THE ULTRASOUND FETAL IMAGE: THE EVENT OF BIRTH, FEMALE BODY AND MEDICAL DISCOURSE

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May, 2008

I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Doctor of Philosophy in Art, Design and Architecture.

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ABSTRACT

THE ULTRASOUND FETAL IMAGE: THE EVENT OF BIRTH, FEMALE BODY AND MEDICAL DISCOURSE

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The use of ultrasound fetal image has become common in medical practice. The ultrasound is a contemporary result of a long medical and technological history, in which the human body and its pathologies are known and controlled by medical apparatus. It is a specific form of image produced by what Michel Foucault called the medical gaze. The thesis offers a genealogy of the ultrasound image and then turns its attention to its contemporary use. By taking the obstetrical examination room as a social context, it shows that what is at stake is not merely technological but actually a social relationship, at the center of which visibility plays a fundamental role. This new power context controls and administers both women's body and the emergent fetal body, which it perceives as an "originary human form." In the culture at large, the fetus is even turned into a citizen with its rights, a metaphor which the anti-abortion movement used and abused extensively. Reading fetology as well as the fetal image in terms of a social relationship of power, it is demonstrated that the woman's body is treated as mere environment. However, although technology is an important part of this biopolitics, it can also be read as an extension of human body through which the body knows and complicates itself.

KEYWORDS**:** fetus, ultrasound, fetal image, fetal personhood, medical gaze, phallomorphism, ocularcentrism, phallogocentrism.

ÖZET

ULTRASON FETUS İMAJI: DOĞUM OLAYI, KADIN BEDENİ VE TIBBİ SÖYLEM

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Ultrason fetus imajı tıbbi pratik içinde yaygın biçimde kullanılmaktadır. Uzun bir tıbbi ve teknolojik tarhin çağdaş sonucu olan ultrason sayesinde insan bedeni ve bu beden içindeki patolojiler tıp tarafından bilinir ve kontrol edilebilir olmuştur. Ultrason imajı Michel Foucault'nun tıbbi bakış dediği şey tarafından üretilen spesifik bir imajdır. Bu tezde ultrason imajlarının tarihsel kökeninin bir analizi yapıldıktan sonra çağdaş kullanımına yoğunlaşılmıştır. Kadın doğum muayene odası bir sosyal bağlam olarak ele alınırken söz konusu olanın yalnızca teknolojik değil esasen merkezinde görselliğin temel rol oynadığı bir sosyal ilişki olduğu gösterilmiştir. Bu yeni güç bağlamı hem kadınların bedenini hem de "orijinal insan formu" olarak algıladığı ve ortaya çıkardığı fetus bedenini kontrol eder ve yönetir. En geniş anlamada kültürel olarak, fetus hakları olan bir yurttaşa dönüştürülmüştür. Bu metafor kürtaj karşıtları tarafından çok kullanılmış ve bir o kadar da suistimal edilmiştir. Fetolojiyi ve fetus imajını gücün sosyal ilişkileri terimleri içinde okumak göstermiştir ki kadın bedeni yalnızca fetusun yaşayıp büyüeceği bir çevre olarak ele alınmaktadır. Teknoloji bu bio-politkanın önemli bir parçası olsa da ultrason fetus imajları bedenin bildiği, ürettiği, kendini karmaşık hale getirdiği ve yine bedenin bir uzantısı olan imajlar olarak da okunabilir.

ANAHTAR KELİMELER**:** fetus, ultrason, fetus imajı, fetus kişilik, tıbbi bakış, *pahllomorphism*, gözmerkezcilik, *phallogocentrism*.

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When I decided to make doctorate, I also decided to write down a thesis on a subject that would be not only in my theoretical concern but should be a part of my life experience as well. During the days that I had to decide on a subject, I learnt that my wife was pregnant and we saw the ultrasound fetal images of our not-yet-born daughter. This image was so fascinating both in theoretical and experiential senses. So I decided to write down my doctorate thesis on the ultrasound fetal image. When I told my thesis subject to my colleagues and friends, all of them found it 'interesting' but most of them also saw it so 'marginal.' I was confused. My thesis supervisor Assist. Prof. Dr. Mahmut Mutman wiped away my confusion and encouraged me to work on this subject. I want to express my gratitude and appreciation to him for not only supporting me to work on this subject but also thank him for his guidance and contributions during my whole thesis writing process.

