

Ectogenesis as a Theme in The Dialectic of Sex: The Case for Feminist Revolution (1970), by Shulamith Firestone

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In 1970, Shulamith Firestone, a self-described radical feminist and writer, published *The Dialectic of Sex: The Case for Feminist Revolution*, hereafter *The Dialectic of Sex*. In the book, she argues for the replacement of natural reproduction with artificial reproduction in order to provide women liberation from their reproductive biology. Firestone envisions a day when scientific technology will enable children to be conceived and grown completely outside of a woman's uterus, what scientists call [ectogenesis](#). At the time of publication, the technology to enable ectogenesis did not exist, although forms of assisted reproduction, such as [in vitro fertilization](#) and [intrauterine insemination](#), were starting to be developed. *The Dialectic of Sex* was one of the first feminist publications supporting ectogenesis, and, as of 2025, it continues to stimulate thinking among many researchers and ethicists who study the implications of new reproductive technologies for women.

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Background and Context

Firestone's early life contributed to her ideas about both women's oppression and the need to fundamentally change the nature of reproduction to achieve women's liberation. She was born in Ottawa, Ontario, to Orthodox Jewish parents in 1945. According to an article by Martha Ackelsberg in the *Jewish Women's Archive*, Firestone's support for feminism and her rebellion against her family's religious beliefs left her estranged from many of her family members. In 1967, after receiving a bachelor's degree from Washington University in St. Louis, Missouri, and a bachelor's in fine arts degree in painting from the Art Institute of

Chicago in Chicago, Illinois, Firestone became active in the civil rights and anti-war movements. Around the same time, she met feminist writer Jo Freeman, and the two went on to establish the Westside Group, which was one of the first independent women's organizations for women's rights since the suffrage movement of the late nineteenth and early twentieth centuries. In late 1967, Firestone moved to New York, New York, and co-founded three radical feminist organizations, known as the New York Radical Women, Redstockings, and New York Radical Feminists. While working with those organizations, Firestone served as an editor for various books by writers and activists in the feminist community and organized marches and talks. At the time she published *The Dialectic of Sex*, Firestone was twenty-five years old and lived in New York. In 1987, Firestone received a diagnosis of schizophrenia, which led her to spend the majority of her remaining years in and out of mental hospitals until her death in 2012.

In writing *The Dialectic of Sex*, Firestone was influenced by feminist writer Simone de Beauvoir, whose 1949 book *The Second Sex* was one of the first feminist publications to address [gender-based oppression](#). *The Second Sex* outlined how women have historically been treated as secondary to men. In that publication, de Beauvoir argues that the societal interpretations of the differences between men and women set the foundation for the development of a gender class system. She states that the idea of the feminine subordinate woman is created throughout a woman's life, not something she is inherently born with. As she put in it the book, "One is not born, but rather becomes, a woman." In the foreword of her book, Firestone dedicates *The Dialectic of Sex* to de Beauvoir and credits her throughout the text with forming the most grounded and comprehensive ideas of feminism.

Firestone published the book during the second-wave feminist movement, a time when feminists advocated for reproductive freedom and equality. From the 1960s through the 1980s, many feminists in the US were focused on obtaining equivalent legal, economic, and social rights for women and remodeling gender roles so that women could pursue labor and career endeavors outside of the home. During that time, the US Congress passed the Equal Pay Act of 1963, which aimed at abolishing wage disparity between sexes, and the Supreme Court ruled in the [Roe v. Wade \(1973\)](#) decision that women have a Constitutional right to abortion. In 1970, at the time of *The Dialectic of Sex's* publication, it was illegal for non-married people to obtain birth control, and the US Supreme Court legalized it in 1972 in the [Eisenstadt v. Baird \(1972\)](#) case. Around the time of second-wave feminism, from the late 1940s to the late 1960s, the Civil Rights Movement advocated for Black rights and suffrage, and Black men and women received the right to vote in the Voting Rights Act of 1965.

By the 1970s, three primary strands of feminist thinking existed in the US: radical feminism, mainstream or liberal feminism, and cultural feminism. According to Kathryn MacKay, who studies ethics in Sydney, Australia, radical feminists argued that society was inherently patriarchal and therefore desired to restructure society completely. That type of feminism

rejected the belief in innate, biological sex roles and supported a feminist revolution. In *The Dialectic of Sex*, Firestone expresses many of those radical feminist views. Mainstream or liberal feminism focused on institutional reform, including reducing gender discrimination and promoting equality socially in the home and workplace. Cultural feminists held similar views to radical feminists and advocated that females have an essence distinct from men.

