft reflected the desire to promote research that could lead to contraceptive development.[631] Or as Kessler put it, research on human reproduction that "may be subjected to regulation by pharmacological agents."[632] They would also organize and fund conferences, document and collect reproductive information, and advise the WHO on reproductive matters. Additionally, they aimed to provide the means to train investigators who could run their own centres.

In late 1970, the WHO selected the Reproductive Endocrinology Research Unit at Karolinska Institute as a WHO Research and Training Centre on Human Reproduction, with Diczfalusy as the first director.[633] The WHO had framed the need for such a centre in terms of not only acquiring new knowledge through research, but also training the next generation of scientists. In this regard they also wanted the field to attract talented people and concluded that in order to do so there would need to be high standards and research centres of excellent quality.[634] Attaching Diczfalusy to the centre would help to keep these standards. As the WHO wrote in a report, "The Director of this centre would be Professor E. Diczfalusy, whose laboratories have already been established as one of the leading research and training centres existing today."[635] In scouting for locations, the WHO, much like Harkavy, was attracted to the prestige of working with Diczfalusy.

Office Files of Oscar Harkavy (FA623), Box: Correspondence and Subject Files, Meetings, Budget. Folder: Karolinska Reproductive Biology Consortium; ACORD—Egon Diczfalusy. Box 23, Ford Foundation Records, RAC.

[629] "Letter from Kessler to Diczfalusy, 28 April 1970," diarieförd allm korrespondens 1970 E1: 205 705–914, Medicinska forskningsrådet, RA.

[630] Ibid.

[631] Ibid.

[632] Ibid.

[633] *The Work of WHO 1970: Annual Report of the Director-General to the World Health Assembly and to the United* Nations, 1971, Official Records of the WHO, 1971, No. 188, from WHO IRIS, 74–77.

[634] "Draft for a WHO Research and Training Centre on Human Reproduction at the Karolinska Institute, Stockholm (1970) 5/1/70," diarieförd allm korrespondens 1970 E1: 205 705–914, Medicinska forskningsrådet, RA.

[635] Ibid.

An expanded programme was established in November 1971.[636] When the expansion was recommended, both Sune Bergström, then the director of Karolinska Institute, and Diczfalusy lauded Karolinska Institute's and Karolinska Hospital's unique positions. They noted that several departments had already focused on human reproduction and that "the atmosphere for such research is particularly favourable in Sweden because of the law of interruption of gestation and the law regulating the clinical evaluation of new fertility controlling agents, including abortifacients."[637] The previous abortifacient work with F6103 had fallen flat, but the significant legal changes that F6103 had prompted continued to benefit researchers and gave them leverage in the international context of the WHO. The specifics of Sweden's laws, the dedication to population control and reproduction, funding opportunities, a national policy of neutrality, and the prestigious research background made Sweden an appealing international collaborator.

The expanded programme had four major research centres: Stockholm, Moscow, New Delhi, and three centers combined as one in several South American cities.[638] The four centres were supposed to provide the opportunity for a global network of clinical collaborative trials, and Task Forces decided the centres' research focuses. At Karolinska Institute the Expanded Programme relied on 3 units: the reproductive endocrinology unit, the department of obstetrics and gynaecology, and the department of medical chemistry.[639]

The international interest and involvement at Karolinska Institute provided more funding, space, and time for research. In 1973, the obstetrician and gynecologist Ulf Borell reflected that the grants from the WHO created better research opportunities for doctors at the women's clinic. Four doctors could devote fulltime work to their research assignments. They could also hire four additional nurses, two and a half more secretaries, a laboratory tech and a health care assistant. The staff was meant to only work on research projects focused on reproductive organs' physiology, endocrinology and biochemistry.[640]

In addition to resources at Karolinska Institute, the WHO collaboration spilled over to RFSU. The WHO needed clinical testing done, particularly of new contraceptive methods.[641] During the expansion of the program in 1971, Bergström and Diczfalusy recommended setting up a contraceptive testing

[636] Marc Bygdeman, "The WHO Research and Training Centre in Human Reproduction at the Karolinska Institute between 1970 and 1995," *Advances in Contraception* 12 (1996), 320.
[637] "Proposal for a Major Expansion of the WHO Research and Training Centre at Karolinska Institute, April 19, 1971," Marc Bygdeman's personal archive.
[638] Bygdeman, "The WHO Research and Training Centre in Human Reproduction," 320. The three cities were Buenos Aires, Montevideo, and Santiago.
[639] Ibid. 319.
[640] Ulf Borell, "Forskningsaktuellt inom obstetrik och gynekologi," *Läkartidningen* 70/48 (1973), 4461.
[641] "Arbetsutskottet 25.3.1971," 1961–1972, 1197/A/3/1, RFSU, ARAB.

unit through RFSU.[642] They thought that RFSU's outpatient clinic was well suited for such collaboration. It had nineteen people working part time in various roles, including gynecologists, a midwife and chief physician, and several members of staff also worked at the department of obstetrics and gynecology at Karolinska Hospital.[643] Those working at RFSU viewed this collaboration favourably. They saw it as a loose affiliation that gave more economic resources, better ways to test new contraceptive methods, and gave the outpatient clinic a more scientific element.[644]

The WHO's influence at Karolinska Institute and at RFSU was considered beneficial. It gave individual researchers more resources and time for research and was seen as an important step in building basic and applied knowledge on human reproduction. It broadened the scope of potential research and provided more tools and people to work with. Creating a research centre took years of discussions, funding from a wide array of sources, and consensus on overall research aims. It also went beyond abortion. The WHO Research and Training Centre on Human Reproduction, and the expanded programme, covered a vast array of topics, and prostaglandins found a space within this new infrastructure.

Conversations, deals, and processes which did not directly involve Bygdeman and Wiqvist would drastically impact their work. Even before they ran their first clinical trials, other actors were mobilizing and collaborating to set up a research centre. The earlier prostaglandin network actors, such as Bergström, played important parts in establishing Karolinska Institute and Hospital as renowned locations, as did the work of Diczfalusy. In choosing a host country, Sweden's neutrality policy and government support of research were also significant factors to consider. Furthermore, the research with F6103 had increased Sweden's appeal: proposition 18 was used to sell Sweden's clinical testing circumstances. This proposition, as illustrated in chapter four, was also intimately tied up in population control and family planning incentives.

The central motivations for developing a reproductive research centre were connected to population concerns. In this network, the Swedish actors mobilized resources from population control and family planning initiatives into developing a reproductive research centre. Funding devoted to population control was channeled into this new project. This infrastructure, which gave Bygdeman and Wiqvist research opportunities, embodied international population and family planning values. These would become important aspects to consider in developing and designing birth control technologies.

[642] "Proposal for a Major Expansion of the WHO Research and Training Centre at Karolinska Institute, April 19, 1971," Marc Bygdeman's personal archive.
[643] Ibid.
[644] "Arbetsutskottet 25.3.1971," 1961–1972, 1197/A/3/1, RFSU, ARAB.

Internationalization of the abortion pill mission

The WHO Research and Training Centre was a central infrastructure from which Bygdeman and Wiqvist worked and through this WHO involvement Stockholm became a hub for prostaglandin research. Prostaglandins were a global phenomenon and there was broad interest in their uses. The research which Bygdeman and Wiqvist conducted in Stockholm was blended with results from trials that were run all over the world. The Swedish trial participants and their experiences of prostaglandins was compared to data from other groups, and the researchers collaborated with other scientists. The trials, methods, and administration options were part of larger negotiations than just between Bygdeman, Wiqvist, and the actors laid out in chapter five; the infrastructure of the WHO trial landscape also impacted the clinical trials.

Bygdeman and Wiqvist first published results of their research in 1970, but they were hardly the only researchers focused on the impact of prostaglandins on the uterus. In Maurice Cuthbert's 1973 book, *The Prostaglandins: Pharmacological and Therapeutic Advances*, he cited fifteen articles that indicated prostaglandins affected the pregnant uterus, of which Bygdeman and Wiqvist only counted as authors of one article.[645] Sultan Karim, from Uganda, was cited in nine different instances, five times as the sole author of a work. Swedish researchers were not the only ones intrigued by this substance and by 1970 prostaglandins had garnered international attention as a potential birth control method.

Even in Sweden the interest in prostaglandins as an abortifacient went beyond Bygdeman and Wiqvist. While they conducted the first trials, shortly after there were also multiple Swedish locations testing prostaglandins. In 1971, for example, Rune Nyberg at Falu Lasarett's women's clinic applied to the National Board of Health and Welfare to test PGF2alpha as an abortifacient.[646] Researchers at Uppsala University Hospital were also conducting similar tests.[647] Within Sweden the work was not limited to Stockholm, although the majority of the clinical trials were still run through Karolinska Hospital, which was part of the WHO centre.[648]

Among the new initiatives of the centre on human reproduction was the development of a prostaglandin research laboratory. Along with conducting

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[645] Maurice Cuthbert, ed. *The Prostaglandins: Pharmacological and Therapeutic Advances* (London: William Heinemann Medical Books, 1973).

[646] "Dnr 516-586," Kliniska prövningar, huvudakter 1970, Farmakoterapeutiska enheten, F1A, volume 24, Socialstyrelsens, RA; CTS Agreement with the Falun Hospital, Kvinnokliniken, Falun, Sweden, In Respect of Clinical Trials of 15 (S) 15- ME- PGF2alpha, Trial 120 (75795), H9/181/203 (A) WHO. In 1976, Falu Lasarett entered into a WHO agreement with Nyberg as the PI to test prostaglandins.

[647] Gunilla Lindmark, Bo Nilsson, Rune Nyberg and Goran Zador, "Abortprovokation med prostaglandin F2alpha: Intravenös, extraamniell och intraamniell tillförsel," *Läkartidningen*, 70/44 (1973), 3939.

[648] Marc Bygdeman, "Ömsesidigt befruktande att arbeta i ett WHO-center," *Läkartidningen* 95/37 (1998), 3995.

research, this laboratory would provide research training for fellows.[649] The proposal for an expansion included a clinical research unit in the department of obstetrics and gynaecology. This meant the centre would be able to use certain facilities of the department of obstetrics and gynaecology around the clock, such as nursing services "for the studies in which prostaglandin and other abortifacients are investigated."[650] Bygdeman and Wiqvist could rely on a larger network of workers to help develop comprehensive clinical trials.

They also hosted the first series of WHO prostaglandin workshops. In 1971, the WHO reported that a new availability of synthetic prostaglandins would likely increase the number of clinical trials.[651] In anticipation of this, a workshop was organized in March at the WHO Research and Training Centre on Human Reproduction in Stockholm.[652] Such conferences offered a platform from which Bygdeman and Wiqvist were able to exchange ideas with foreign researchers and leaders in the prostaglandin field, such as Karim. Following the first WHO conference, *the Study Group for the Evaluation of Progress and Recommendations for collaborative Efforts in to study the Use of Prostaglandins in Fertility Control* [sic], met in August of the same year for a smaller conference, also held in Stockholm.[653] There was then a third conference on Prostaglandins in Fertility Control held in Stockholm in January 1972.[654] Bygdeman and Wiqvist were present at all three WHO conferences and belonged to the Prostaglandin Task Force Steering Committee.[655]

While there was an increase in resources, working within the WHO framework also required more bureaucratic steps in order to implement clinical trials. As seen in the previous chapter, Swedish researchers first needed approval from the National Board of Health and Welfare and the ethical committee at the institution where they planned the trials. The researchers then also needed a clinical trial agreement with the WHO, which outlined who the principal investigator (PI) was, any co-investigators, how they would allocate resources for the trials, as well as showing proof of ethical committee approval.

Starting from the early days of the Prostaglandin Task Force, Karolinska Institute had several agreements with the WHO, beginning with phase III

[649] "Proposal for a Major Expansion of the WHO Research and Training Centre at Karolinska Institute, April 19, 1971," Marc Bygdeman's personal archive.
[650] Ibid.
[651] *The Work of WHO 1971: Annual Report of the Director-General to the World Health Assembly and to the United Nations*, 1972, Official Records of the World Health Organization No. 197, from WHO IRIS, 134.
[652] Ibid. 135
[653] Ibid.
[654] Sune Bergström, ed. *Prostaglandins in Fertility Control, Reports from Three Conferences on Analytical Procedures, Metabolism and Clinical Evaluation, organized by the WHO Prostaglandin Task Force 1972-1973,* World Health Organization (1973).
[655] Ibid. The Committee met three times in 1972–1973: in Chapel Hill, Stockholm, and Geneva.

clinical trials of prostaglandins.[656] Phase III trials were designed to test effectiveness of a drug for clinical use and consisted of large multicentre trials. Ulf Borell was the PI for the first few years of clinical trials, although Bygdeman and Wiqvist appeared in other roles, sometimes as co-investigator, sometimes on separate projects. In the paperwork submitted to the WHO for clinical trials the PI usually sent a description of the project, overall design, budget, subject selection and "ethical aspects for projects involving human subjects."[657] The WHO provided funding for these clinical trials which covered the research labour, "pharmaceutical drugs, glass wares, syringes, needles and maintenance of equipment".[658] The hospital, in most cases Karolinska Hospital, would provide the beds for the trial participants and the space for the trials.[659]

As the inception of the Research and Training Centre illustrates, the Stockholm centre had a larger role than receiving grants from the WHO. Depending on the size of the trial, the Stockholm centre was responsible for data processing from other trial locations and sending supplies and drugs to the various centres. In an interview I conducted with Bygdeman, he described his work coordinating the different centres and providing supplies. In particular, he recalled three centres in India which lacked the equipment to conduct the trials. Bygdeman remembers filling a large suitcase with catheters, needles, and other medical supplies and traveling to India himself to distribute them.[660] The way Bygdeman articulated it, he was ready to go to great lengths to ensure the success of the trials.

During the 1970s, the WHO was not concerned with patenting their research.[661] Instead, they wanted as many researchers as possible to access their work. In 1982, the WHO would alter its stance on patents, still with the intention of making any of their discoveries as accessible as possible.[662] In her study of the WHO, Oudshoorn showed that the organization then had a much stronger position in relation to the pharmaceutical industry. While they aspired for transparency and cooperation, patenting drugs allowed the WHO to dictate the terms of their development.[663] Bygdeman and Wiqvist would have to abide by the patenting policies of the WHO, knowing their work would always aim to be as accessible, and not as profitable, as possible.[664]

The drugs for the trials came from a handful of pharmaceutical sources. Astra, a pharmaceutical company based in Södertälje, south of Stockholm, provided the prostaglandin compounds for the early clinical trials in

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[656] CTS Agreement with the Dept. of Obstetrics and Gynecology, Karolinska Institutet, Stockholm, Sweden, In Respect of Further Development of Phase II Clinical Trials of Vaginal Suppositories for Interruption of Pregnancy (76146), H 9/181/65 (Q), WHO.
[657] Ibid.
[658] Ibid
[659] Ibid.
[660] Interview with Marc Bygdeman (2016).
[661] Oudshoorn, "From Population Control Politics to Chemicals," 56.
[662] Ibid.
[663] Ibid.
[664] Interview with Marc Bygdeman (2016).

Sweden.[665] In their work through the WHO, other international pharmaceutical companies became involved in the prostaglandin clinical trial landscape. The American company Upjohn, the German company Schering, and the Japanese company Ono all entered into various WHO agreements during the years the Task Force was active.[666] This required new types of collaborations for the Swedish researchers, and new vulnerabilities. In 1982, for example, the Task Force's clinical trials were jeopardized by Upjohn switching the formulas for the chemical compounds.[667] This delayed all of the clinical trials, causing those working at the WHO to become frustrated.[668] For Bygdeman, the research on prostaglandins required coordinating centres, data, supplies, and drug suppliers. While scaling up had many benefits for the research, it also opened up the researchers to different complications.