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TABLE OF CONTENTS

SIGNATURE PAGE ii

ABSTRACT iv

ÖZET v

ACKNOWLEDGEMENTS vi

TABLE OF CONTENTS vii

LIST OF FIGURES ix

1. INTRODUCTION 1
   1.1. The Ubiquity of the Ultrasound Fetal Image ……... 3
   1.2. Modes of Encountering the Ultrasound Fetal Image …… 4
   1.3. Fascination with the Ultrasound Fetal Image ……. 6
   1.4. A Methodological Search: Elaborating the Concept of the Ultrasound Fetal Image …… 9

2. THE HISTORY OF ULTRASOUND FETAL IMAGE AND THE CONSTRUCTION OF THE FEMALE BODY 13
   2.1. Obstetrical Illustrations and Models ……..... 14
   2.2. Anatomical Illustrations and Models …… 20
   2.3. X-Ray Fetal Image ……..... 29
   2.4. Fetal Photography: Lennart Nilsson ……. 31
   2.5. Ultrasound Fetal Image ……. 38
   2.6. What Makes the Ultrasound Fetal Image Distinct? …….. 41

3. ASSEMBLING THE THEORETICAL FRAMEWORK 47
   3.1. The Foucauldian Perspective ……... 48
      3.1.1. Approaching Foucault ……..... 49
      3.1.2. Medical Gaze ……. 51
      3.1.3. Power/Knowledge …….. 55
      3.1.4. Bio-Power …….. 60
      3.1.5. Developing a Foucauldian Framework ……. 62
   3.2. Luce Irigaray: Deconstructing Phallogocentrism …… 65
      3.2.1. Binary Oppositions and Sexual Difference …… 66
      3.2.2. Irigaray's Style ……... 69
      3.2.3. Adopting Irigaray ……... 73

3.3. Medical Gaze and Female Difference: Foucault's Genealogy and Irigaray's Deconstruction …… 74

4. ENGAGEMENTS WITH THE ULTRASOUND FETAL IMAGE 76
4.1. Definition of Obstetrics …… 77
4.2. Obstetricization of the Female Body …… 78
4.2.1. A Brief History of the Modern Obstetrics ……. 79
4.2.2. The Concept of the "Anatomo-pathological" in the History of Modern Obstetrics ……. 82
4.2.3. The Stethoscope and the Ultrasound ……..…… 85
4.2.4. The Obstetrical Gaze and Ultrasound Imaging ……. 89
4.2.5. Fetology ……. 91
4.3. The Scene of the Body: Obstetrics as "Phallogocularcentrism" …….. 95
4.3.1. Ultrasound Fetal Examination in the Obstetrical Clinic …… 95
4.3.2. Ultrasound Examination as a Phallogocularcentric Stage Set-up .. 98
4.3.3. Echo: Science and Allegory ……... 101

5. CONCLUSION
105
5.1. Fetus as an Ethico-Political Figure 108
5.2. Towards a Culture of the Two ……..... 113

REFERENCES …… 117

LIST OF FIGURES

Figure 1.1. Ultrasound embryonic/fetal examination …… 5
Figure 1.2. The corporate-image campaign brochure of the Gazi University, Hospital of Medical Faculty, 2003 …… 6