At the time of the book's publication, Firestone was one of several radical feminist thinkers and writers who were analyzing women's oppression. In 1975, Gayle Rubin, who studied cultural anthropology, published an article titled "The Traffic in Women: Notes on the 'Political Economy' of Sex." In her article, Rubin discusses that the division of labor by sex exacerbates biological differences, which ultimately creates gender and the domestication of women. She argues that gender is a social construct that oppresses women. A year later, in 1976, Adrienne Rich, a poet, essayist, and feminist in the US, published *Of Woman Born: Motherhood as an Experience and Institution*. In that text, Rich argues that womanhood is a profound experience that shapes women's identity and sense of self. She argues that patriarchy limits women's freedom and appropriates. Women must therefore challenge and separate that structure around the institution of motherhood from mothering. Thus, the idea that women are oppressed due to their reproductive functions was one that Firestone shared with other radical feminists.

Firestone wrote the book at a time when technologies to enable ectogenesis did not yet exist, although people had by then been discussing the idea of ectogenesis for several decades and some technological strides had been made. The term ectogenesis itself comes from John Burdon Sanderson Haldane, a researcher in England who studied biology and mathematics. Haldane coined the term in his 1924 publication *Daedalus; or, Science and the Future*. In his book, Haldane imagined a future where ectogenesis has almost entirely replaced natural reproduction. In the 1950s, researchers worldwide began to experiment with artificial uterus technology to address the needs of premature infants. Throughout the 1960s and 1970s, researchers attempted to fertilize a female egg with male sperm outside the body. That technology, known as [in vitro fertilization](#), or IVF, did not achieve clinical [success in humans until 1978](#).

Book Description

The Dialectic of Sex consists of ten chapters and a conclusion. Ectogenesis appears as a topic of discussion primarily in chapter one, chapter ten, and the conclusion. In the first chapter, "The Dialectic of Sex," Firestone states that gender inequality is a result of natural reproductive differences between the sexes and the biological family and argues for a feminist revolution with the elimination of natural reproduction in favor of artificial reproduction. In the tenth chapter, "Feminism and Ecology," she explains her belief that

pregnancy and childbirth are barbaric and argues that although some critics find artificial reproduction to be dehumanizing, it is necessary to stop female oppression. In "Conclusion," she advocates for the destruction of the biological family, the elimination of childbirth, egalitarian households, and the equal dispersion of child-rearing responsibilities amongst all members of society.

In the first chapter, "The Dialectic of Sex," Firestone argues that the imbalance of power between men and women in society is due to reproductive differences between them and advocates for the replacement of natural reproduction with artificial reproduction. She argues that the differences in reproductive functions between men and women have created a class system that oppresses women, and thus, that the biological family is built on an unequal power distribution among the male, the female, and the infant. She explains that there are four fundamental principles that characterize the biological family. First, she states that the biological family unit arose as a result of women being biologically subjected to menstruation, menopause, and pregnancy, which made them dependent on men for survival. She explains that women were subject to the mercy of those biological processes, and those processes restricted them from pursuing their own careers to support themselves, forcing them to rely on men for survival needs. Then, she writes that because human infants develop more slowly than other species, they rely on adults for physical survival. She explains that those principles lead to a mother-child interdependency. Lastly, she discusses that the natural reproductive differences between men and women led to the division of labor in the biological family and the oppression of women.

Next, Firestone details that although the sex-based class system originated from the fundamental biological differences between sexes, the removal of those biological differences does not guarantee freedom for women. Thus, she argues that to ensure the elimination of gender divisions in society, women must revolt and seize control of their reproduction and fertility to restore ownership to their bodies. She writes that the goal of feminists must be to eliminate sexual distinctions themselves, rather than simply eliminating male privilege, as feminists tried to do in the first-wave feminist movement. As a solution, she advocates for a feminist revolution with the replacement of natural reproduction in favor of artificial reproduction. She explains that artificial reproduction would allow children to be born to both sexes equally, eliminate the mother-child dependency, end the division of labor in the workplace, and destroy the tyranny of the biological family.

In chapter ten, "Feminism and Ecology," the author argues that pregnancy and traditional female roles are barbaric and states that artificial reproduction is the solution to freeing women from oppression. Firestone writes that research in the field of reproductive medicine, as then practiced, does not directly take into consideration the interests of women. It only incidentally impacts them. For example, she writes that scientists working on creating artificial uterus technology see it as a way to assist babies who are born prematurely. Firestone

argues that it would be easier to transfer a young embryo, or a fertilized egg, rather than a nearly developed baby, into an artificial uterus rather than a fully developed baby into one, yet research primarily focuses on the latter concern. Next, she addresses the fact that many feminists fear artificial reproductive methods as unnatural. She argues against those individuals by arguing that pregnancy is barbaric and causes a temporary deformation of women's bodies for the sake of reproduction. Additionally, she explains that childbirth is painful and not beneficial for women. Therefore, it is unnecessary if artificial reproduction becomes a feasible alternative for pregnancy. She also discusses that artificial reproduction, despite some feminist beliefs, is not dehumanizing and should become an option for women. She writes that without the introduction of artificial reproduction, women will continue to be forced into oppressive female gender roles.