In summary, during this time period, prostaglandins were showing promise and there were resources being poured into research and clinical testing. The Stockholm centre had a prostaglandin task force which ran clinical trials, organized workshops, and coordinated international research. This increased funding and resources came with various bureaucratic steps, such as filing paperwork and agreements with WHO, and abiding by the funding bodies' wishes. There were also the administrative tasks of coordinating international clinical trials, sending drugs and equipment abroad, processing data, and coordinating conferences and workshops. Bygdeman and Wiqvist were part of a large research network and their work and their trials reflected this. Their positions at this prostaglandin research hub created opportunity for larger, coordinated research efforts but the centre was also a response to population concerns and family planning interests, and the technology would have to reflect this. The abortion script of *family planning applicability*, first articulated in the F6103 network, would be key for configuring prostaglandin research.

Configuring implicated actors: from healthy Swedish women to women in the developing world

Scaling up prostaglandin research through the WHO created spaces for many researchers to collaborate and share their results and aims for prostaglandins. It also encouraged an international research perspective. The specifics of Sweden, such as the contraceptive trends and the abortion queues, were mostly

[665] Ibid.
[666] "WHO and Ono Pharmaceutical Company, 1983," and "Task Force on Prostaglandins for Fertility Regulation, Steering Committee Meeting, Geneva, 4–5 May 1983," Special Programme HPR Task Force on Prostaglandins for Fertility Regulation, November 1982–July 1983, H9/445/21, WHO.
[667] "Task Force on Prostaglandins for Fertility Regulation, Steering Committee Meeting, Geneva, 4–5 May 1983," Special Programme HPR Task Force on Prostaglandins for Fertility Regulation, November 1982–July 1983, H9/445/21, WHO.
[668] Ibid.

absent in the international research sphere. Acceptability studies carried out in Sweden, while helpful to Bygdeman and Wiqvist, were not the only aspect to consider in questions of technological design. Instead, conversations revolved around effectiveness and acceptability around the world, with a particular focus on developing countries. Examining the WHO archives illustrates how the most visible actors negotiated and designed trials and technologies and to what ends. Focusing on the implicated actors in the network demonstrates how they were configured and represented in the development of a new abortion technology. As will be shown, population concerns were considered to be an issue mainly for developing countries and this would impact design aspirations.[669]

By the 1970s, a dream for a one-size-fits-all method of birth control had been largely discarded.[670] The Ford Foundation, the WHO, SIDA, and various researchers all had similar stances. In 1971, the WHO published an annual report in which they wrote that "there is little likelihood of developing a single "ideal" fertility-regulating method that would be acceptable to populations living in different sociocultural and economic conditions."[671] In 1972, Diczfalusy said "I do not believe in any dream pill that easily solves the world's population problems and gives absolute security to women. At least not in the foreseeable future."[672] While there was consensus that more research was needed, the dream of one technological fix had been abandoned. This impacted contraceptive development strategies and practices.

Oudshoorn argued that by the 1970s, the WHO had secured a space for contraceptive development, shifting the core of this research from industry to "nontraditional organizations" which in turn resulted in a shift from research being based in northern to southern countries.[673] Part of Oudshoorn's explanation for this shift was an awareness of cultural and physiological variations. She wrote, "WHO's incentive to initiate multicenter trials was related to an awareness in the medical community that clinical testing should account for differences in physiological reactions and for the acceptability of contraceptives in different cultures."[674] To the WHO, acceptability of new contraceptives depended on their suitability to diverse contexts and individuals. Technologies were unlikely to be successfully integrated into contexts in which the technology was unsuited.

Instead of the one-size-fits-all model there was then a "cafeteria model" for contraceptive design. This model reflected the change in paradigm from

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669 J. Khanna, P.F.A Van look. and P.D. Griffin, eds. "WHO Reproductive Health: A Key to a Brighter Future. Biennial Report 1990–1991," Special 20th anniversary issue., vii.
670 Oudshoorn, "The Decline of the One Size Fits All Paradigm," in *Between Monsters, Goddesses, and Cyborgs,* eds. Lykke and Braidotti, 153.
671 Official Records of the World Health Organization No. 197, *The Work of WHO 1971: Annual Report of the Director-General to the World Health Assembly and to the United Nations* (1972), 134.
672 Lena Högardh, "Inget drömpiller kan lösa världens befolkningsproblem," *Svenska Dagbladet,* 13-03-1972.
673 Oudshoorn, *The Male Pill*, 65.
674 Ibid.

women as being othered, to an understanding of a diversity amongst women.[675] The cafeteria model suggested that there should be a variety of contraceptives to choose from to suit this diverse body of implicated actors. Simultaneously, while the hope of a one technology fix had faded, new abortion technologies still needed to do more than terminate pregnancies, they needed to suit a wide variety of contexts. There was a value in diversifying the possible user so the technology would work as broadly as possible.

In 1974, Diczfalusy *et al.* wrote an article for the *Swedish Medical Journal* in which they described the WHO research program on human reproduction. One of the areas given high priority in the programme was acceptability and side effects of birth control methods. They wrote that most contraceptives had been tested on women in developed countries. They said,

> It is often assumed that results from these clinical trials can be applied directly to women in developing countries with completely different living conditions. But women in many developing countries are often smaller, begin their fertile period earlier and in many cases have a different genetic set. Many of these women are also malnourished and constantly exposed to various infections and parasitic diseases.
>
> One asks oneself whether the risk of side effects of different birth control agents is greater in these women than in women from industrialized countries. Can the occurrence of side effects similar to those reported in women in Sweden, the US and the UK be the reason why many family planning programs in developing countries have not received the success originally calculated?[676]

For those working in the WHO program on human reproduction a shift to clinical trials in the southern hemisphere could not occur fast enough. They saw most clinical trials occurring in developed countries and worried about the implications for global applicability. They were considering the impact of who participated in the trials. When the Swedish parliament discussed F6103, several members raised the benefits of testing the compound on healthy Swedish women, as opposed to the women who would have had permission for abortion because of illness.[677] They wanted the clinical tests to be applicable to a healthy Swedish population. Bygdeman and Wiqvist initially tested prostaglandins on Swedish women, albeit with permission for abortion, but the WHO context begged for more varied participants. Limiting the scope of clinical testing could result in a technology that was not widely applicable. Healthy Swedish women were no longer considered the ideal trial participant.

The clinical trials in developed countries were also thought to potentially explain a lack of success in implementing family planning programs abroad.

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[675] Oudshoorn, "The Decline of the One Size Fits All Paradigm," in *Between Monsters, Goddesses, and Cyborgs,* eds. Lykke and Braidotti, 167.
[676] Egon Diczfalusy, Elisabet Johannisson, T. Standley, "WHO:s forskningsprogram inom området 'Human Reproduction,'" *Läkartidningen* 71/35 (1974).
[677] Riksdagens protokoll, Andra kammaren 1967:17–23, 97.

In 1974, the WHO reported that they had spent a considerable amount of effort assessing contraceptives in developing countries. They found that public health authorities abroad had questioned the dosages and shapes of different contraceptives, wondering if they "would be equally suitable for women who differ in body size, diet, childbearing patterns, work habits and genetic constitution, and who frequently suffer from malnutrition and endemic diseases."[678] Public health authorities thought that contraceptive technologies were designed poorly for the contexts they were imported to.

While researchers and policy makers did not believe that one contraceptive technology would hold the answer for fertility regulation challenges, there was still incentive to create the most promising technologies possible. This meant taking various factors into account, including who participated in the trial, and what that meant for wider applicability. Discussions of users' weight, health, and nutrition were absent in the Swedish context of developing abortion technologies. In becoming a WHO operation, the trial participant was reconstructed and the trial along with it. Prostaglandin treatments would need to be suitable not only in the Swedish context, but in a variety of countries and regions. Implicated actors diversified from Swedish women and health care workers, to women and health care workers in developing countries.

Folding abortion research into a WHO framework changed the scale of the work. It also heightened the international focus of abortion pills that was first raised by researchers and government officials interested in F6103. In designing an abortion pill, wide applicability, specifically for women in developing countries, was now articulated as valuable. In this vision, the technology should also be safe for different users and contexts. The earlier abortion script of *family planning applicability* demanded certain design elements. The WHO brought this international focus and interest in developing countries into the practices of clinical testing. While there was "no dream pill" that could solve overpopulation issues, as will be shown, there was a reason to pursue a pill-based abortion technology.

The impact of multicentre trials

This new interest in a diverse implicated actor was not without its challenges. The clinical trials previously conducted were seen to be problematic and not representative of everyone who might use the technology. The use of multicentre trials could help improve this issue.[679] In 1972, the WHO explicitly stated that clinical trials "are needed to determine the efficacy and acceptability of new contraceptive agents in different parts of the world and to detect

[678] *The Work of WHO 1974: Annual Report of the Director-General to the World Health Assembly and to the United Nations* (1975), Official Records of the World Health Organization No. 221, 24.
[679] Oudshoorn, *The Male Pill,* 65.

any side-effects, particularly those that may be due to ethnic or other differences between populations."[680] Clinical trials, when done widely, were viewed as effective ways to test compounds. They could help to measure efficacy, acceptability, side/effects, and when done on a global scale could show "ethnic or other differences between populations."

As shown with the inception of a "Manhattan Project", collaboration was seen as key to achieving these types of trials. Clinical trials occurred on several different continents and Bygdeman and Wiqvist were engaged in processing results from these international projects. They were also intimately involved in the entire procedure of establishing these clinical trials. While the thought of having many international clinical trials and expanding reproductive knowledge sounded promising to different people involved in population issues, the technicalities of arranging such trials were not straightforward.

In creating multicenter clinical trials, the WHO relied on coordinators who could visit and supervise at different sites, but this contact was limited. Instead, literary technologies such as procedures, blueprints and protocols, and material technologies such as laboratory equipment and chemicals, bridged local and translocal practices.[681] One of the ways to examine the extent, detail, and practicalities of the prostaglandin international trials is in the creation and use of their research protocols.[682] The prostaglandin protocols were extensive and required different medical professionals all over the world to collect and document the details, experiences, and results of prostaglandin abortions. There needed to be agreement on what was important and worth documenting beforehand in order to coordinate the trials. What stage of pregnancy should the trial participants be in? What other conditions should be screened beforehand? What patient information would be relevant for this study? What side effects should be focused on? How many follow up visits were realistic? What kind of facilities would be involved and how were they staffed and equipped? In comparison to F6103, once the WHO was involved the prostaglandin trials were intertwined with global research practices and expectations. Bygdeman and Wiqvist had to design their trials in a collaborative setting which emphasized perfecting technologies for developing countries.

The first WHO prostaglandin conference in 1971 focused on bringing together separate studies and researchers under one programme. There were 39 participants from around the world gathered in Stockholm in order to decide on experimental protocols for prostaglandins. This was not a simple or

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[680] Official Records of the World Health Organization No. 205, *The Work of WHO 1972: Annual Report of the Director-General to the World Health Assembly and to the United Nations* (1973), 136.

[681] Oudshoorn, *The Male Pill*, 58.

[682] Peter Keating and Alberto Cambrosio, "Cancer Clinical Trials: The Emergence and Development of a New Style of Practice," *Bulletin of the History of Medicine* 81/1 (2007), 204; Marc Berg and Annemarie Mol, eds. *Differences in Medicine: Unraveling Practices, Techniques, and Bodies* (Durham: Duke University Press, 1998). In previous research, the intricacies of setting up and coordinating large clinical trials has been of interest. The research protocol in particular has been seen as an important part of this process.

straightforward task. Diczfalusy opened the conference with a welcoming address modeled after Kipling's poem, *I Keep Six Honest Serving Men*. In this address, Diczfalusy followed in Kipling's shoes by focusing on the "What and Why and When and How and Where and Who" of prostaglandins. An amusing catch being that the WHO was actually "Who". As Diczfalusy said, "you may be surprised to see that Kipling already saw a certain role for the World Health Organisation."[683]

There were a number of negotiable variables that the attendees were set to discuss: what type of prostaglandins, why prostaglandins, in which way should they be administrated, where should they be administrated, and what was the role of the WHO. In their separate contexts, researchers could determine these parameters to their own liking, but in a global context there needed to be agreement and coordination in order for the trials to have the same scientific significance.

Protocols for the use of prostaglandins in fertility regulation were designed to allow researchers to coordinate international trials and ensure consistency throughout different research settings.[684] The WHO Prostaglandin Task Force Steering Committee, which Bygdeman and Wiqvist participated in at different instances, would also specifically focus on protocols. At Chapel Hill in June 1972, for instance, Bygdeman and Bergström, along with six other participants, discussed what progress had been made with protocols up to that point and how they should adapt them going forward.[685] This was not a simple task of deciding on one protocol, as different protocols were required for different doses and methods of administrating prostaglandins. There also had to be consensus on how the different participants understood key concepts.

Take, for instance, the issue of deciding upon side effects. Martin Vessey, from the University of Oxford, gave a general talk on side effects of fertility regulating agents. In the discussion following his talk, participants discussed the advantages and disadvantages of using the concept of "minor" and "major" side effects. It was suggested that the term minor could be misconstrued, and that through this term the seriousness of the side effect was left in an ambiguous state. Vessey suggested using concepts such as "common" and "rare" instead. But this was still seen as subjective, depending on which vantage point

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[683] Egon Diczfalusy, "Welcoming Address," in *Prostaglandins in Fertility Control. The First Conference on Prostaglandins in Fertility Control*, March 8–9, World Health Organization (1971), 1.

[684] C. Tietze, "Principles for Planning Multi-Centre Trials of Fertility Regulating Agents," *Prostaglandins in Fertility Control. The First Conference on Prostaglandins in Fertility Control*, March 8–9, World Health Organization (1971), 9.

[685] "Report of Study Group on Prostaglandins, Chapel Hill, North Carolina, June 8–10," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, (World Health Organization, 1973), 5.

one took. [686] Pharmaceutical companies, researchers, and participants could all have different opinions.

Vessey was also specifically referring to side effects from oral contraceptives and could see prostaglandins having similar issues in the future when it came to this labeling of side effects. Vessey concluded his commentary by stating that he hoped soon they would cease to call side effects major or minor and would simply refer to all unwanted effects as side effects. Major, minor, rare, common, acceptable, and unacceptable were all descriptors used and negotiated in the international setting which Bygdeman and Wiqvist partook in. What could be considered a side effect and how that should be described were not agreed upon. Creating protocols for an international setting needed to be suitable for a wide variety of participants, but also researchers.

When a protocol, or series of protocols, was established by the Task Force, they were then distributed to different clinical research centres throughout the world. The protocols came with a manual that explained the organization and operation of the Task Force and their research activities.[687] In 1973, for instance, the Task Force decided to run a phase III clinical trial of PGF2alpha with an intra-amniotic method.[688] The clinical trials occurred in 20 centres around the world, including hospitals in India, Slovenia, Serbia, Hungary, the United States, and Canada.[689] Bygdeman and Wiqvist were the clinical trial coordinators for this particular trial and were responsible for communicating with the participating centres.

For this trial, the centres were asked to select patients at a specific gestation window and to screen for contraindications to prostaglandin use, such as organic cardiac disease, hypertension, respiratory disease, and severe kidney disease. [690] The protocol manual listed expected side effects, such as nausea, vomiting and diarrhea, instructing the initial test dose to be minimal and administrated slowly in order to gage the reaction.[691] The manual had explicit instructions for tracking complications with the abortion, instructions on how to randomize between prostaglandin treatment and hypertonic saline, and how to conduct follow-ups. All of this data was supposed to be carefully

[686] Martin Vessey, "Principles for Monitoring Side Effects of Fertility Regulating Agents," in *Reports from Two Conferences 1971 at the WHO Research and Training Centre at Karolinska Institute*, March 8–9, World Health Organization (1971), 21.
[687] "Intra-Uterine Administration of Prostaglandin F2alpha for Induction of Abortion. Intra-Amniotic Method," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973), 27.
[688] "Phase III Clinical Trials of Intra-amniotic Prostaglandin F2alpa versus Hypertonic Saline (Trial No. 101) and of Extra-amniotic Prostaglandin F2alpha (Trial No. 102)," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973), 12.
[689] Ibid. 14.
[690] Ibid. 15.
[691] "Intra-Uterine Administration of Prostaglandin F2alpha for Induction of Abortion. Intra-Amniotic Method," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973), 27.

documented and then sent to Stockholm.[692] The responsible researchers would then validate the protocols and send a copy to Geneva. After the protocols had been coded and edited, investigators in Sweden would eventually analyze them and draw up a final cumulative report.