Figure 2.1.From Musico, 13th century ……. 15
Figure 2.2. From Musico, 9th century …….. 16
Figure 2.3. From Eucharius Rösslin, *The Birth of Man kinde; Otherwise Named the Woman's Bookie* ……. 16
Figure 2.4. From Scipione (Girolamo) Mercurio, *La comare o riccoglitrice*, 1618 ……. 17
Figure 2.5. From Jacob Rueff, Fabricus, *De formato foetu*, 1627 ……... 17
Figure 2.6. From Hieronymus *The Expert Midwife*, 1637 ……... 17
Figure 2.7. From Hendrik van Deventer, *Operations novum lumen exhibentes obstetricantibus*, 1701 ……... 17
Figure 2.8. Pregnant uterus at monthly stages, 1740s ……... 18
Figure 2.9. Pregnant uterus at seven months in opened torso, 1740s ……... 19
Figure 2.10. Removal of the afterbirth, 1740s ……..... 19
Figure 2.11. Difficult presentation, 1740s ……..... 19
Figure 2.12. Fetal presentation, 1740s ……..... 19
Figure 2.13. "Anatomie," plate XXII, *L'Encyclopédie*, 1762 ……... 21
Figure 2.14. From Petro Berrettini, *Tabula anatomicae*, 1741 …….. 22
Figure 2.15. From Cosmo Viardel, *Observations sur la pratique des acouchemens*, 1673 ……... 22
Figure 2.16. From Scipione (Girolamo) Mercurio, *La comare o riccoglitrice*, 1601 ……... 23
Figure 2.17. From Jourdain Guibelet, *Trois discours philosophiques*, 1603 …… 23
Figure 2.18. Nine month uterus, William Hunter's *Human Gravid Uterus*, 1779 ……... 24
Figure 2.19. Fetus *in utero*, William Hunter's *Human Gravid Uterus*, 1779 ….. 24
Figure 2.20. From J. B. Jacobs, *Ecole pratique des accouchemens*, 1793 …….. 25
Figure 2.21. Anatomical model, 18th century ……... 26
Figure 2.22. Anatomical model, 18th century ……... 27
Figure 2.23. Wax model *"Lo Spellato," La Specola*, Florence, Italy …….. 27
Figure 2.24. X-rayed fetuses ……. 30
Figure 2.25. Fetus at eighteen weeks, cover page of *Life*, April 30, 1965 …… 32
Figure 2.26. Fetus at fifteen weeks, *Life*, April 30, 1965 …….. 32
Figure 2.27. *Life* magazine cover page, August 1990 ……... 34
Figure 2.28. Cover page of Nilsson's book *A Child is Born* …… 34
Figure 2.29. Four weeks embryo …….. 35
Figure 2.30. Six weeks after fertilization ……. 36

Figure 2.31. Embryo approximately six-weeks-old …….. 37
Figure 2.32. Eight weeks old embryo/fetus …….. 37
Figure 2.33. Eighteen weeks old fetus …….. 37
Figure 2.34. Three-month-old fetus …….. 38
Figure 2.35. Ultrasound of second-trimester fetus ……... 40

Figure 4.1. Frontispiece of S. W. Fores, Man-Midwifery Dissected, 1793 …….. 85
Figure 4.2. Gynecological Examination ……... 88
Figure 4.3. A couple looking at the fetal image in the obstetrical ultrasound examination …….. 97
Figure 4.4. Ultrasound embryonic image ……. 99
Figure 4.5. Ultrasound fetal image …… 99

1. INTRODUCTION

My aim in this thesis is to re-elaborate the ultrasound fetal image by taking this image to the site to which it belongs, i.e. the female body. A number of feminist scholars (Barbara Duden, Karen Newman, Rosalind Petchesky, Barbara K. Rothman, Carol Stabile) have made discussions on fetus, ultrasound fetal images and their relation with the female body. In these discussions, they have emphasized that much of the attention is paid to the fetus, fetal image and its symbolic meanings, rather than the female body, its sexuality and procreative power. They have reached the critical conclusion that, the female body is either reduced to an ecological environment for the fetus or totally obliterated. Therefore, the fetus shades the female body and becomes not only the object of the medical analyses and popular discourse, but also a fetal personhood (Duden, 1993, p. 2; Newman, 1996, p. 67; Petchesky, 1987, p. 61; Rothman, 2000, p. 112; Stabile, 1992, p. 180).

In this thesis, the concept of the ultrasound fetal image will be elaborated from the point of view of the female body, its sexuality and procreative potential. Therefore, I will use a theoretical and methodological framework that concentrates on the body, and especially the female body. Before arguing theoretical and methodological framework, in order to clarify my research question in this thesis, I will briefly discuss some issues circumscribing the ultrasound fetal images as a phenomenon.