In "Conclusion," Firestone reiterates that the biological distinctions between men and women produces inequality between the sexes, forcing women to serve as what she calls a slave class to men, and thus requiring reform through revolution. She calls for women to be entirely free from their reproductive biology through artificial reproduction so that the childbearing and childrearing responsibilities are diffused across society and both sexes are equally distributed. She also explains that the biological family unit must be destroyed, and that women, children, and men must all receive equivalent economic independence. She states that as of 1970, the roles of women have not been redefined as they should be, but only enlarged, as the roles of women have not been diffused across society. She calls for the replacement of the biological family unit with a household, or a unit where a group of adults legally live together to provide liberation and equality for all individuals in the household. She explains that natural childbirth needs to be eliminated to create a liberating household environment.

Impact

Following its publication in 1970, *The Dialectic of Sex* received mixed reception from the public and feminist audiences. According to Ann Snitow, a co-founder of the New York Radical Feminists, which Firestone also participated in at the time of the book's publication, conservatives in the 1970s viewed the book as proof that the feminist movement was crazy and demonized it. According to Sylvia Walby in her book *Theorizing Patriarchy*, Firestone received criticism for what some interpreted as her naïve and optimistic view of possible scientific progress. Although *The Dialectic of Sex* received criticism at the time of its publication, many other feminists and writers credited Firestone's ideas as an influence on their work. For example, radical feminist beliefs, like those expressed by Firestone in *The Dialectic of Sex*, influenced the feminist writer Joanna Russ. In 1975, Russ published *The Female Man*, which discusses women in utopian worlds who have different views on gender roles, sexuality, and womanhood. In that novel, she describes pregnancy as a disaster for

women, just as Firestone viewed it as barbaric. Throughout her novel, her utopian worlds contain characteristics similar to Firestone's views on pregnancy, labor, and non-biological family units.

A 2017 publication on artificial uterus technology has prompted renewed interest in Firestone's book. As of 2024, artificial uteruses are not available in human clinical studies, but researchers have made advancements in animal models. In 2017, Alan Flake, who studies pediatric and fetal surgery at the Children's Hospital of Philadelphia in Philadelphia, Pennsylvania, and colleagues published an article titled ["An Extra-Uterine System to Physiologically Support the Extreme Premature Lamb."](#) In that article, the researchers discussed that their artificial uterus technology, called a biobag, could successfully keep eight premature fetal lambs alive for up to four weeks. According to Cassandra Willyard in an article published in *MIT Technology Review*, that device is the closest to being ready for human clinical testing. Researchers from other universities and research centers in the US, Australia, and Japan have also created their own artificial uterus models, yet none are ready for human testing. Researchers from the Máxima Medical Centre in Eindhoven and Eindhoven University of Technology in Eindhoven, Netherlands, expect to have a prototype of a human artificial uterus by 2025.

As researchers begin to further develop artificial uterus technologies in the twenty-first century, many ethical discussions reference and echo the perspective presented by Firestone in *The Dialectic of Sex* regarding the possibility for the liberation of women from pregnancy. In an article from 2019 by Victoria Margree in *The Conversation*, Margree states that Firestone's feminist argument remains relevant. Recent technological advancements, specifically the Biobag, have reignited discussion regarding the ethical and political implications of potential human ectogenesis. She explains that Firestone's work resonates with many feminists who draw on its conclusions to hypothesize what a future marked by artificial reproduction could mean for women's autonomy, societal rights, and abortion rights. In one article published by Flake and colleagues regarding the ethical considerations of artificial uterus technology, the authors note that there is ethical discourse among researchers and feminists regarding the technology. They cite *The Dialectic of Sex* to explain that some ethicists view research in recent models of artificial uteruses as an opportunity to expand women's freedom and reproductive rights, while others are concerned that it may diminish the meaning of motherhood, maternal autonomy, and female reproductive biology.

As of 2025, *The Dialectic of Sex* has been cited over 8,200 times on Google Scholar. Firestone's radical feminist arguments regarding the elimination of natural reproduction and pregnancy in support of artificial reproduction remain relevant due to artificial uterus technological advancements in animal models. *The Dialectic of Sex* was one of the first books to express a feminist perspective on the role of ectogenesis and its implications for

women.

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Literature