This protocol information would then be synthesized and presented at the next Task Force Meeting, at this instance in Geneva, February 1973.[693] In coordinating these international trials, they had to consider factors such as staff and resource availability at the sites. Even if they considered a method to be well suited, they also factored in whether it would be feasible to use in developing countries.[694]

As illustrated in the previous chapter, Bygdeman and Wiqvist did not take it for granted that a pill would be the best abortion option for all women. They still viewed the main alternative, vacuum aspiration, as an effective method and one which women might prefer. Contraceptive pills had soured the public's view of reproductive pill technologies and there was an existing abortion method which was considered safe and simple. The researchers, while pursuing a pill-based technology, did not necessarily consider it the best or only option. But scaling up the research, and the diversification of the implicated actor, highlighted the abortion script of *family planning applicability*. The researchers needed to take more factors into account.

In both the Swedish and global context, the researchers and WHO agreed on this point, the technology should be as simple as possible. The early trials of prostaglandins were intravenous, and both the Swedish researchers and the WHO wanted that to change. In an *Expressen* newspaper interview from April 1970, Bygdeman said "So do we have a new ideal abortive contraceptive within reach? No. First of all, the method of administration must be changed. A compound intended for millions of people cannot be given in intravenous form."[695] The clinical tests in Sweden were stagnating at the administration method. From Bygdeman's perspective, how prostaglandins could be administrated would determine the widespread usability of the abortion method. A clear advantage of a pill was that it demanded less qualified personnel to administrate it. This quality would both improve infrastructural failings and conditions for autonomy. Bygdeman added that in the future it could be possible to have a midwife conduct the examinations. He said, "That is why the pill could be a good, alternative method in developing countries. Where there is a

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[692] "The WHO Prostaglandin Task Force (Protocol manual). Phase IIb Clinical Trials Comparing Intra-amniotic Prostaglandin F2alpha and 15-Methyl PGF2alpha (Trial No. 103)," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973), 68.

[693] "The WHO Prostaglandin Task Force. Report from the Task Force Meeting Geneva, February 26–28," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973)

[694] "Extra-Amniotic Administration," in *Report from Meetings of the Prostaglandin Task Force Steering Committee,* ed. Sune Bergström, World Health Organization (1973), 32.

[695] Bernt Bernholm, "Nytt "svenskt" preparat kan ge abort inom två timmar," *Expressen,* 30-04-1970.

shortage of doctors."[696] Developing abortion technologies intersected with the medical systems they could be integrated into. The less complicated, the better.

The WHO also shared this sentiment. They wanted technologies that did not require highly skilled professionals to administrate them. In 1975, they reported that research to improve abortion methods had focused on methods that required "less highly trained personnel and that do not involve mechanical or surgical intervention in the cervix or uterus."[697] This could broaden the scope of who could be involved in administrating technologies. The WHO added that prostaglandin research fell within this focus of less mechanical and surgical work. They were optimistic that work in Stockholm, supported by findings in ten other countries, would lead to new pregnancy termination technologies.[698]

While there were a multitude of factors that complicated reproductive technology design and research, there were shared concerns. In both the Swedish and the global context, researchers and policy makers articulated a desire for simple technologies with easy administration. This would allow more people to be involved in contraceptive counselling and reduce surgical abortions. The biggest tension in this vision rested between who the contraceptives were tested on and who they were intended for. Limiting clinical testing to developed countries was perceived to reduce contraceptive acceptability in developing countries.

In scaling up through the WHO, implicated actors and the trials were reconfigured. The focus shifted from users from developed countries to developing countries, which complicated the trial design for the Swedish researchers. The implicated actor was often held up as both patients and health care workers from developing countries. The abortion script of *family planning applicability* was enacted in this larger international network. In particular, the simplicity of administrating the technology was weighed heavily in the researchers' development strategies.

Bygdeman and Wiqvist were also redrawing what a valid clinical trial looked like, which involved coordinating different ideas from researchers around the world and deciding on common trial parameters. The small details of the clinical trials in Stockholm changed, new researchers and centres were included, and the trial participants diversified. The emphasis on family planning, embedded in the research infrastructure from the beginning, and the international value of developing an abortion technology outweighed the risks of creating another type of reproductive pill with potential for side effects.

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[696] Renée Höglin, "Om några år kan kvinnorna själva göra abort med den nya metoden," *Aftonbladet*, 20-04-1976.
[697] *The Work of WHO 1975: Annual Report of the Director-General to the World Health Assembly and to the United Nations* (1976), Official Records of the World Health Organization No. 229, 31.
[698] Ibid.

Conclusion

This chapter has examined the international components of the prostaglandin research. Before Bygdeman and Wiqvist began their clinical trials in 1969, other actors had been collaborating to bring together an international research and training centre, which would impact the prostaglandin research practices. The specifics of Sweden, such as the clinical trial regulation, research traditions, funding opportunities, laws, and neutrality policy were used to position the Karolinska Institute as well suited for an international research centre.

While a number of abortion scripts were made in the prostaglandin network, *family planning applicability* was the abortion script prioritized in the network once it intersected with the WHO. In reproductive research there was a shift in paradigms as individuals and institutions no longer believed there could be one dream pill to fix family planning issues. Instead, an awareness of diverse populations shaped technology and trial designs. In this international research network, the implicated actors were Swedish women, women in developing countries, and health care workers. In the WHO context emphasis was placed on the implicated actors in developing countries. The urgency of overpopulation and understaffed hospitals was enacted more acutely in these contexts. The abortion script of *family planning applicability* had ramifications on research practices, on the materiality of the artifact, and on the implicated actors.

This chapter has shown that while there was a paradigm shift from one-size-fits-all to a cafeteria approach, in some ways the one-size-fits-all method was still visible in the prostaglandin research network. As Oudshoorn argued, while the paradigm shifted, othering still occurred. At this point, instead of women, people of colour were othered.[699] Oudshoorn wrote, "The rhetoric of individual choice seems to be addressed to users all over the world, whereas the rhetoric of population control is more exclusively centered on the countries of the South."[700] In focusing on developing countries prostaglandin researchers reinforced a one-size-fits-all perspective, but only for a portion of the world. A pill was still part of an old dream, but with new methods and practices which catered to this new cafeteria vision. In this way the abortion script of *family planning applicability* impacted the direction of technological design. Sweden's international family planning mission and ambitions made pills, which were conceived as simple to administrate, an appealing technology.

Scaling up the prostaglandin research impacted Bygdeman and Wiqvist's work. The WHO involvement brought the Swedish research into a large international network, blurring the national distinction of the research. Swedish abortion pills were now under the domain of the WHO and being tested on people all over the world. As will be shown, through this intricate research

[699] Oudshoorn, "The Decline of the One Size Fits All Paradigm," in *Between Monsters, Goddesses, and Cyborgs,* eds. Lykke and Braidotti, 167.
[700] Ibid.

network, this “Swedish” work would also come to meet and support, “French” abortion pill research.

7. An Abortion Pill is Born

Prostaglandins continuously provoked an abortion. The side effects, however, were problematic and persistent, pushing researchers to adapt clinical trials and to try new variations. In their efforts, researchers had tested prostaglandins for more than a decade. Yet a WHO task force was not an infinitely funded body and the beginning of the 1980s saw the end of the task force drawing near. Over the years, Swedish actors had mobilized the law, funding, and resources to make this research possible. What became of this supposed contribution to overpopulation problems?

This chapter follows the Prostaglandin Task Force to its termination. To do so, I examine WHO archival material, research publications, personal accounts by scientists, and media material, once again extending the research network across national borders and decades. I show how the collapse of the task force was not the end for prostaglandins, nor for wider research into reproductive technologies. The uses for prostaglandins in reproductive control were, in some ways, just beginning.

In following the network, this chapter examines the fusion of Swedish-WHO prostaglandin research with that on the chemical compound RU486. It reveals that the years Bygdeman, Wiqvist, and colleagues spent working on prostaglandins constitutes a pre-history for RU486, a compound which is now commonly known as "the abortion pill". This chapter shows how decades of work, in Sweden and in a WHO network, went into making RU486 successful.

Much of the material on RU486 in Sweden drawn on in this chapter is media based. This media material shows how different actors articulated abortion pills and reveals how this technology was received. In doing so, I examine the compound's entry into Sweden, contributing to the scant historical work on RU486 that mostly focuses on the compound in the American setting.[701] Here, I offer an alternative case study and one which contextualizes how Sweden became one of the first countries to adopt RU486. As will be illustrated, it was a more complex process than Sweden being a progressive and sexually

[701] Adele Clarke and Theresa Montini examined the constructions of RU486 by different actors in the USA, including researchers, pharmaceutical companies, antiabortion groups, and women's health movement groups. They found that RU486 exists in multiplicities and that there is no one way to understand the compound.: Clarke and Montini, "The Many Faces of RU486," 43. In her work, Heather Prescott has studied the role of women's health activism in bringing RU486 to America, highlighting early interests in the drug.: Prescott, *The Morning After*, 81.

liberated country. I argue that Sweden's history of abortion pill research contributed to the relatively quick adoption of RU486.

This chapter also broadly investigates RU486's entry into Swedish medicine in comparison to the previous years of abortion pill work. The abortion scripts which were made in the years of F6103 and prostaglandin research are traced through to RU486. I show which abortion scripts from the 1960s, 1970s, and 1980s did and did not persist into the 1990s. While this is not an in-depth examination of RU468's development—users, providers, sites and technology were still configured in specific ways by laypeople and professionals. These configurations allow an examination of abortion scripts being made in the 1990s.

The chapter begins by showing how Bygdeman and the WHO prostaglandin work came into contact with RU486 and to what effect. It then examines the process of officially bringing RU486 to Sweden in the early 1990s. Following this, I analyze abortion scripts being made through the use of RU486, illustrating the ways in which RU486 shared similarities with F6103 and prostaglandin research.

From prostaglandins to an abortion pill

Bygdeman and his collaborators clinically tested prostaglandins all throughout the 1970s and into the early 1980s. The side effects were not ideal, but scientists still looked for ways to use the compounds—testing new analogues, administration routes, and chemical combinations.[702] A prostaglandin analogue is a chemical structure similar to a naturally occurring prostaglandin but with a slight variation. In 1980, Bygdeman was the principal investigator on a Phase II clinical trial for prostaglandins by non-invasive routes.[703] He was testing a new prostaglandin analogue for increased stability and there was hope that clinical trials in China would give promising results.[704] By 1981, the task force had also been active for ten years. While clinical tests continued into the 1980s, the task force was nearing its end.[705]

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[702] "Letter correspondences between Marc Bygdeman and Patrick Rowe, June and July 1983," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, H 9/445/21, Nov 1982–July 1983, WHO.

[703] "CTS Agreement with the Dept. of Obstetrics and Gynecology, Karolinska Institutet, Stockholm, Sweden, in respect of further developments of phase II Clinical trials of vaginal suppositories for interruption of pregnancy (76146)," WHO Special Programme on Research, Development and Research Training in Human Reproduction. Project: Phase II Clinical Trials on the Development of Abortion Methods Based on Administration of Prostaglandin by Mainly Noninvasive Routes. January 1980/ December 1980, H 9/370/6 (1), WHO.

[704] "Letter from Patrick Rowe to Gerhard, 8 July 1983," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, H 9/445/21, Nov 1982–July 1983, WHO.

[705] "Task Force on Prostaglandins for Fertility Regulation, Steering Committee Meeting, Geneva 4-5 May 1983," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, H 9/445/21, WHO.

One of the last task force steering committee meetings was held in Geneva in May 1983. At this meeting the attendees discussed the potential controversy of another abortive compound, Rivanol.[706] While the Prostaglandin Task Force had focused on abortion with different prostaglandin compounds, there were also other WHO task forces working on abortion methods. In 1983, the Prostaglandin Task Force Steering Committee was contacted by the WHO Abortion Task Force to weigh in on the uses of Rivanol, the trade name for an organic compound based on acridine.[707] Rivanol was being used in various hospitals to induce abortion and Professor Shoichi Sakamoto, from Tokyo, had contacted the WHO with his concerns. He wrote that while Rivanol had been used in Japan since 1945, there were apprehensions about the side effects and fatalities.[708]

Once they received permission from the ethical committee, Bygdeman and Ingemansson were set to start their own trials of Rivanol.[709] Bygdeman had long been interested in the question of which abortion method, between Rivanol or prostaglandins, was preferred, but had not yet had the opportunity to study it further in the WHO context.[710] The WHO wanted to wait for data from Bygdeman and Ingemansson's upcoming trials in order to confirm adequate safety levels, before supporting the use of Rivanol.[711] While work on prostaglandins in the task force was winding down, there was still interest in other abortive compounds in this WHO framework.

Researchers in France had also been conducting studies on an antiprogestogen, a type of drug which blocks progesterone receptors in the body.[712] In the early 1980s, researchers had begun clinically testing RU486.[713] This was an antiprogestogen produced by the French pharmaceutical company Roussel-Uclaf.[714] It, too, was intended for terminating early pregnancies. It was first clinically tested in the early 1980s and shortly after became entwined with the Swedish and WHO research scene.[715]

In 1983, the French researcher Étienne-Émile Baulieu reached out to Patrick Rowe, a Medical Officer at the WHO, to get a briefing on the WHO's

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[706] Ibid.
[707] Ibid.
[708] "Letter from Sakamoto to Rowe, April 20, 1983," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, H 9/445/21, WHO.
[709] "Letter from Bygdeman to Rowe," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, H 9/445/21, WHO.
[710] Ibid.
[711] Task Force on Prostaglandins for Fertility Regulation, Steering Committee Meeting, Geneva 4-5 May 1983, Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, H 9/445/21, WHO.
[712] Étienne-Émile Baulieu, "Contragestion and Other Clinical Applications of RU 486, an Antiprogesterone at the Receptor," *Science* 245/4924 (1989).
[713] Clarke and Montini, "The Many Faces of RU486," 47.
[714] Ibid. 46.
[715] Étienne-Émile Baulieu and Mort Rosenblum, *The "Abortion Pill": RU 486: A Woman's Choice* (Simon & Schuster, 1992), 79, 85.

ongoing research. In his letter, Baulieu specifically asked about prostaglandin research. He wrote,

> I am not very much aware of the problem: what has been done in terms of clinical testing? Which prostaglandins are active? Suppositories, ovules or injections? What are the results? Are they on sale somewhere?
>
> When I have your answer, I [will] give you a call for more comments and questions. I am terribly interested in the matter.[716]

Baulieu was working on RU486, but there was difficulty bringing the success rate past 80%.[717] He hoped that prostaglandins could solve some of these problems.[718] In reflections on his work, Baulieu commented on his troubles improving the effectiveness of RU486. He wrote, "We needed a second compound to hasten and increase contractions. The obvious answer was prostaglandin."[719] The many years of research on prostaglandins had not produced an analogue that was seen to be suitable on its own, but Baulieu, and others, still saw potential. In solving the issues of RU486, Baulieu wrote:

> Sweden was the place to go. Sune Bergström and Bengt Samuelsson had won a Nobel Prize for pioneering the study of prostaglandins. With WHO help, their colleague Marc Bygdeman had studied abortions brought on by prostaglandins at Karolinska Hospital in Stockholm. Bygdeman is a cool, deliberate scientist with a Swedish bent for detail.[720]

In his reflections, Baulieu remembered Sweden, its history of prostaglandins, and its present research efforts as a means to his own ends. He had traveled to Sweden for a conference in 1983 and cemented a collaboration between his own research group and Bygdeman.[721]

In 1983, *Dagens Nyheter* reported that a new abortion pill would be tested in Sweden that autumn.[722] The article quoted Baulieu who had commented that one of the advantages of RU486 was that compared to the prostaglandin method, it did not induce painful uterine contractions.[723] Baulieu added though that, "Sometimes one can think of a combination of prostaglandin and antiprogesterone in women who do not respond to only one of the treatments."[724]

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[716] "Letter from Étienne-Émile Baulieu to Patrick Rowe, June 30 1983," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, June 30 1983, H 9/445/21, WHO.
[717] Baulieu and Rosenblum, *The "Abortion Pill,"* 86.
[718] Ibid.
[719] Ibid. 34.
[720] Ibid.
[721] Ibid.
[722] Gun Leander, "Nytt abortpiller revolution för familjeplanering i u-länder," *Dagens Nyheter*, 7-10-1983.
[723] Ibid.
[724] Ibid.