Since the end of the 19th century, new and different types of techno-scientific medical images surround us. Ultrasound fetal images appear as one of them. And, like many other techno-scientific medical images, they have always been associated with a 'progressive' discourse. Van Dijck (2005) explains the unconscious mechanism behind this expectation of progress from these medical images and hence medical imaging technologies as follows:

> Common belief in the progress of medical science relies in part on unswerving confidence in the mechanical-medical eye: that *better imaging instruments automatically lead to more knowledge, resulting in more cures*. [...] And yet, patients often blindly trust the panoptic nature of the mechanical-clinical eye (Van Dijck, 2005, p. 7, emphasis mine).

The progress in medical imaging, and especially in fetal imaging, is questionable for the female body from which the fetal images are reproduced by the ultrasound apparatus. The ultrasound fetal images have led to ethical, judicial/legislative, political, social and cultural consequences that generate a fetal personhood with rights, which simultaneously obliterate the female body, its sexuality and procreative potential.

Fetal images have always been fascinating for people because of being perceived symbolically as 'the beginning of life,' 'the life before birth,' and even 'life itself.' And people have encountered this symbolically fascinating image basically in two modes: in the obstetrical clinic and in the public space. The scope of this thesis is limited to the obstetrical clinical mode.

1.1. The Ubiquity Of the Ultrasound Fetal Image

After the invention of still image of photography and moving images of cinema, new and different types of images have emerged in our world since the end of the 19th century. Here, within these new and different types of images, medical ones (X-ray images, ultrasound images, MRI images, CTI images, etc.) have a significant place.[1]

As one of these medical images, fetal images in general and "ultrasound" fetal images in particular, have specific features. Their uses have spilled outside the boundaries of the specialized medical scope. They have come on the scene in our everyday life. They are now so ubiquitous that, according to Barbara Duden (1993), "we are overwhelmed with fetuses" (p. 7).

Ultrasound fetal images are no longer only reproduced in the obstetrical clinic during the examination of a pregnant woman. They are no longer only printed and published in the obstetrics, cardiology, pediatrics, radiology, or other related medical journals. They are now in magazines as a part of an essay, on billboards in the streets as a visual component of an advertisement campaign, in the classrooms as visual educational material, in the movies as a scene of feature or documentary film[2], on television in fiction or health programs, even in the baby photo-album as the figure

[1] Indeed, the important role of medicine in the invention of photography and cinema has been mostly neglected in theoretical and historical studies. For a study that concentrates on the conjunction and convergence of medical imaging and cinema, see Lisa Cartwright's book, *Screening the Body* (1995).

[2] Since Richard Fleischer's cult film *Fantastic Voyage* (1966) medical images in general and fetal images in particular have been used in both feature and documentary films. The PBS's documentary *The Miracle of Life* (1983, directed by Mikael Agaton, photographed by Lennart Nilsson) and later the BBC's documentary series *Superhuman* (1998, directed by Christopher Spencer) and *The Human Body* (2001, directed by Judith Butling, Liesl Ivans and David Hickman) became extremely popular all around the world. While the visual regime of these documentary films is based mainly on medical imaging scenes, embryonic and fetal images occupy specific place in them.

on the beginning page, called "baby's first picture."[3] Thus, ultrasound fetal images have not only overwhelmed our world, but also have now a growing public and medical fascination since their emergence.

1.2. Modes of Encountering the Ultrasound Fetal Image

Although fetal images are ubiquitous, there are basically two modes of encountering them. The first one is the obstetrical clinical mode. Today, when a woman thinks she might be pregnant, she mostly goes to an obstetrician (or a gynecologist) to become sure about her pregnancy. And in the obstetrical clinic the most common method in the confirmation of pregnancy has become the ultrasound examination. Therefore, today, ultrasound embryonic/fetal examination has become the most common and the most popular scientific evidence of pregnancy.

Although there are alternative scientific or practical ways of finding out whether one is pregnant or not, such as blood test made in a medical laboratory, or using a test kit bought from a pharmacy, only ultrasound examination in the obstetrical clinic can provide visual evidence. Hence, ultrasound examination is categorically different from other methods in that it produces visible evidence of the presence of an embryo. More importantly, this is only the starting point of an obstetrical visual examination series throughout the period of pregnancy, which focuses on the further development of the embryo into the fetus.

[3] Petchesky (1987) says, "At least one-third of all pregnant women in the United States are now exposed to ultrasound imaging, and that would seem to be a growing figure. Anecdotal evidence suggests that many if not most pregnancies will soon include ultrasound scans and presentation of a sonogram photo 'for the baby album'" (p. 66).