Baulieu stressed that more research and trials were needed, as prostaglandins had ten years of testing and research, whereas this new pill only had one.[725]

However, by 1984 the Prostaglandin Task Force was disbanded.[726] The WHO did not see further work improving the efficacy levels that they had already achieved.[727] The remaining active trials were taken over by other WHO task forces. One of the last projects, "A study of Sulprostone in patients with a delay in the menstruation of up to seven days" was stopped in May of 1985 due to the high failure rate.[728] While the WHO disbanded the task force, they were satisfied with the work that had been done. They summarized that over ten years the Prostaglandin Task Force had tested more than 20,000 subjects and created an extensive scientific and clinical testing network.[729]

Meanwhile, work on RU486 continued as Roussel-Uclaf, the WHO and the Population Council sponsored trials.[730] According to Baulieu, Bygdeman had organized a trial on sixteen women. Baulieu met Bygdeman again in 1984 at a Bellagio conference in Italy. As he recalled, on his arrival at the conference:

> [Bygdeman] pulled me aside. His sly smile, so out of character, revealed his triumph before he could tell me about it. By using Ru-486 with a dose of prostaglandin that was five times less than that given alone to induce abortion, he had brought the success rate to 95 percent.[731]

This bump in the success rate from eighty to ninety-five percent was then reconfirmed in clinical trials by researchers in Scotland.[732] Through the WHO network, RU486 was combined with prostaglandins and the abortion success increased. Neither compound on its own sufficed, but when used together researchers were hopeful that it could become the technology they had been trying to design.

The Swedish press made sure to highlight the role of Sweden and prostaglandins in this new abortion direction. In December 1985, *Expressen* reported

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[725] Ibid.
[726] "Task Force on Prostaglandins for Fertility Regulation, Steering Committee Meeting, Geneva 4–5 May 1983," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, H 9/445/21, WHO; "Letter from Patrick Rowe to Dr. Toppozada, 1 August 1984," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, August 1983–September 1985, H 9/445/21, WHO.
[727] Ibid.
[728] "Letter from Paul van Look to Dr. Lachnit-Fixson," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, August 1983–September 1985, H 9/445/21, WHO.
[729] "Task Force on Prostaglandins for Fertility Regulation, Steering Committee Meeting," Geneva 4–5 May 1983, Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, Nov 1982–July 1983, H 9/445/21, WHO.
[730] "Letter to Paul van Look from Marc Bygdeman, November 22, 1984," Special Programme HRP—Task Force on Prostaglandins for Fertility Regulation, August 1983 to September 1985, H9/445/21, WHO. A clinical trial of RU 486 was approved by Karolinska Institute's ethical committee in October 1984.
[731] Baulieu and Rosenblum, *The "Abortion Pill,"* 35.
[732] Ibid.

there were "Abortion pills to take home".[733] This article seamlessly fused the years of Bygdeman's work with prostaglandins at the WHO into the new French abortion pill developments. The article introduced Bygdeman as leading a research group on abortion pills that had been financially supported by the WHO. It then described how "Research on abortion pills has been ongoing for 15 years and is now close to the goal: a simple pill that is effective, does not cause any unpleasant side effects, and which only in exceptional cases causes painful contractions and severe bleeding."[734] The article continued to describe prostaglandins' first, then second attempts and trials, and then said, "The last step is that French scientists have developed something called antiprogesterone, that is a drug that counteracts the pregnancy hormone progesterone."[735] *Expressen* wrote that Karolinska Hospital was using this method, which required taking two tablets a day for three or four days. Prostaglandins were given as a complementary injection.

In 1988, seventy-three health centres across France tested RU486 on more than 2000 women.[736] RU486, with a prostaglandin analogue, was considered a successful abortion method. First the patient would be given RU486 and then thirty-six to forty-eight hours later they would be given a dose of a prostaglandin analogue.[737] In early uses in France, sulprostone was used as the prostaglandin analogue and was injected intramuscularly.[738] In other countries, gemeprost was the analogue used and was given as a vaginal suppository.[739] While RU486 was marketed as an "abortion pill" it was accompanied by prostaglandins which were administrated in more invasive manners. Nonetheless, this combination was considered an improvement on other early abortion methods.

Ending the WHO Prostaglandin Task Force did not prevent prostaglandins from being developed into an abortion technology. There were other active task forces and groups of scientists outside of the WHO working on reproduction, and fruitful collaboration occurred between Baulieu and Bygdeman. However, before its end the Prostaglandin Task Force was an important scientific infrastructure that contributed years of data. Through this work prostaglandins became part of RU486's story and success, constituting a prehistory for the "abortion pill" used today. While RU486 would go on to become the main type of medical abortion used around the world, it was able to do so because of the prostaglandin accompaniment.

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[733] Emily Von Sydow, "Abortpiller att ta hem," *Expressen*, 12-12-1985.
[734] Ibid.
[735] Ibid.
[736] Louise Silvestre, Catherine Dubois, Naguy Renault *et al.* "Voluntary Interruption of Pregnancy with Mifepristone (RU486) and a Prostaglandin Analogue," *The New England Journal of Medicine* 322/10 (1990), 646.
[737] Ibid.
[738] Étienne-Émile Baulieu, "Updating RU486 Development," *Med & Health Care* 154 (1992), 155.
[739] Ibid.

Bringing RU486 to Sweden

By the late 1980s, RU486 was deemed ready for the masses. Contraceptive research stakeholders, such as the Ford Foundation, saw Roussel Uclaf as having taken a major initiative for a pharmaceutical company.[740] While pharmaceutical companies had entered into reproductive research in the 1960s, by the late 1980s many companies, especially American ones, had retracted from the field.[741] This retreat has been attributed to increased costs and risks of production, due in some part to more stringent testing demands by the FDA, negative portrayals of birth control in the media, and the increasing litigiousness of the U.S.[742]

The abortion landscape, particularly in the United States, was also increasingly divisive. Johanna Schoen has shown that by the 1980s, fetal bodies had undergone redefinitions which further politicized abortion.[743] Anti-abortion proponents had fought to equate abortion with murder, which had detrimental effects on abortion access in the USA. There was an escalation in violence against abortion providers, clinic staff, and in the harassment of individuals visiting abortion centres.[744] In the wake of this, many physicians were less willing to perform abortions. In 1984, the Ronald Reagan administration had also enforced a ruling, the Mexico City Policy, which cut off family-planning assistance to nongovernmental organizations which promoted or offered abortion.[745] Since its inception, the Mexico City Policy, more commonly referred to as the "global gag rule", has been enforced by successive Republican administrations.[746] In Sweden, the situation was not as polarized or violent, but, as will be illustrated, abortion pills were not accepted without discussion either.

With this antiabortion momentum, RU486 faced marketing and distribution obstacles. While it was approved for sale in France, in October 1988 Roussel-Uclaf would pull RU486 off of the French market because of threats to boycott the company and various protests by antiabortion groups.[747] In the United States, the National Right to Life Committee reached out to the French ambassador in Washington to persuade the consulate to raise concerns about the

[740] Oscar Harkavy, "Funding Contraceptive Development," *Technology in Society* 9 (1987), 311.
[741] Elisabeth Watkins, "How the Pill Became a Lifestyle Drug: The Pharmaceutical Industry and Birth Control in the United States Since 1960," *American Journal of Public Health* 102/8 (2012), 1463.
[742] Ibid.; Carl Djerassi, "The Bitter Pill," *Science* 245 (1989), 356–361; Oudshoorn, *The Male Pill*, 27.
[743] Schoen, *Abortion After Roe*, 160.
[744] Ibid. 161.
[745] Yana van der Meulen Rodgers, *The Global Gag Rule and Women's Reproductive Health: Rhetoric Versus Reality* (Oxford: Oxford University Press, 2018), 2.
[746] Ibid.
[747] Clarke and Montini, "The Many Faces of RU486," 47.

drug with the French government.[748] American anti-abortion leaders also planned protests, hoping to disrupt Roussel Uclaf stockholder meetings.[749]

The company pulled the drug off the market, but shortly after the French government intervened. Only two days after the pharmaceutical company stopped distributing RU486 there was an international outcry against this decision, including a petition signed by a thousand doctors at the Twelfth World Congress of Gynecology and Obstetrics in Rio de Janeiro.[750] By October 28th, four days after Roussel-Uclaf had ceased to distribute the drug, "the French Minister of Solidarity, Health and Social Welfare ordered Roussel-UCLAF to resume distribution, claiming that it was important for public health and that the drug was 'the moral property of women.'"[751]

Roussel Uclaf was forced to make RU486 available in France because the Minister of Health could invoke French patent law which would require Roussel Uclaf to transfer the drug patent to another company if they refused to sell it.[752] This law gave power to the French government to intervene in pharmaceutical distribution. This law, however, only had consequences for France. Roussel Uclaf could choose to limit the drug's distribution elsewhere, and the majority owner, Hoechst AG of Germany, was not keen to sell the drug as it was afraid of further boycotts.[753] Issues continued to plague the company, for example, the American president George H. W. Bush (1989-1993) levied an import ban on RU486.[754]

Beyond anti-abortion proponents, there was also criticism of RU486 brought forward by feminist groups. In 1991, the feminist pro-choice group called the Institute on Women and Technology, criticized RU486 for not being as safe or easy as advertised. In particular, they were worried about the prostaglandin injection. The side effects of the prostaglandin analogue were, even at this lower dose, still seen to be problematic.[755] In her coverage of the issue, Michelle Hoffman wrote for *Science* that, "Now, for the first time, a split has occurred in the pro-choice forces with each side of the feminist lobby questioning the other's motives."[756] As shown in chapter five, in Sweden there was criticism of abortion pill research by those who would be considered pro-

[748] Prescott, *The Morning After*, 79.
[749] Ibid.
[750] Rebecca Cook, "Antiprogestin Drugs: Medical and Legal Issues," *Family Planning Perspectives*, 21/6 (1989), 976.
[751] Ibid.
[752] Rebecca Kramnick, "RU 486 and the Politics of Drug Regulation in the United States and France," *Cornell International Law Journal* (1992), 687.
[753] Clarke and Montini, "The Many Faces of RU486," 47; Steven Greenhouse, "France Ordering Company to Sell Its Abortion Drug; Fears Confine Abortion Pill to France," *The New York Times*, 26-03-1989; Baulieu and Rosenblum, *The Abortion Pill*, 115; Campbell, "Making Sense of the Abortion Pill," 125.
[754] Carole Joffe and Tracy Weitz, "Normalizing the Exceptional: Incorporating the 'Abortion Pill' into Mainstream Medicine," *Social Science & Medicine* 56 (2003), 2355.
[755] Michelle Hoffman, "Feminist Group Dissents on RU-486 Use for Abortion," *Science* 254/5029 (1991).
[756] Ibid.

choice. The abortion pill was not received equally by all people who believed in free and open access to abortion. It was a technology that divided people with similar values for a myriad of reasons.

FINRRAGE, the Feminist International Network of Resistance to Reproductive and Genetic Engineering, also took issue with RU486. In 1992, Renate Klein and Lynette Dumble published a piece in *Reproductive and Genetic Engineering: Journal of International Feminist Analysis* in which they criticized the drug. Part of their issue was the safety and success rate. They stated that RU486 had been falsely advertised as it "has a 20-40% failure rate that necessitates the addition of a second drug, prostaglandin, to bring it up to 93-94%."[757] They were concerned that in addition to the risks, it would also change the medical landscape for the worse. They wrote, "In fact, it might lead to a further erosion of existing abortion services because it makes it easier/cheaper for the doctors and the state—but not for women."[758] The drug raised various issues from stakeholders across several arenas.[759]

This international furor over RU486 made it more difficult to acquire the compound than other drugs. Making the compound available to the Swedish masses required acquiring the rights to do so through Roussel Nordiska, the Nordic subsidiary of the French company. Regardless of Sweden's interest in abortion technologies, convincing the pharmaceutical company to distribute it was difficult. Having legal conditions for early abortion and interest in new technologies did not determine accessibility.

Nevertheless, there was demand for the drug. July 16th, 1991, Arne Victor, Department Head of the Pharmacotherapy Unit at the Swedish Medical Products Agency, sent a letter to Ursula Tengelin, CEO of Roussel Nordiska. In the letter, Victor wrote that the Medical Products Agency had received word that RU486 had been recently registered as an abortifacient in the United Kingdom. Victor then stated,

> Within the Swedish Gynecology Union, there has long been expressed wishes for a Swedish registration of the preparation, which is perceived as an important complement to the current abortion methods. Against this background, I would like to state with this letter that we will, with the highest priority, consider any possible application for registration of RU 486.[760]

Bolstered by the Swedish Gynecology Union, the Medical Products Agency made extra efforts to secure RU486's entry into Swedish medicine.

The sending of this letter was picked up by the Swedish press. Carina Johansson, from *Svenska Dagbladet,* interviewed Victor who commented on the

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[757] Renate Klein and Lynette Dumble, "RU 486/Prostaglandin Threats to Safe Pregnancy Termination," *Reproductive and Genetic Engineering Journal of Intersectional Feminist Analysis* 5/2 (1992).
[758] Ibid.
[759] Clarke and Montini, "The Many Faces of RU486," 68–70.
[760] "Letter from Arne Victor to Ursula Tengelin," Farmakoterapeutiska enheten, Läkemedelsverket arkiv.

letter, saying "We have never done this before in the four years that I have worked here."[761] As to why they took this action, Victor said, "we think it is important to come up with alternative abortion methods, and we know that both the Swedish Gynecology Union and RFSU are pressing to get the pill approved in Sweden."[762] For her part, Ursula Tengelin responded positively to the letter and the support shown by the Medical Products Agency. Tengelin thought that "with the positive debate that exists in Sweden and the Swedish Medical Products Agency's actions, it would be highly unlikely that we would not make an application in Sweden".[763] Regardless of how positive Tengelin was, the process of reviewing Sweden's case did not occur instantaneously.

By August there had been no discernable progress and fourteen Swedish obstetrics and gynecology specialists, including Bygdeman, sent their own letter to Roussel-Uclaf, supposedly writing that, "The unwillingness of your company to provide mifepristone for scientific studies and to market the compound in Scandinavia is unacceptable."[764] Hoechst and Roussel-Uclaf were taking their time with this application process, much to the frustration of certain ob-gyns. They, too, felt it was an issue worth pursuing and wrote directly to the pharmaceutical company to voice their concerns.

During the summer of 1991, the Medical Products Agency and obstetrics and gynecology professionals pressured Roussel-Uclaf to distribute RU486 in Sweden. It was also a summer of heightened activity in Swedish politics. The welfare state, initiated and sustained by the Social Democrats who governed for most of the mid-20th century, was undergoing changes. The 1980s saw a rhetoric of political questioning of the welfare state, with political analysts painting a picture of scepticism of its effectiveness.[765] By the early 1990s, public opinion of the welfare state was at its lowest.[766] Much like in the USA and England, throughout the 1980s the political right had been gaining traction in Sweden.[767] Reproduction, which had been an important component of designing a welfare state society, was set in a different political context. The abortion pill's entry to Sweden occurred just as the political machinery in Sweden would adjust to these changes.

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[761] Carina Johansson, "Läkemedelsverket vill få abortpiller godkänt," *Svenska Dagbladet*, 1991-07-24.
[762] Ibid.
[763] Ibid.
[764] Baulieu and Rosenblum, *The Abortion Pill*, 115. While I have not been able to find this letter, I confirmed with Marc Bygdeman that he and a number of others sent a letter to Roussel-Uclaf. Email correspondence with Marc Bygdeman, June 2020.
[765] Stefan Svallfors, "Who Loves the Swedish Welfare State? Attitude trends 1980-2010," in *The Oxford Handbook of Swedish Politics*, ed. Pierre.
[766] Jenny Andersson, "A Model of Welfare Capitalism? Perspectives on the Swedish Model, Then and Now," in *The Oxford Handbook of Swedish Politics*, ed. Pierre, 571. Jenny Andersson remarks that this public reaction was an exception. By 1994, the Social Democrats would be re-elected. In his work, Stefan Svallfors has shown that the public has largely supported the welfare state.
[767] Jenny Andersson, "Nordic Nostalgia and Nordic Light: The Swedish Model as Utopia 1930-2007," *Scandinavian Journal of History* 34/3 (2009), 230.

1991 was an election year in Sweden and the issue of licensing and distributing RU486 became a political one. Elections generally ran with a left and right bloc. The left bloc would include the Social Democrats, the Green Party, and the Left Party, while the right bloc included the Centre Party, the Liberals, the Moderates, and the Christian Democratic Unity.[768] In the public discussion of RU486 leading up to the election, the Christian Democratic Unity (KDS), founded in 1964, would be the main voice of concern.[769]

That summer the debate about approving RU486 was reported on in most major Swedish newspapers around the country. It began with Alf Svensson, the party leader of KDS, voicing his concerns. Among other newspapers, *Svenska Dagbladet* reported that Svensson was "afraid that the abortion pill can lead to more abortions in Sweden".[770] At the same time as voicing his worry over an increase in abortions, Svensson was sure to say that KDS did not want to change the nation's abortion laws. They simply wanted to "increase the ethical opinion formation" as "life must be safeguarded from conception to the end."[771] In the same breath, Svensson also speculated that from a medical perspective RU486 may be a better option than both preventative pills and surgical abortion.[772]

He said,

> …it would be unreasonable not to want to have as little and few complications as possible for the women who absolutely need to have an abortion. Then the pill seems to be preferred.[773]

The abortion pill proved problematic to Svensson as it could increase abortions across the board, but not because it made it easier for those who "absolutely" needed abortion. It was not only a question of being for or against abortion, there were various factors that Svensson considered in the process of safeguarding conception.

In response to Svensson, several individuals were interviewed by and wrote into newspapers. Anders Molin, a gynecologist at Danderyds Hospital, found it hard to believe abortion rates would increase. Molin thought that the difficulty surrounding abortion was not what method to choose, but whether one wanted to abort at all.[774] In this way, Molin echoed the abortion script of *difficulty* made by prostaglandin actors in the 1980s.

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[768] Hanna Bäck and Torbjörn Bergman, "The Parties in Government Formation," in *The Oxford Handbook of Swedish Politics*, ed. Pierre, 209.
[769] Hans Slomp, *Europe, a Political Profile: An American Companion to European Politics* (ABC-CLIO, LLC, 2011), 437.
[770] "Abortpiller oroar Alf Svensson," *Svenska Dagbladet,* 25-07-1991; "Abortpiller bra alternativ," *Göteborgs-Posten*, 25-07-1991, also reported on Svensson.
[771] Carina Johansson, "Kds tvekar om piller för abort," *Svenska Dagbladet*, 25-07-1991.
[772] Ibid.
[773] Ibid.
[774] Ibid.

RFSU, who welcomed the use of RU486, wanted to make abortion into an election issue.[775] Margó Ingvardsson, RFSU's president, wrote a piece for *Dagens Nyheter* in which she criticized politicians skating around the issue of abortion. She wrote,

> And so far no representative of any political party has commented that the abortion pill RU486 may become available in Sweden. Is it because the abortion pill is unattractive to our politicians, or are there other reasons for the silence? Surely the politicians who care about the right to free abortion must also care about abortions occurring in the most painless possible way?[776]

Ingvardsson did not want politicians to avoid the abortion issue and sought transparency, particularly in the case of RU486. While Ingvardsson said no political party had commented on RU486, she simultaneously seemed to be responding to KDS's own dance around abortion. She implored the political parties to clearly report on their views on abortion.

A few days later, the Left Party (V) took a position on the use of abortion pills. *Dagens Nyheter* reported that the vice party leader, Gudrun Schyman, said that V welcomed the abortion pill and that they "reject all fears that it would be 'too easy to do an abortion'".[777] Schyman added that it was never easy for a woman to decide to abort, but if a woman had decided to, she should be able to do so herself.[778]

A day after V publicized their position, KDS's Svensson attempted to clarify his own. In an article for *Göteborgs-Posten*, Svensson said that it would be inhuman not to support the drug if it reduced physical and psychological pain and did not increase the number of abortions, but he would not accept it as a new type of contraceptive pill.[779]

In comparison to the United States and the Right to Life movement, Svensson and KDS's position was not as polarizing. KDS wanted to both protect life and seem reasonable about a new abortion technology. The national election occurred in September and the Moderates gained power—the right bloc unseated the Social Democrats. While the 1991 election, and the resurgence of the right, is considered an important point in the political history of Sweden, it was still a far cry from the conservatism in other countries, such as in the USA. The issue of abortion, for instance, was still positioned as a grey issue by some of the more critical political voices.

In the aftermath of the election, KDS, V, and RFSU fell somewhat silent in the press, but other actors kept up discussions of RU486 into the autumn. In late September, a physician, Jens Lunnergård, wrote to *Svenska Dagbladet* about how abortion pills compromised the legal certainty of the fetus. He

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[775] Magdalena Kvarning, "RFSU: Vi välkomnar pillret," *Aftonbladet,* 12-08-1991.
[776] Margó Ingvardsson, "RFSU vill göra abort till valfråga," *Dagens Nyheter,* 06-08-1991.
[777] "V välkomnar abortpiller," *Dagens Nyheter*, 16-08-1991.
[778] Ibid.
[779] Fredrik Tenfält, "Kds vill aldrig regera med s," *Göteborgs-Posten,* 17-08-1991.

claimed that healthcare professionals might gladly greet the news of an abortion pill as it simplified their jobs, but that the pill was hardly risk free.[780] He listed a failure rate of 20-40 percent and the chance of deformations if women continued with the pregnancy. The following week Marc Bygdeman responded to Lunnergård, accusing him of spreading false information about how the abortion pill worked.[781] The following month, Bengt Malmgren, another physician, wrote to *Svenska Dagbladet* discussing Lunnergård and Bygdeman's exchange, in which he disagreed with Bygdeman.[782] He characterized Lunnergård as ethical and Bygdeman as emotional. Malmgren wanted what he saw as a more ethical framework for the abortion law that recognized life as beginning at conception. He disproved of RU486 and did not want it to become available in Sweden.[783]

Shortly after, Barbro Westerholm, who had worked at the States Pharmaceutical Laboratory and was then the parliament chairman of the Liberal People's Party's Women's Federation, a center-right party, also wrote to *Svenska Dagbladet*. Westerholm criticized Lunnergård, Malmgren, and KDS for their views on abortion and the abortion pill. She wrote,

> The abortion pill that is now being criticized can be used for aborting pregnancy before the eighth week. The risk of bleeding and infection is estimated to be lower with this method than with those currently used. Anesthetic complications are avoided. These are the sort of improved methods that Bengt Malmgren wants to say no to. In what other area of medicine would one choose a more painful method of treatment than that offered by science?[784]

Westerholm took issue with how abortion pills were approached in comparison to other medical treatments. Although there were those who wanted to think that abortion in Sweden was not an issue, it still carried much more baggage than other medical procedures. Swedish newspapers covered debates between professionals over several months, which highlights the way abortion pills were still made into moral issues. Bringing RU486 to Sweden was not seen as a completely benign move.

Throughout the years, the newspaper coverage on RU486 fluctuated. In the months leading up to its approval, most major Swedish newspapers printed stories, for and against the pill, as well as more informational pieces. Beyond the debates taken up by politicians and physicians about approving RU486 in Sweden, laypeople wrote into the newspapers in order to make their opinions known. Individuals wrote into paper columns, voicing both support and disproval, and occasionally recounting their own experiences with the drug.

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[780] Jens Lunnergård, "Kvinnorna sviks i svår situation," *Svenska Dagbladet,* 21-09-1991.
[781] Marc Bygdeman, "Abortpillret effektivt alternativ," *Svenska Dagbladet,* 28-09-1991.
[782] Bengt Malmgren, "Stoppa nya abortpillret," *Svenska Dagbladet,* 28-10-1991.
[783] Ibid.
[784] Barbro Westerholm, "Abortdebatten är reaktionär," *Svenska Dagbladet,* 05-11-1991.

While there were people who were outright against RU486, few wrote into the newspapers leading up to its approval. One individual, for example, wrote to *Svenska Dagbladet* insisting that everyone had a right to be born.[785] *Aftonbladet* published an anonymous reader's call to "Stop the abortion pill! It is now immorally easy to kill life with a tablet."[786] In August, another individual wrote several times to local Gothenburg newspapers, warning the Swedish people to wake up to the atrocities of abortion pills.[787] On the whole, however, these pieces were few in comparison to the entirety of the newspaper coverage. In 1991, there were at least sixty-one newspaper articles which dealt with the topic of the abortion pill, of which there were only fourteen critical pieces, including those from politicians, trial participants, and laypeople.[788]

Regardless of the media debates, by the end of the year, Hoechst AG complied to the wishes of the Medical Products Agency and the Swedish ob-gyns. In December 1991, Roussel Nordiska applied for a Swedish license for RU486 and by September 1992, the Swedish Government approved RU486 for use in Sweden.[789]

Similarly to what has been illustrated in the American setting, RU486 existed in multiple forms in the Swedish context.[790] It was safe, problematic, morally abhorrent, and an appreciated medical intervention. However, a notable difference from the American context is the role of women's health activism. In the late 1980s, there was collaboration between the International Women's Health Coalition, the Boston Women's Health Book Committee, and Planned Parenthood to bring RU486 to the United States.[791] The Boston Women's Health Book Committee thought that RU486 "should be one choice among several abortion technologies—not the only choice—and that the woman herself should choose on the basis of fully informed consent."[792] There were groups focused on women's health coordinating and engaging with RU486 in the United States in the late 1980s and early 1990s. There were also feminist networks, such as FINRRAGE and the Institute on Women and Technology, which took a critical approach to the compound. While FINRRAGE took up its stance against reproductive technologies at a meeting in Sweden in 1984, they were not a Swedish network.[793]

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[785] Henrik Engholm, "Alla har rätt att födas," *Svenska Dagbladet,* 02-08-1991.
[786] "Stoppa abortpillret! Blir det nu omoraliskt lätt - att döda livet med tablett," opinion, *Aftonbladet*, 31-07-1991.
[787] Torbjörn Theodorsson, letter to newspaper, "Dråpslag för rätten till liv," *I Dag,* 06-08-1991; Torbjörn Theodorsson, letter to newspaper, "Stoppa dödspillret!" *I Dag,* 12-08-199; *Göteborgs-Posten,* 16-08-1991.
[788] This is based on the database from the Royal Library, using the keyword "abortpillret".
[789] "RU 486 licensed in Sweden," *IPPF Medical Bulletin*, 26-12-1992.
[790] Clarke and Montini, "The Many Faces of RU486," 68–70.
[791] Prescott, *The Morning After*, 80.
[792] Clarke and Montini, "The Many Faces of RU486," 60.
[793] "History of FINRRAGE," Finrrage.org, https://www.finrrage.org/?page_id=25 (accessed 15 January 2021).

In Sweden, there was not an equivalent women's health movement as in the United States. Instead, institutions such as RFSU and the Swedish Gynecology Union fought to introduce new abortion technologies. Public discussion of the drug was dominated by professionals, both political and medical, and individual laypeople. However, similar questions as those posed in the American women's health movement groups and in these international feminist networks also appeared in the Swedish context and debate. Mostly individuals, and not organizations, emphasized feminist concerns of the technology.

Scholars have shown how difficult it has been to adopt RU486 in other national contexts, examining different actors, motivations, and social worlds.[794] Investigating the process of bringing RU486 to one of the countries which adopted it relatively quickly helps to further demystify the drug and abortion. The Swedish state had a long history of providing abortions and professional groups fought for the distribution of this new abortion pill. Sweden also had a history of abortion pill research which, I argue, is an important framework for understanding RU486's reception. This meant that many of the issues that accompany RU486 were already familiar to the Swedish public. Some of the abortion scripts that had been co-produced by the F6103 and prostaglandin networks were present again in the 1990s.

New decade, familiar scripts

Bringing RU486 to Sweden posed some challenges and was a public event. The newspapers continued to cover abortion pill stories, creating debates and conversations between different politicians, professionals and laypeople. As briefly illustrated in the previous section, the abortion script of *difficulty* was being used by supporters of abortion pills. Examining media coverage, as well as material produced by the researchers, illustrates that some of the issues and debates around RU486 included abortion scripts constructed in Sweden in the 1960s, the 1970s, and the 1980s. However, there were also notable differences in the way RU486 was articulated by users and providers of the drug.

In defining RU486, various actors, much like those working with F6103 and prostaglandins, attempted to cultivate a new space for this technology. Once again, the boundary between abortion and contraception was being actively negotiated. The scientists involved in the production of RU486 were acutely aware of RU486's interpretability. It was not an abortion pill, but a contragestion, or an unpregnancy pill.[795] In an interview with the Swedish newspaper *Svenska Dagbladet*, Baulieu described RU486 as a contragestion. The reporter, Emily von Sydow, also spoke to Ola Rönn, who worked at the

[794] Clarke and Montini, "The Many Faces of RU486," 42–70; Campbell, "Making Sense of the Abortion Pill," 121–135.
[795] Baulieu and Rosenblum, *The Abortion Pill*, 18.

Nordic branch of Roussel Uclaf. Rönn said, "In Sweden we do not need this edit… so here we can speak about abortion pills."[796] Defining RU486 as a contragestion was seen to be a way of appeasing Catholic countries but not required in Sweden.[797] While Baulieu wanted RU486 to be something new, Rönn insisted it was an abortion pill. His remark is a departure from the earlier abortion script made in the 1960s and 1970s which emphasized the menstruating restoring qualities of abortion pills, alluding to the controversy of abortion in Sweden and a desire to avoid speaking of it. By the late 1980s, pharmaceutical representatives were taking another approach, one which depicted Sweden as an exception to anti-abortion politics.

Even if the pill was enacted differently depending on context, Baulieu still considered the mechanisms of this product to be different than abortion. In the book that he wrote shortly after RU486 was successfully launched in France, Baulieu outlined how RU486 should be distinguished from traditional surgical abortions. He wrote, "'Abortion' is a harsh term for a pill that eliminates the trauma of surgery,"[798] and that "There is an important middle ground between preventing fertilization and surgically removing a fetus."[799] That one could consider RU486 to be the same as a surgical abortion irritated Baulieu. He consistently made a space for RU486 between contraceptives and surgical abortions.

During the same time that RU486 was being described as an abortion pill or as a contragestion, it would also again be used in clinical trials. This time to explore its potential as a contraceptive. The WHO was interested in whether RU486 could be used regularly once a month and once again Bygdeman headed the research at Karolinska Hospital. In 1989, *Svenska Dagbladet* was back at the scene reporting on Bygdeman's research. They wrote, "With the abortion pill, it is enough that the woman takes one pill a month to be protected against unwanted pregnancy. The pill can be the future's pill."[800] Even though RU486 was being marketed and sold as an abortion pill there was still a belief that it could be developed further. Perhaps RU486 could occupy space as an abortion pill, a contragestion, and a contraceptive pill. If so, more clinical trials were needed and Bygdeman would go on to work with the WHO to test RU486 as a "once-a-month-pill" into the 1990s.[801]

The participant experience

In addition to further clinical trials of the compound, Swedish researchers continued to be interested in the patients' experiences of the drug. During the

[796] Emily von Sydow, "Abortpillret klart 1988," *Svenska Dagbladet,* 11-04-1987.
[797] Ibid.
[798] Baulieu and Rosenblum, *The Abortion Pill*, 27.
[799] Ibid. 87.
[800] "Försök i Sverige: Abortmedel blir framtida p-piller," *Svenska Dagbladet,* 10-02-1989.
[801] Magdalena Kvarning, "Forskaren: Aborten blir inte lindrigare," *Aftonbladet*, 12-08-1991.