The pregnant woman undergoes a routine examination almost each month in her prenatal (also called antenatal) period. In prenatal examinations, a series of ultrasound examinations are made mainly for the surveillance and control of the development of the embryo/fetus.[4] Hence, I call these ultrasound embryonic/fetal examinations as the clinical mode of encountering the fetal image. Its most important characteristic is that the fetus is regarded as belonging to the woman (Fig. 1.1).

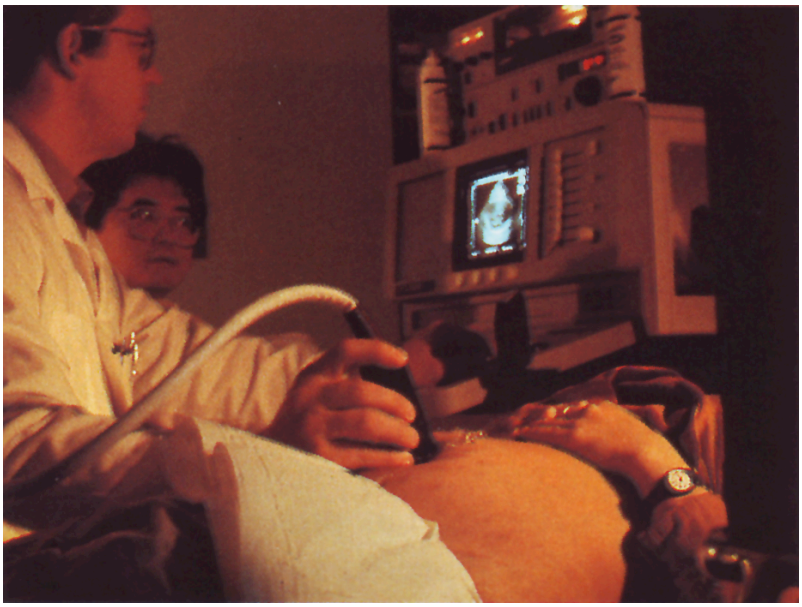


Fig. 1.1. Ultrasound embryonic/fetal examination (Nilsson, 1990, p. 104).

The second mode of encounter is public. Anyone has seen, or can see an "anonymous" ultrasound fetal image any time in a magazine, on a billboard or on television. A remarkable example of the public display of an ultrasound fetal image appeared in Ankara in 2003. The Medical Faculty at Gazi University made a corporate-image campaign at its 25th anniversary, in which posters on billboards and

[4] The number of the ultrasound examinations during the prenatal period changes from country to country mainly according to health system and regualtions of obstetrical examination of each country. Anecdotal evidence shows that, in Turkey, especially in the private obstetrical clinics, the ultrasound fetal examination is almost done at every routine prenatal examination.

brochures were used. The dominant visual element in the posters and brochures was a fetal image. This campaign continued with an emphasis on high-end apparatuses of medical imaging technology that the university owns (Fig. 1.2).