1980s, Bygdeman's doctoral student, Kristina Holmgren, conducted studies on women's experiences of early abortion, which included some data from RU486 abortions. Holmgren wanted to know whether women would regret having early abortions as this was a prevailing fear among clinicians and decision makers.[802] Additionally, Holmgren stated that these actors were afraid abortion was becoming too easy. She wanted to better examine the women's experiences as "the abortion ethics held by women undergoing an induced abortion is very little known."[803] While Holmgren positioned her study as filling a void, it still fell in line with the psychological studies first conducted by Engström, and then Bygdeman. In this way, abortion continued to be more than a physical event. In her results, Holmgren wrote,

> …medical abortion did not appear to be the easy way out of a moral dilemma that some critics fear, but rather the opposite. Women having a medical abortion reported more moral considerations than did the others, apart from more bleeding and pain. Still they preferred medical abortion, as it offered less of a threat to their integrity and was experienced more like a spontaneous abortion. It appeared that women do not necessarily want to repress the fact they undergo an abortion, which is sometimes presumed.[804]

The issue of whether medical abortion was advantageous as it could allow women to conceive of the event as a missed menstruation rather than an abortion was still a topic of interest in the early 1990s. Bygdeman's own doctoral student found conflicting results to what he had maintained during his years testing prostaglandins. The abortion script of *menstruation restoration* was no longer being made in these networks. While different from surgical abortion, actors were still insisting on the abortive component of the pill. Regardless of the findings, interest in the experience of the abortion continued to be important as a way of legitimizing early procedures.

Just as in the media footage from the early 1980s, the newspapers also circulated pieces which looked to examine the experience of taking the pill, and a few users of RU486 shared their stories with the press. Some journalists wrote pieces on the abortion pill in which they included snippets from clinical trial participants' experiences, while others centred their work around these women. In the years surrounding RU486's official emergence on the Swedish market several women recounted their experiences with the drug, and, similarly to prostaglandins, the reactions to RU486 went both ways.

Astrid Johansson wrote an article for *Dagens Nyheter* on the new abortion pill. The effects of the pill, such as pain and bleeding, were commonly included in these reports regardless of the particular angle on the drug. Johansson reported that women who had used RU486 were satisfied with the method,

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[802] Kristina Holmgren, *Legal Abortion During Very Early Pregnancy: Women's Experiences and Ethical Conflicts* (PhD diss. Kungl. Carolinska Medico Chirurgiska Institutet, Stockholm, 1994), 17.
[803] Ibid.
[804] Ibid. 46

despite the pain and bleeding. She wrote, "But for that reason, the abortion pill is not a simple, easy-going method. On the contrary, it can mentally be a heavier decision to take a pill. The women feel that they themselves—not the doctors—abort, which leads to more moral considerations."[805] While the abortion script of *menstruation restoration* was not being made, women who had used RU486 upheld the abortion script of *difficulty*. The abortion pill was constructed as simple and easy, as it was simultaneously constructed as difficult and morally significant. Regardless of how "simple" it was to take an abortion pill, an abortion in itself was still painted as a difficult decision to make and a difficult process to go through.

Ingegerd Ekstrand, who had experienced and publicly criticized the prostaglandin abortion pill clinical trials in 1980, also wrote about RU486. Still working at *Aftonbladet*, Ekstrand wrote an article titled "Have you tried the abortion pill?"[806] In this piece, Ekstrand wanted to find women who had tried RU486 so they could give their perspective on the drug. She wrote, "Is the so-called abortion pill as good as they say, old geezers? Oddly enough, mostly men—doctors, politicians etc.—tell us how good it is. Good for who?"[807] Ekstrand was still critical of abortion technologies and keen to hear from women who had recently used RU486. Her impression of the technologies was not that they made things easier for women, but for doctors and politicians. Ekstrand's issue was with the construction of these technologies as simple and easy. She anticipated that women went through intense physiological and psychological strain.

Whatever came of Ekstrand's particular call for women to write into *Aftonbladet* is not clear, but the newspaper continued to feature RU486 in the following months. In November, Magdalena Kvarning interviewed a trial participant about her abortion for *Aftonbladet*. The woman had experienced several different types of abortion, including the abortion pill. She said "I am extremely positive about the abortion pill… it was easy, didn't hurt and went quickly. Directly afterwards I could have danced the cancan, no aftereffects at all."[808] The trial participant could also compare the abortion pill to a saline abortion she received when she was sixteen. She said "then the pain was so unbearable that I could have thrown myself out the window. Taking the abortion pill is 'peanuts,' nothing to be afraid of."[809] The trial participant was positive about her experience with RU486 and was able to compare it to other methods.

On the same page as her piece on the trial participant, Kvarning had written another article interviewing a physician and scientist at Huddinge Hospital, Anders Ölund. Ölund had tested RU486 on 80 women. He said the downsides

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[805] Astrid Johansson, "Abortpillret bra," *Dagens Nyheter,* 20-11-1991.
[806] Ingegerd Ekstrand, "Har du prövat abortpillret?," *Aftonbladet,* 29-08-1991.
[807] Ibid.
[808] Magdalena Kvarning, "Det poppade ut en liten blåsa och sen var aborten klar," *Aftonbladet*, 27-11-1991.
[809] Ibid.

of the pill were the bleeding and pain, but that the women he had studied were all satisfied with the procedure.[810]

A week after publishing their positive pieces on abortion pills by Kvarning, *Aftonbladet* also published another piece, this time the story of an unhappy patient. The trial participant, age twenty-four, had participated in RU486 trials and said "it was the worst thing I have ever been through… I was about to kill myself."[811] The newspaper piece displayed a large picture of the woman, sitting and facing the camera.

The piece recounted how the previous week's newspaper had featured Anders Ölund, who had described all the women in the RU486 study as "pleased".[812] The trial participant was one of the women involved and Ölund was the one who admitted her to the trial. In the article, the trial participant described how the pain was much worse than childbirth and that she had hardly any energy to get to the hospital. When she did get back to the hospital, Ölund confirmed that she had successfully aborted. The trial participant recounted how she was still in pain and bleeding, and that the bleeding continued for six months. She said "The abortion with the pills was by far the worst I've ever been through. In addition, I was treated very nonchalantly."[813] In her account, the twenty-four-year-old emphasized a familiar abortion script from the 1980s, that of *pain*. Ekstrand did not write this piece, but this trial participant narrative mirrors Ekstrand's experience of prostaglandins. The woman found the effects of the pill intolerable, as had Ekstrand, and she did not like how she was treated by the physicians in charge of the study, similarly to Ekstrand.

The reporting was comparable to the stories from the 1980s and for a few women who had taken the drug it was not an issue to reveal their identifies and faces in newspaper coverage. As illustrated in chapter five, in the 1970s not all women chose to show their faces. But by the early 1980s, a handful of trial participants appeared on television and in the newspaper. The shame or fear that seemed to be depicted in earlier coverage of abortion, with women covering their faces or only allowing the back of their heads to be filmed, was not as prevalent in these accounts.[814]

Like the prostaglandin abortion pill coverage, the reports of the uses of RU486 were split. Whereas some women recommended using an abortion pill, others found it an intolerable method. If some people felt the method was simple, they still painted abortion itself as a difficult decision. Some, like Ekstrand, took issue with the idea that this new method was simple at all. Rather, it was a method that was seen to simplify the lives of physicians and not the lives of women needing an abortion. These were all narratives that had existed in earlier reports on prostaglandin use. RU486 was not introducing new understandings of abortion to the Swedish public.

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[810] Magdalena Kvarning, "96 procent av piller-aborterna lyckas," *Aftonbladet*, 27-11-1991.
[811] Niklas Bodell, "Abortpillren det värsta jag varit med om," *Aftonbladet*, 4-12-1991.
[812] Ibid.
[813] Ibid.
[814] Magasinet – SVT, TV2 09-12-1980.

Despite the amount of newspaper exposure, there was still confusion over what RU486 did. This could be attributed to the shifting status of the drug and how many different ways it was tested and described. Not only were the researchers painting pictures of an ambiguous abortion technology, there were also other reproductive technologies emerging on the Swedish market. In 1993, the National Board of Health and Welfare approved the Yuzpe method for use as morning-after pills.[815] While morning-after pills had been used in other parts of the world as early as the 1960s, Sweden did not adopt such a technology until the 1990s.[816] There were then, among other methods, contraceptive pills, abortion pills, and morning-after pills available for use. This could cause confusion for the public. In 1993, for example, a local Gothenburg paper reported on attitudes to "the new abortion pill" which conflated morning-after pills with abortion pills.[817]

This overview of the media treatment of RU486 has shown that some of the abortion scripts that were made in the earlier Swedish research networks persisted into the 1990s. Different components of this new abortion pill method were configured into abortion scripts of *difficulty* and *pain*. Abortion was still depicted as a difficult decision to make, and the pill was shown to invoke painful side effects. In addition, the feminist critique which had been part of the *pain* abortion script in the 1980s, such as the method being unnecessary in the face of other options, were included here. Some of the components of the abortion script of *menstruation restoration*, such as simplicity and ease, stood alone in the 1990s. While users and providers described how much easier and preferable this method was, they did not equate RU486 with menstruating.

Notably, the abortion script of *family planning applicability* was not mobilized by researchers and government representatives in the same way as previous decades. In her examination of the contraceptive implant, Norplant, Elizabeth Watkins saw a similar trend. By the 1990s, Watkins showed that the rhetoric of overpopulation had been replaced with the "language of individual

[815] Kristina Gemzell Danielsson, Marc Bygdeman and L. Marions, "Kunskap om 'dagen efter-piller' bör spridas till alla kvinnor," *Läkartidningen* 97/50 (2000); Antikonception-bakgrundsdokumentation, Information från Läkemedelsverket 2:2014, https://www.lakemedelsverket.se/48e088/globalassets/dokument/behandling-och-forskrivning/behandlingsrekommendationer/bakgrundsdokument/bakgrundsdokumentation-antikonception.pdf (accessed 12 November 2020).

[816] Prescott, *The Morning After*, 21; Gabriella Falk, Lars Falk, Ulf Hanson and Ian Milsom, "Young Women Requesting Emergency Contraception are, Despite Contraceptive Counseling, A High Risk Group for New Unintended Pregnancies" *Contraception* 64/1 (2001).

[817] Stefan Gadd, "Unga kvinnor negativa till det nya abortpillret," *I Dag*, 12-05-1993. In 1993, *I Dag* reported: "young women negative to the new abortion pill". Skandinavisk opinion AB had conducted a survey to get an idea of the reactions to the technology by asking 1008 young men and women about the issue. In this survey they also seemed to conflate the morning-after pill with the abortion pill. The survey question stated that new "p-piller" (contraceptive pills) or "abortion pills" were now available for women to take the day following sexual intercourse. The survey asked, "was it right or wrong to stop pregnancy with such pills?"

choice."[818] In the Swedish reception of RU486, overpopulation, and thus family planning applicability, also ceased to be a productive framework from which to pitch the product.

As with the years of prostaglandin work, part of RU486's development played out in the media. Swedish newspapers emphasized Sweden's role in this new drug's success, and the researchers themselves tried to take control of the narrative around the technology in the press, and in Baulieu's case in a book. It was an abortion pill, an unpregnancy pill, a contragestion, and perhaps it could also become a new type of contraceptive pill. Even when entering the market, the drug remained ambiguous and in flux—it was a new type of technology and an old one. It had finished going through clinical trials and was simultaneously entering into new ones.

Conclusion

The "Swedish Abortion Pill" and the "French Abortion Pill" are both included in the abortion pill we use today. They were constructed by researchers and journalists alike and yet fail to capture the complex border crossings which occurred in developing an abortion pill. The years of work in Sweden helped to produce laws, research facilities, workshops, and researchers, among other things, that led to prostaglandins' integration with RU486. The work in Sweden was also deeply entwined with research occurring elsewhere; in both the case of F6103 and prostaglandins. F6103 was tested by Ferrosan in other countries, and prostaglandin work was part of an intricate network of international researchers and trial participants. While this book does not closely study the life of RU486, it too, was an amalgamation of many actors. In these ways, the abortion pill is not a national object.

This chapter has illustrated how the decades of abortion pill research in Sweden contributed to the success of RU486. I have also argued that this history of abortion pill research in Sweden helps to contextualize the early adoption of RU486. Sweden's own history of testing abortion pills had mobilized state and professional support for these technologies in the decades leading up to the 1990s. Key actors in bringing RU486 to Sweden, such as the Medical Products Agency and the Swedish Gynecology Union, were accustomed to abortion pill technologies. Examining RU486 as a continuation of ongoing abortion pill discussions and practices in Sweden helps to pull back the curtain on any simple progressive centred explanations that lean on depictions of Sweden as a gender equal nation. This dissertation has illustrated that Sweden had decades of work behind it, in terms of normalizing abortion pills, before RU486 was a marketable possibility.

[818] Watkins, "From Breakthrough to Bust," 88.

The depictions of abortion pill technologies, by researchers, professionals, laypeople, and trial participants, were also familiar to the Swedish public. Many of the issues that appeared in discussions of RU486: such as the ontological status of abortion, the border between contraceptives and abortion, the psychological considerations, the feminist criticism, and trial participant and researcher representation in the media were recycled from the previous decades. Some of the abortion scripts that had been constructed by actors in the 1960s, 1970s, and 1980s were being made in these new networks.

The abortion scripts of *difficulty* and *pain* were still being made around RU486. There were many familiar components being configured, the technology was made for early pregnancy, as something different from abortion, as serious, as simple, and as private. The abortion scripts of *menstruation restoration* and *family planning applicability*, however, subsided. Further work on what impact this may have had on abortion debates and acceptance is needed. But it is important to acknowledge that these debates were not new to the 1990s as it helps to unpack impressions of Sweden as an easy, progressive, modern country and shows what work went into the adoption of new abortion technologies.

8. Epilogue: The Impact of a Technology in Flux

In June 1993, *Time* magazine put an abortion pill on the front cover. A woman held up a white, circular pill between her thumb and forefinger, artistically covering one of her eyes. Across her face were the words: The Pill That Changes Everything.[819] The magazine speculated that abortion pills could take an unpleasant and difficult procedure, one which was invasive and sometimes included "ugly confrontation(s) with right-to-life forces lying in wait outside the clinic door," and make it a private matter.[820] The magazine cover suggests the emergence of something new—the beginning of an abortion pill era. To the contrary, this dissertation has shown that similar reporting on medical abortion had occurred in Sweden for decades, with coverage in international media as well. From the 1960s, abortion pills have been imagined as a way to change abortion. In 1970, when the media reported on Bygdeman's research at a stage when he could only hold up a vial of prostaglandins, there was still excitement around the idea of a pill. The technology finally left development stages in the 1990s and *Time* magazine was not wrong in its assessment, although the impact of abortion pills still varies.

Today, RU486, also referred to as Mifepristone, is generally known as the abortion pill. It is used in combination with a prostaglandin analogue, commonly misoprostol. By 1992, France, Great Britain, and Sweden saw it permitted for their national markets, in 2000 the United States approved it, and in 2017 it became available in Canada.[821] In many countries it is still not approved as an abortion method.

RU486 continues to be a treatment that requires several pills and potentially several visits with a medical professional, depending on the national context.[822] Today in Sweden, medical abortion is the most common method before the ninth week of pregnancy. If you are in need of an abortion you can call an abortion or gynecology reception and book an appointment to determine how many weeks you have been pregnant. At this meeting you can also discuss the

[819] *Time*, 141/24, 14-06-1993, cover.
[820] Jill Smolowe, "Abortion Pill: New, Improved and Ready for Battle," *Time*, 14-06-1993.
[821] Campbell, "Making Sense of the Abortion Pill"; Clarke and Montini, "The Many Faces of RU486".
[822] In 2018, for instance, England took steps to allow the use of the pills in the home.: Yonette Joseph, "England to Allow Women to Take Early Abortion Pill at Home," *The New York Times*, 25-08-2018.

different methods that will work for you. The length of your pregnancy determines the methods you will be offered, and you will also be asked whether you would like to see a counsellor or a psychologist.[823]

If you choose to have a medical abortion you will be given pills to start the abortion. A midwife will administrate the first dose at the hospital. In most cases, you will be given a paper bag with the second dose, painkillers, and a schedule for administrating at home. Since 2004, people have been permitted to take the second dose at home as long as they have the company of another adult.[824] While the physical process varies, most patients require the second dose, which is a prostaglandin compound, to begin bleeding. This is usually administrated via the vagina and causes uterine contractions. You will be told to expect heavy bleeding and pain similar but more intense than menstrual pains, roughly two to eight hours after taking the second dose. You may bleed for several weeks following the abortion. A few weeks later you will take a pregnancy test to confirm that the process worked. If it is positive you are told to get in touch with a midwife.

Medical abortions are framed by the Swedish healthcare system as being easier on your body and allowing more flexibility than surgical methods.[825] You do not need to wait for a surgery time, and you are able to use this method early in your pregnancy. According to the National Board of Health and Welfare, in recent years between 35,000 and 38,000 abortions have been conducted annually, and the most common abortion method used is the medical method. They calculated that in 2019, ninety-four percent of all abortions were performed medically.[826] Over the years, the use of what the National Board of Health and Welfare call "home abortions" has also risen. In 2019, eighty-one percent of medical abortions were done in the home.[827] Abortion has largely transformed from a hospital procedure to one done in the privacy of people's homes. The introduction of abortion pills into medical systems altered abortion practices, and not only in Sweden.

In Norway, for instance, it has also been reported that medical abortions have largely replaced surgical methods.[828] This has been construed as both positive and negative. On the one hand, women can have abortions earlier and

[823] "Abort," 1177 Vårdguiden, https://www.1177.se/barn--gravid/graviditet/avbruten-graviditet/abort/ (accessed 12 December 2020).
[824] Lina Brolin and Maria Petersson, "Women's Experiences of Having an Early Medical Abortion at Home," Uppsats (Barnmorskeprogrammet, Uppsala universitet, 2013); "Statistik om aborter 2019," Socialstyrelsen, https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/statistik/2020-6-6806.pdf (accessed 12 December 2020), 4.
[825] "Statistik om aborter 2019," Socialstyrelsen, https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/statistik/2020-6-6806.pdf, (accessed 12 December 2020), 4.
[826] Ibid.
[827] Ibid.
[828] Kevin Oppegaard, Margaret Sparrow, Paul Hyland, and Francisca Garcia, "What if Medical Abortion Becomes the Main or Only Method of First-trimester Abortion? A Roundtable of Views," *Contraception* 97 (2018), 82.

the queues for this particular type of abortion are much shorter. On the other hand, there are reports that the number of doctors skilled and able to perform certain types of surgical abortions has decreased.[829] For those who want a surgical abortion it is now more difficult to get one.

However, it may also be the case that medical abortion helps people acquire abortions in restrictive abortion environments. When commenting on the Brazilian medical system, Anibal Faundes wrote that in comparison to conducting surgical abortions physicians are sometimes "more willing to prescribe medical abortion pills, which maintains a certain physical distance between themselves and the evacuation of the uterus."[830] In other instances, activists have mobilized around medical abortion as a means to create better abortion access. Telephone helplines run by feminist activists exist in Africa, Europe, Asia, and Latin America, and other initiatives are available online.[831] If you cannot access abortion through your healthcare provider you may still be able to be sent abortion pills in the post. Introducing medical abortion has changed medical systems around the world, with what has been considered both positive and negative effects.

Perhaps unsurprisingly, anti-abortion groups continued to take grievance with the technology. In 2000, the *New York Times* covered the FDA's approval of RU486 with an article titled, "Joy and Outrage".[832] They reported that the chairman of the House Republican Conference, J.C. Watts Jr., had said, "Do-it-yourself abortion has no place in a civilized society."[833] The pill was still perceived to be killing fetuses and, in an additional horror, it seemed to be making abortion easier. For some people, abortion should never be an easy procedure or choice.

While there are feminist groups who responded negatively to RU486 and prostaglandin, there are still feminists who look positively on the drug, especially those sending the technology through the post, such as Women-on-Web.[834] The drugs are considered to be much preferred and safer in comparison to other illegal abortion options.[835] It has also been seen as a way to reach out and help trans, non-binary, genderqueer, and gender non-conforming people access abortion.[836] For example, trans persons are still mistreated by medical institutions and face broad discrimination, making legal abortion access unlikely in some national contexts.[837] While abortion pills were historically

[829] Ibid.
[830] Ibid. 84.
[831] Kinga Jelinska and Susan Yanow, "Putting Pills into Women's Hands: Realizing the Full Potential of Medical Abortion," *Contraception* 97 (2018), 87.
[832] Robin Toner, "Joy and Outrage," *The New York Times*, 29-09-2000.
[833] Ibid.
[834] "About Women on Web," womenonweb.org, https://www.womenonweb.org/en/page/521/about-women-on-web (accessed 12 December 2020).
[835] Ibid.
[836] Ibid.
[837] Barbara Sutton and Elizabeth Borland, "Queering Abortion Rights: Notes from Argentina," *Culture, Health & Sexuality* 20/12 (2018): 1380; Alex Müller, "Beyond 'Invisibility':

designed with women in mind, the contemporary uses of them show activists positioning this technology as going beyond the gender-binary.

Then there are those that see it positively and skeptically. In a 2000 issue of the American magazine *Newsweek*, Anna Quindlen discussed RU486. In her piece, Quindlen focused on the difficulties surrounding abortion and how RU486 would not fix all these issues. While it could increase bodily autonomy for some, "it is unlikely to be revolutionary in the way either its friends or its foes suggest."[838] Her overall impression, however, was that it would make legal abortion safer. She wrote, "that is a good thing for many women. Not potential women, not theoretical women, but real live women with homes, husbands, gardens, families, friends, children, jobs and consciences. They have waited in vain for the ideal, but in the meantime they do the best they can under difficult circumstances. You don't know them. You don't know what's in their hearts or their minds or their wombs. And, frankly, it's none of your business. The biggest mirage of all is that it is."[839] For Quindlen, RU486 would not be suitable for everyone and it did not change the hostile abortion climate at some clinics, but it could make abortion easier for some. Most importantly, the issue related back to choice and to privacy.

Abortion pills are used in different ways in different medical systems and nations and continue to be a contentious technology. As Sally Sheldon outlined in her work with medical abortion in the UK, abortion pills challenge ideas of "abortion as a specialized medical event, with the doctor's role necessarily decentered."[840] In this way, Sheldon noted that the difference between safe and unsafe abortions collapsed, with illegal not necessarily meaning unsafe. In 2020, when a pandemic has decimated many medical systems worldwide, there has been increased momentum in some countries to make abortion pills widely available.[841] The draw of accessing abortion without entering public spaces in ways which could spread coronavirus, holds appeal.[842] New contexts will create new ways that abortion pills can be mobilized as good or detrimental and new abortion scripts will emerge. While the technology has been available since the 1990s, the change which *Time* magazine heralded has come in staggered stages.

Queer Intelligibility and Symbolic Annihilation in Healthcare," *Culture, Health & Sexuality* 20/1 (2018).

[838] Anna Quindlen, "RU-486 and the Right to Choose," *Newsweek*, 136/15, 10-09-2000.

[839] Ibid.

[840] Sally Sheldon, "The Medical Framework and Early Medical Abortion in the U.K.: How Can a State Control Swallowing?" in *Abortion Law in Transnational Perspective: Cases and Controversies*, eds. Rebecca Cook, Joanna Erdman, and Bernard Dickens (University of Pennsylvania Press, 2014), 193.

[841] Pam Belleck, "Abortion by Telemedicine: A Growing Option as Access to Clinics Wanes," *The New York Times,* 28-04-2020; Patrick Adams, "Amid Covid-19, A Call for M.D.s to Mail the Abortion Pill," *The New York Times,* 12-05-2020; Alex Hern, "UK Abortion Law Briefly Changes During Covid-19 Outbreak," *The Guardian,* 24-03-2020.

[842] Melissa Jeltsen, "How Politics and Bureaucracy Halted the Promise of the Abortion Pill," *Huffpost,* 28-09-2020.

While the branding of these technologies as an "abortion pill" suggests simplicity and ease, the effects of this type of technology are varied, complicated, and can disrupt abortion systems in many ways. The availability of the technology around the globe differs dramatically. In some countries it is included in their medical systems, and in others it is not. Some people acquire it without problem while others subversively seek it out. It is a reproductive technology which has the power to disrupt and shift practices surrounding abortion. There are many implicated actors, and the consequences of these shifts can change people's lives. Abortion pills have tangibly changed medical practices in Sweden and abroad. The abortion pill delivered on many of its promises and remains a technology in flux.

9. Conclusion

Throughout the years of abortion pill research, reporters have included photographs of researchers holding out abortion pills as a gift to the world. In this story alone, the iconic gesture spans three decades. First by Bygdeman with a vial in 1970 and then a white pill in 1976, then by Étienne-Émile Baulieu, who held a handful of pills on a book cover in 1991, and finally by *Time Magazine* in 1993, who had a woman hold a pill over her eye. In this last instance, in a nod to self-empowerment, the male doctors had been replaced with a woman, but this pill was not an unproblematic gift.

This dissertation has investigated the development of medical abortion in Sweden from the 1960s until the 1990s, focusing on the co-production of abortion, technology, gender, and values. Throughout the chapters, I have traced and studied the networks which sustained this reproductive research, emphasizing the ways abortion was enacted by different actors over time. The approach has been to examine the practices in the networks in order to show the values being made in the development of medical abortion. Each chapter has followed clinical trials, shedding light on the varied ways abortion, reproduction, gender, and technology were enacted in the network. In studying the making of a reproductive technology, I followed a process which led to the creation of abortion pills that are still in use today and play an important role in reproductive healthcare worldwide. Far from being a simple gift, abortion pills were the result of decades of practical work, under a variety of conditions, and were intended to be used in a range of ways, not always with the objective of individual empowerment.

In studying the development of abortion pills, this book has contributed to the social study of reproductive technology, adding not only a detailed account of a technology in the making, but also expanding discussions on reproductive boundaries, the management of abortion, and family planning initiatives. In addition, I have contributed to scholarship which has complicated understandings of the Swedish welfare state's reproduction management and I have added a fresh perspective to the historiography of RU486. The dissertation has thereby provided new results and historical knowledge to various fields, which I will further expand on in the remainder of this chapter.

Three decades of abortion scripts

To study how the research networks co-produced values, I introduced the concept of abortion scripts. Abortion scripts are dominant understandings of abortion, which are produced in the ways abortion is managed, done, and addressed. This concept brought together existing understandings of abortion and technological development, showing the ways abortion pill research interacted with existing understandings of abortion. While the dissertation focused on medical abortion research networks, these networks were not isolated from previous abortion scripts.

Using the concept of abortion script, I highlighted how actors in the research networks configured abortion providers, access, users, sites, and technology. These individual configurations were components of abortion scripts. Abortion scripts were made by specific networks and articulated and modified by actors in trial applications, parliament debates, newspaper/tv interviews, conferences, and in research papers. As abortion scripts often contained configurations of users, or how the technology should be used, this permitted an examination of how reproduction, gender, and technology were co-produced in the networks. By following the many scripts, the dissertation has traced how this research was dependent on previous understandings and still produced new ways of valuing abortion.

The time frame of the study permitted an examination of how these abortion scripts emerged, changed, or stayed the same over several decades. Based on previous historical research, in the second chapter I identified abortion scripts which were made in the decades leading up to abortion pill research. This was done to show how these existing scripts impacted the research and to further illustrate how the research would contribute to changes in abortion values. I outlined abortion scripts of *state service, specific conditions*, and *last resort.* The script of *state service* reflected how legal abortion was monitored and regulated by the Swedish state, the bureaucracy around the procedure, the state institutions and employees which were involved in abortion administration, and the surgical and hospital tools that were used to perform the procedure. The script of *specific conditions* showed the terms under which abortion was granted, which circumstances were considered worthy, the ways laws governed the procedure, and how the personal life of patients was an important part of abortion regulation. The script of *last resort* concerned the components that slowed down the process of getting an abortion, such as the queue system and the invasive interviews, along with the rhetoric around motherhood and the expansion of other welfare services.

In some ways, these three abortion scripts overlapped. For example, many components which made abortion into a state service were also a part of that which made abortion into a procedure only administrated under specific conditions: such as Swedish Abortion Laws. However, the scripts could also stand apart as they enacted different values. The script of *state service* showed how abortion was thought to be a service which should be made available and

standardized, the script of *specific conditions* showed how abortion was a merit-based amenity, while the script of *last resort* showed how abortion was seen as a procedure that no one could want if given alternative solutions. After identifying dominant abortion scripts, the following chapters demonstrated how abortion pill networks were impacted by these scripts and simultaneously made or contributed to new ones.

The first trials in the mid-1960s illustrated how the existing abortion scripts impacted the clinical trial practices. Due to the scripts of *state service, specific conditions*, and *last resort* abortions were slowed down, only available for select women, and done through hospitals with state oversight. However, the research networks of F6103 began to make components for new abortion scripts. Through the trials of F6103, abortion was made to be a procedure for early pregnancy and one that should be done quickly, which would contribute to new abortions scripts, such as *menstruation restoration* and *family planning applicability*. These components were at odds with several earlier abortion script components, such as the queue and evaluation system.

Following the trials of F6103 showed the complexity of the research network and the different ways abortion scripts were co-produced. The F6103 researchers negotiated with state and government bodies to include other actors, such as a different set of trial participants, in the network. This resulted in parliamentary deliberations over the research which would co-produce specific abortion scripts. In the mid-1960s, there was no consensus on when pregnancy began, or how the technology would work, and the law on the interruption of pregnancy needed to be interpreted. Negotiations over these matters resulted in two new abortion scripts: that of *family planning applicability* and *menstruation restoration*. The script of *family planning applicability* reflected how abortion was being configured as an exportable procedure and as a way to curb overpopulation. The materiality of an abortion pill was also configured to be helpful for understaffed hospitals and a good tool for healthcare workers in developing countries. The script of *menstruation restoration* showed how abortion pills were being made to occupy a reproductive space of early pregnancy. In these networks, early pregnancy was made to be a time when abortion pills restored a missed menstruation, rather than induced an abortion. Abortion was broken into different types, with abortion pills ushering in the earliest abortion possible.

These two new abortion scripts show a change in how abortion was valued. Abortion went from being mainly considered a state issue, as a last resort, and only under specific conditions, to being a useful tool for family planning abroad and as way to address a missed menstruation. The new scripts show the benefits of performing abortions quickly, the appeal of menstruation restoration as opposed to abortion, and the international political use of reproductive technologies. At the same time, these scripts illustrate how technology, gender, and reproduction were made in the networks. The technology was constructed as working in an ambiguous manner, women were seen as vulnerable (in both the ways that they required reproductive managing and in

how the abortion system treated them), and reproduction was depicted as negotiable: the boundary between anti-conception and anti-development was uncertain.

The abortion scripts which were created in the mid-1960s persisted into the 1970s. The abortion scripts of *family planning applicability* and *menstruation restoration* continued to be enacted by researchers, funding bodies, and government organizations. The inclusion of the World Health Organization (WHO) in the research network also re-emphasized the *family planning applicability* script. Expanding the network through the WHO created more clinical trial infrastructure. There were more actors in the network and consequently more resources. This WHO infrastructure further contributed to the *family planning applicability* script as actors stressed the importance of creating reproductive technologies which could be used in developing countries. In Sweden, prostaglandin research was also presented in television and newspapers as a part of larger efforts to solve overpopulation problems, a key component of the *family planning applicability* script.

During the 1970s, various actors also continued to create *menstruation restoration* scripts. The researchers emphasized that this new technology was a less emotional abortion method than surgery as they saw it as "starting a missed menstruation." The process of starting a missed menstruation was positioned as less traumatic than surgical abortion. In the context of prostaglandin research, creating an abortion method for early pregnancy was still enacted as beneficial. The abortion script of *menstruation restoration*, first put forward in the F6103 networks, persisted.