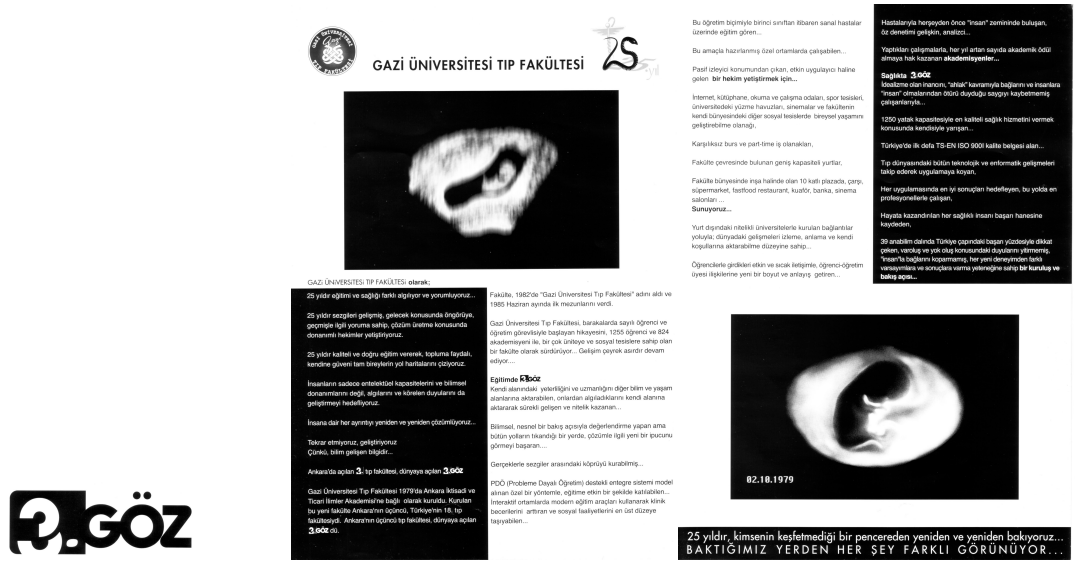


Fig. 1.2. The corporate-image campaign brochure of the Gazi University, Hospital of Medical Faculty, 2003.

This thesis concentrates on the obstetrical clinical image. Public image of the fetus will be involved to the extent that it has an impact on the clinical one.

1.3. Fascination with the Ultrasound Fetal Image

Ultrasound fetal image is not just any kind of techno-scientific image; it has always been symbolically more than that. It is perceived by people, symbolically, as 'the beginning of life,' 'the life before birth,' and even 'life itself.' In this sense, ultrasound fetal images have not only been distinct from other medical images, but they have also spilled out the boundaries of medical institution. They have become

fascinating for people, and hence had impact on the public imaginary. Ultrasound fetal images have also been fascinating for medical circles, especially for obstetrics, with its capacity to put under surveillance, to control and to govern the fetus as well as the womb, the female body and its procreative potential. Therefore, "fetal fascinations" (Franklin, 1991) have come out in two different forms: the public fetal fascination and the medical/obstetrical fetal fascination.

First of all, we should understand the technological fascination that establishes the basis for the other forms of fascination. The common ultimate aim of medical imaging technologies is to make the body transparent and hence make the invisible visible. In the obstetrical imaging of the womb and the fetus, ultrasound reproduces moving images in real time without penetrating into the body of the pregnant woman.[5] In other words, the ultrasound image has a powerful sense of immediacy and obstetrical ultrasound operates like a 'womb television'; the movements of both the womb and the fetus are watched and witnessed by the obstetrician, the pregnant woman and her partner as the spectators in the obstetrical clinic. Here, the fetus mostly comes to fore in the screen and covers it as the dominant spectacular element for all spectators. Hence, the fascinating nature of the ultrasound fetal image is based on its immediacy as well as its moving character.

Ultrasound fetal images become fascinating for the obstetricians for it enables them put the fetus and the woman's body under surveillance and control in the prenatal period, and this is accompanied by emerging diagnostic techniques parallel to the development of the ultrasound apparatus. Consequently, obstetrics as a medical

[5] Indeed, high frequency sound waves penetrate into the female body and the echoes of the tissues are recollected. Although there is a penetration, it does not occur in physical sense. The possibble harmful effects of the penetration of high frequency sound waves is still an issue of debate and inquiry.

discipline extends its power on the government of the female body and its procreative potential. This phenomenon must be called the "obstetricization of the female body." Hence, the obstetrical fetal fascination comes out with the development of new analysis techniques on the ultrasound fetal images. These techniques have even led to the emergence of a new sub-discipline in obstetrics that is called "fetology." The overall impact of this development is turning the female body into an ecological environment for the fetus.

I have already indicated, how, with the common use of ultrasound in obstetrics, fetal images have gained symbolic meanings and spilled out the boundaries of the obstetrical clinic. Today, these images ubiquitously surround everyday life and come to signify an "originary human form" conceived as 'the beginning of life,' 'the life before birth,' and even 'life itself.' A pregnant woman's body has conventionally been under some kind of "public scrutiny."[6] But, with the emergence of the fetal image, the pregnant body itself is often seen as a displacement for the fetal image, hence one that calls for it. The use of these images in abortion debate, especially in the USA, as the images of a little human facilitates a perception of the fetus as a person endowed with rights. The well-known video *The Silent Scream* signifies the summit of the public fascination of ultrasound fetal images in conservative anti-abortionist discourse by introducing the abortion as the killing of a little human. This conservative public fascination stems from a particular religious argument: "anti-abortion argument that 'life begins at conception' once referred to the idea that all