By the 1980s, actors continued to enact existing scripts, abandoned a key script, and also added to them. At this point, the abortion script of *family planning applicability* was losing traction. The overpopulation aspect of this script was not enacted as often. When presenting their work and findings in the press, actors did not emphasize this use of the technology to the same extent as in the 1960s and the 1970s.

Two new abortion scripts: *difficulty* and *pain*, also emerged. These scripts contradicted certain components of the *menstruation restoration* script first raised in the 1960s. By the 1980s, components of earlier scripts, such as simplicity of use, were used to question the seriousness of an abortion pill technology. The script of *difficulty* reflected an emphasis in the prostaglandin networks that abortion pills did not make choosing to abort any easier. Abortion was enacted as a procedure with significant consequences regardless of the technology used, but the abortion pill at least offered the chance to experience abortion at home and with the involvement of one's husband. The materiality of the pill and the potential to move abortions into the home was articulated as a way to help women deal with the difficulty of abortions. Actors stressed how husbands could support their wives in the abortion process at home, and consequently tied in heterosexual family imagery.

During the same time frame, some trial participants and implicated actors made an abortion script of *pain*. The side effects that some trial participants experienced, such as extensive bleeding, vomiting, and uterine contractions, were articulated as painful and in some cases as unnecessary. The increasing presence of trial participants in the press created an abortion script which contradicted components of the script of *menstruation restoration*, such as ease of use and the manner in which abortion pills were supposed to minimize the act of aborting. Both individuals who liked and disliked the abortion method insisted that they underwent abortions and not menstruation restoration. The script of *pain* highlighted how abortion pills were also configured as difficult to use and experience.

While various actors negotiated the terms and effects of the technology, a widespread understanding of abortion as emotionally difficult continued to impact the clinical trials. I argue that this understanding was the result of an abortion script which existed before the research began, that of *last resort,* and was visible in the abortion script of *difficulty*. The perception of abortion as a difficult decision to make underlined discussions of abortion scripts from the 1960s into the 1990s. While abortion pill development made new abortion scripts and subsequently new ways of valuing abortion, it could not shake components of the abortion script of *last resort*. This script had been made in networks prior to abortion pill research, in the way, for instance, that before 1975, bureaucracy purposefully slowed down the administration of abortions. This was done, according to researchers and physicians, to give women the chance to change their minds and in some ways components of this script remained in the networks. While abortion pill researchers fought against queues and the resulting late terms abortions, they still emphasized how difficult it was to make the decision to abort.

In identifying dominant abortion scripts, I have examined how the making of a technology co-produced abortion values. While other studies have shown how abortion management changed in Sweden, this study has focused on how reproductive research impacted the management and understandings of abortion. In this way, technological innovation becomes an important element to consider in how we value abortion. Through these clinical trials, abortion was made to be done early in pregnancy, similar to menstruation restoration, important to foreign aid, an individual choice for women, a responsible family planning method for heterosexual couples, a procedure that should occur in the privacy of people's homes, unnecessarily taxing on women, and a difficult decision. Developing a new abortion method changed and multiplied the ways abortion was understood, while also building off of cultural perceptions of abortion as an inherently difficult decision.

Sweden, abortion pills, and reproduction management

In enabling an examination of how abortion and values were co-produced, abortion scripts were also a way to contribute to historical work which has complicated depictions of the Swedish welfare state in the 20th century. Scholars have examined how reproduction management has been a part of various welfare state initiatives—such as the sterilization programs, the introduction of sexual education in public schools, and the family planning missions abroad. Tensions between enabling individuals and controlling populations have been highlighted in several instances. While the state's involvement with reproduction has been examined by historians, the use of reproductive technologies during these decades has not been a central focus. Studying abortion pill research, and how this contributed to abortion scripts, brings new actors and influences to mid-20th-century reproduction management.

Previous research has shown that policies were not the result of one type of attitude towards sex, but rather an entanglement of many different actors and initiatives, sometimes brought into the public arena despite intense controversy. This dissertation adds abortion pill research and technological developments to these previous entanglements. The networks consisted of familiar actors, such as the Swedish International Development Cooperation Agency (SIDA), but also expanded to include new state actors, such as the general director of the National Swedish Board of Health, individual researchers, and importantly, trial participants. In this way, the dissertation has mapped out networks which have introduced new experts and laypeople into 20th-century reproduction management.

Abortion pill research was initiated by a pharmaceutical company and researchers and was supported by the Swedish state. While abortion was a contentious topic, with notable doctors and public figures historically taking stances against it, creating new abortion technologies was also increasingly appealing to the state. On the one hand, advocating for and developing an abortion pill was not done without issue. From the first series of clinical trials with F6103, researchers and the pharmaceutical company Ferrosan enacted the technology as something suited for early pregnancy, an m-pill, instead of an abortion pill, attempting to sidestep the controversy of abortion. But on the other hand, researchers, government employees, and parliament members also consented that abortion pills could improve health care systems around the world.

This research endeavour relied on state bureaucracy, support, and funding. Over the years, the State's Pharmaceutical Laboratory (SPL), SIDA, the parliament, and the government, all worked together to make abortion pill research possible. While earlier research has examined reproductive research in Sweden, this study clearly shows how different expert groups worked together to make reproductive research possible in the 1960s and 1970s. For example, funding from family planning was used to create reproductive research infrastructure, researchers sought collaborations through institutes like the Mental

Health Bureau, and the Swedish parliament made a notable legal amendment which supported abortion pill clinical trials.

On the other end of the spectrum, this dissertation has emphasized the role of laypeople in making this technological development possible. The success of the clinical trials rested on the involvement of women in early pregnancy, and the conditions of the trial participants' involvement varied over the years. This was not an instance of women initiating reproductive research, such as with Margaret Sanger and Catherine McCormick and the contraceptive pill, nor was it a big issue for women's movements in Sweden. But large numbers of women participated in these trials, showing how experts intersected with and were dependent on laypeople.

As shown through the abortion scripts, the involvement of different actors was not necessarily tied to progressive sex politics. Developing medical abortion made many values, but in the 1960s broadly supporting a women's right to choose was not one them. In the early years, the state, for example, was mainly interested in creating research and family planning status abroad and improving welfare services in Sweden. The persistent construction of abortion as a difficult decision for women is also an example of a sexual politic which attributes a specific quality to all women. Medical abortion is a technology with a large potential impact for women and its development brought familiar tensions of individual autonomy versus population control, as well as gender essentialisms.

Simultaneously, abortion pill research contributed to more liberalized depictions of abortion. The view of abortion as a procedure for early pregnancy, for example, departed from earlier beliefs that women did not truly know whether they wanted to abort or not. At the beginning of the research, women were treated as vulnerable subjects in the abortion system. However, over the course of developing medical abortion, researchers shifted from enacting women as vulnerable to enacting systems as creating vulnerabilities. For instance, there was increased interest in how the queue system and delayed abortion services impacted women.

This dissertation thus contributes to existing literature which has investigated the welfare state's role in reproduction management. The research networks which came together to develop an abortion pill show classically powerful actors, such as government bodies, pharmaceutical industries, researchers, and lawyers coming together to ensure its success. In this way, the study brings together reproductive research, family planning, and abortion in a manner which adds to the many actors who were involved in changing abortion politics in Sweden during the 1960s and 1970s. I have shown that to understand the state's positions on abortion, an examination of reproductive research is needed.

Centralizing Sweden in the research network

This dissertation has also shown the extent of Sweden's role in international reproductive research, pivoting away from the dominant American or British contexts. Following medical abortion in Sweden has demonstrated both the specifics of Sweden as a research nation and further illustrates the ways research networks transgress national borders. While Sweden has been mentioned in other works on family planning and reproductive research it is usually a peripheral account. These offhand descriptions can be seen to add to existing associations of the Nordic countries, and Sweden in particular, as leading the way in various progressive topics. In centering on Sweden, this dissertation both challenges national claims of technological innovation, while also showing the importance of the state to research projects and clinical trials.

As other scholars have demonstrated, by the 1970s reproductive research took on international aspirations and the WHO had a significant impact on clinical trials. Reproductive research has been shown to acquire a variety of funding over the 20th century, with state, industry, and non-government organizations occupying different roles depending on time and place. This dissertation has offered an opportunity to closely examine state involvement in reproductive research over several decades, illustrating an assortment of ways in which a state can support research projects. While funding came from, for example, the pharmaceutical industry, American philanthropy foundations, and Swedish government organizations, the state's earlier and continuous work with abortion was an important part of the research network.

Throughout the years of clinical testing, Sweden offered legal abortions and contraceptive counselling services, with the passing of the 1975 Abortion Act further increasing their involvement. As shown in chapter five, there was an incentive to offer safe and quick abortion procedures, which would both satisfy patients and take pressure off of the medical system. The Swedish state also amended the laws in the 1960s to allow further testing, opening up spaces for more research. The legal changes which F6103 motivated made Sweden an attractive research location internationally. In this way the abortion script of *family planning applicability* helped to make other reproductive research possible, as the establishment of the first WHO Research and Training Centre on Human Reproduction in Stockholm shows. Research conditions were favourable for reproductive research, in no small part due to the Swedish state's involvement with abortion pill research, contraceptives, and family planning.

The clinical testing circumstances in Sweden were also relevant to the country's appeal as an international research hub. Broadly speaking, the trend went from small scale clinical trials of ten to fifty people in the mid-1960s, to large, multicentre international trials in the 1970s and 1980s. While the American Food and Drug Agency (FDA) and the National Institutes of Health (NIH) influenced clinical trial culture in Sweden, the country still had its own regulatory system which was seen as advantageous by American actors.

Sweden was considered legally compatible with reproductive research and a nation with accommodating clinical trial timelines.

The emergence of new guidelines and committees in the late 1960s and early 1970s, such as the ethics committees present at research hospitals, impacted the clinical trials but also made funding from institutions like the Ford Foundation possible. In comparison with the mid-1960s, there was increased transparency, both to participants and to state bodies. This situated Sweden favourably with respect with clinical testing on a global scale and also allowed an examination of the power dynamics between researchers and trial participants. This not only situated Sweden's clinical testing in comparison to global trends, but also allowed an examination of the power dynamics between the researchers and the trial participants.

The relationship between the researchers and the trial participants was of particular interest as this has been shown to be both exploitative and cooperative in other studies of reproductive technologies. In the trials of F6103, the participants were being evaluated to determine their abortion eligibility and this alters the manner in which one can interpret their participation. As I have argued, the legal abortion system left space for exploitative clinical trial conditions. The terms of entering clinical trials changed dramatically from the mid-1960s to the mid-1970s, when Sweden passed the Abortion Act, allowing abortion on demand until the eighteenth week of pregnancy. After the passing of this law, women could initiate their own participation in the trials, giving them the power to dictate whether this was the kind of abortion they wanted.

The specifics of Sweden as a research environment impacted the development of abortion pills. In studying clinical trials, this dissertation has mapped changing trial standards, the specific intersection of abortion law and clinical trial surveillance, the inclusion and effect of the WHO on trials, and the increasing visibility and voice of clinical trial participants. Developing medical abortion involved a wide research network of international actors and was not one nation's innovation. Nevertheless, the specifics of Sweden's state model, that there were abortion services, support for reproductive research, emergent ethical regulations, and a faith in technological innovation and experts, was an important part of developing the technology.

Rewriting the story of medical abortion

Finally, this dissertation intervenes in traditional accounts of abortion pill development. While there have not been comprehensive historical studies of RU486, there are still narratives about the compound which are upheld in popular accounts of reproductive technologies. The concept of a "French abortion pill" has appeared in newspapers, activist publications, and in scientific

journals.[843] The technology has also been associated with progressive ideals, for example, the title of Linda Gordon's book *The Moral Property of Women: A History of Birth Control Politics*, invokes the refrain of RU486 as being "the moral property of women."

In Baulieu's book on the subject, *The "Abortion Pill": The Most Controversial Medical Discovery of Our Time—The French Unpregnancy Pill—As Described by the Scientists Who Created It*, he reflected on the issue of crediting the creation of new technologies. He said, "Years after developing RU-486, it still bothers me to be identified as 'the' man behind the abortion pill. Not only have several people contributed to its design, I would also like it to be clear that I do research in other fields."[844] The book, published in 1991, features a large image of Baulieu holding out his hand to show three pills.

In this book, Baulieu was engaged in various activities at once. He was pitching himself as the creator of the *Abortion Pill* and lamenting over this image. He recounted his journey to develop RU486 and included details of how collaborative this endeavour was, while simultaneously feeding into the narrative of a brilliant singular scientist. An in-depth historical account of RU486 would help to address what Baulieu struggled with in his book, but this dissertation also complicates any narrative of one country, or one main researcher, as the inventor of abortion pills.

Today, the WHO recommends the use of mifepristone and misoprostol to induce medical abortion.[845] Mifepristone is otherwise known as RU486, while Misoprostal is a prostaglandin analogue.[846] As this dissertation has shown, a combination of RU486 and prostaglandin compounds was deemed an effective abortion method by the researchers working with medical abortion. The complex network of abortion pill research in Sweden, stretching back to the mid-1960s, impacted the possibilities for prostaglandin research. The actors and practices in the network were varied and intensive: laws were changed, research centres were established, and large-scale clinical trials were run through the WHO. Mapping these networks has shown the extent of work that went into making a technology now in use today, and it was far from one national project.

This dissertation has also complicated narratives, and images, which emphasize the "moral property of women," aspect of the technology. For instance, some have viewed the way RU486 has moved the procedure from the hospital into the home as empowering for pregnant people.[847] However, this

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[843] D. DiPierri, "RU 486, Mifepristone: A Review of a Controversial Drug," *Nurse Pract* 19/6 (1994); T. Lewin, "F.D.A Approval Sought for French Abortion Pill," *The New York Times*, 01-04- 1996; Klein and Dumble, "RU 486/Prostaglandin Threats to Safe Pregnancy Termination"; Joffe and Weitz, "Normalizing the Exceptional," 2353.
[844] Baulieu and Rosenblum, *The Abortion Pill*, 125.
[845] "Medical Management of Abortion," WHO, 2018, 1.
[846] Ibid.
[847] See Sally Sheldon's article, "Empowerment and Privacy? Home Use of Abortion Pills in the Republic of Ireland," *Signs. Journal of Women in Culture and Society* 43/4 (2018) for an

dissertation has shown that in the Swedish context the home development was not solely tied to improving individual choice. Even before there was a pill, the state was looking for ways to move abortion to an outpatient care model. This was not done primarily to empower individuals, but as a solution to an overworked medical system.[848] While technologies can be adapted and used in ways which go against or ignore the scripts which their designers imagined, the history of this technology shows a range of values being made in its development. The abortion pill was and continues to be a versatile technology.

This dissertation has studied technologies in the making, intervening in the well-known accounts of RU486 to show how the medical abortion regimens used today cannot be understood historically without taking into account three decades of clinical trials in Sweden. It has also offered new insights into abortion and reproductive history in Sweden, showing the impact of scientific research on abortion policies. This has suggested that further research on the development and use of intrauterine devices (IUDs) in the 1960s, as well as more in-depth work on the contraceptive pill, would broaden historical understandings of Swedish reproduction management.

The history of reproductive technologies, which has seen studies on the IUD, the emergency contraceptive pill, and the oral contraceptive pill, now includes medical abortion. These technologies, all of which were developed around the middle of the last century, illustrate the ways modern understandings of reproduction have been partly co-produced through technological innovation. Understandings of pregnancy, menstruation, fetuses, and abortion are constructed and negotiable. What we know about reproduction is contingent on how we understand the facts of life.

analysis of the intersection between secrecy and privacy, and how this impacts the empowerment of women in the case of abortion pill use in Ireland.

[848] However, the Swedish system does now provide early abortions to more people, which makes queues less likely. The speed at which women can receive abortions needs to be considered in this equation of choice. The choice of which abortion method to use may not have expanded drastically, but the choice to get an early abortion has.

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