[6] Robyn Longhurst (1999) aims to put in her article "Pregnant Bodies, Public Scrutiny: 'Giving Advice to Pregnant Women," how the female body is under public scrutiny during pregnancy. She explains this phenomenon by exposing how pregnant women mostly receive an enormous amount of advice "on topics such as diet, exercise, birth, medical procedures, lactation, how to care for a new-born baby and how to raise a child" not only from different actors in her social environment such as "health workers, friends, acquaintances, loved ones, colleagues, and even strangers" but also from different sources "including pamphlets, manuals, books, newspapers, magazines, and advertisements" (Longhurst, 1999, p. 78).

human life is sacred because it was created by God, and thus for a divine purpose" (Franklin, 1991, p. 191).

1.4. A Methodological Search: Elaborating the Concept of the Ultrasound Fetal Image

Especially after the invention of photography, with its 'reality' effect, people have always been inclined to perceive images in an illusion that the image has taken the place of the thing itself. In other words, the thing and the representation of that thing have always been confused.[7] Therefore, representation has always been a major issue in the analysis of images.

In the history of the development of medical images, the problem of representation has come out in a different way. While photographic imaging technology operates to represent the thing in the world, which is seen, medical imaging technology is established on the motivation of making the body transparent and representing the thing which is unseen. Hence, when people encounter the medical image, they have to learn to see it for representational schema to work. Medical images have always been fascinating for people because they represent the unseen world of their bodies and have powerful symbolic meanings about life. Then, it is essential to elaborate how the representational schema operates for the ultrasound fetal image.

[7] The translator of Michel Foucault's book *This is not a Pipe*, James Harkness (1983) explains this confusion very well in his inroductory article: "When we say one thing resembles another, after all, we imply that the latter is somehow ontologically superior to, more "real" than the former—the copy predicates its existence (*qua* copy) upon whatever it submissively imitates" (pp. 7-8).

There are two main problems, which determine the methodological framework in my thesis. First of all, ultrasound fetal images have been mostly discussed within the conventions of representational analysis of the seen world. Of course, fetus becomes visible with its representation by ultrasound techniques, but it should not be forgotten that it belongs to an unseen world. In more clear terms, there should be a difference between the representational relation of a visible thing with its image and the representational relation of an invisible fetus that is made visible with its fetal image. Then, in this thesis I have to elaborate critically not only the technological reproduction of the ultrasound fetal images but the representational relation of the invisible fetus and the ultrasound fetal image as well.

Secondly, the ultrasound fetal image should be elaborated more than being a medical techno-scientific image. It should not be forgotten that ultrasound fetal image belongs to the female body, not only in the sense that it is part of its interiority, but also it is an effect of its procreative potential. Thus, the female body should be brought back to the analysis of ultrasound fetal images, rather than being solely a womb/cave/cavity in which the fetus grows.

As I discussed in the previous sections of this chapter, ultrasound fetal images are ubiquitous and we encounter them not only in the obstetrical clinic but also at different media in our everyday life. But the scope of this thesis is limited to the obstetrical clinic. Then, what is needed here is a critical theoretical and methodological framework that focuses on the body and its medical representation, involving the medical technology. Such a critical framework should reveal how the representational schema of medicine is constituted and how it constitutes female

body and the fetus. At this point, Michel Foucault's archeology of the clinical gaze may help us. In reading Foucault's archeology of modern medicine, I will also keep in mind his later elaborations on the concept of power-knowledge. I will especially use his concept of bio-power that exposes the discourses and practices on the normalization and government of the body. My purpose is to focus on the representational schema of the ultrasound fetal image as it operates in the obstetrical clinic in order to normalize and govern the female body and the fetus.

However I would also like to argue that Foucault's theoretical framework is still insufficient to bring the female body back into the representational schema of ultrasound fetal images. For this reason, Luce Irigaray's feminist deconstruction of the "phallogocularcentric" structure of Western thought may help us to take the ultrasound fetal images to the site to which it belongs, i.e. the female body, especially in her well-known work *The Speculum of the Other Woman*. In her unique style of writing, Irigaray produces a "vulvomorphic" logic against the phallomorphic logic of the constitutive texts of classical Western thought.

Martin Jay produces the term "phallogocularcentric" while explaining the specific position of Luce Irigaray in French feminist critique. According to Jay (1994), Luce Irigaray is the most notable French philosopher, who goes beyond "the mutual implication of phallocentrism and ocularcentrism (...) with their complicated debt to Lacanian psychoanalysis, and acknowledge the "seminal" role of Derrida's critique of logocentrism" (p. 493). Hence, the aim of Irigaray can be stated as "thwarting the totalizing effects of" phallocentrism, logocentrism, and ocularcentrism, "what might

be called, in the spirit of deconstructionist neologizing, “phallogocularcentrism”” (Jay, 1994, p. 494).

In the following chapter, I will present a brief history of ultrasound fetal images through the development of medical imaging technologies in order to understand the obstetrical clinical encounter. In this historical study, I will also discuss the construction and representation of the female body. I will further demonstrate how the ultrasound fetal image is distinct from other fetal images. I will now go through these points in details.

2. THE HISTORY OF ULTRASOUND FETAL IMAGE AND THE CONSTRUCTION OF THE FEMALE BODY

Fetal images have a long history before the emergence of modern medical imaging technologies such as X-ray and ultrasound. The first examples of fetal images were, on the one hand, the illustrations of a creature of God based on theological knowledge or religious beliefs. On the other hand, women were reproducing imaginary narratives on their own bodies and hence their own fetal visions.[8]

According to Barbara Duden (1993), the history of the female body has two stories. The first one is the story of the visible: "The story of what can be seen by physicians, artists, and women themselves. It deals with woman as her flesh and being is, or can be, exposed to the gaze" (Duden, 1993, p. 8). The other story is the story of the invisible: "The story of touch and vision, which grope in the darkness beneath the skin" (Duden, 1993, p. 8). The fetus and fetal image are part of the second story, which have been enforced to become a part of the first story by modern medicine and obstetrics.

With the Enlightenment, modern medicine removed from the bellies and minds of women any reality that is not perceived by the eye (Duden, 1993, p. 8). Then the imaginative narratives of women about their bodies and the fetus were forgotten.

[8] Barbara Duden (1991), in her book *The Woman Beneath the Skin: A Doctor's Patients in Eighteenth-Century Germany*, historically elaborates the pre-modern imaginary narratives of women on their bodies.

Instead, medical imaging technologies were developed in order to generate the singular discourse of the modern medicine that is constructed on the visible, i.e. medical gaze. Since then, one of the ultimate goals of modern medicine has been to make the invisible visible. Obstetrics, as a specialized sub-discipline of modern medicine, strove to penetrate into the female body to see the fetus and thus established its medical hegemony on the reproductive power of the female body. This has been the generating force of the development of medical imaging technologies in the obstetrics.

The genealogy of fetal images openly shows that, "the human fetus, as conceptualized today, is not a creature of God or a natural fact, but an engineered construct of modern society," which is particularly an obstetrical construction of modern medicine, and which operates by the obstetricization of the female body (Duden, 1993, p. 4). Therefore, I will make a genealogical analysis of the fetal images starting from the obstetrical and anatomical illustrations and models. This history then goes through X-ray fetal images, fetal photography and ends up in the ultrasound fetal images.

2.1. Obstetrical Illustrations and Models

"Until the late seventeenth century, the visual codes for representing obstetrical knowledge were remarkably constant" (Newman, 1996, p. 26). In the first obstetrical images, the uterus is diagrammatically rendered in the shape of "a jar" (Fig. 2.1) alternatively with earlike branches or horns, "an urn," (Fig. 2.2) or, anachronistically, "a light bulb" (Fig. 2.3). The fetus in this diagrammatic borderline was a

"homunculus,"[9] a miniature man, who is represented in "fantastic gymnastic postures" or in balanced poses like an adult sitting, lying, standing or like a child "jumping, dancing, diving or tumbling" (Newman, 1996, p. 27). The connection between the fetus and the female body is not represented in these images, such as the umbilical cord, the placenta, and the uterine layering (Adams, 1994, p. 128).

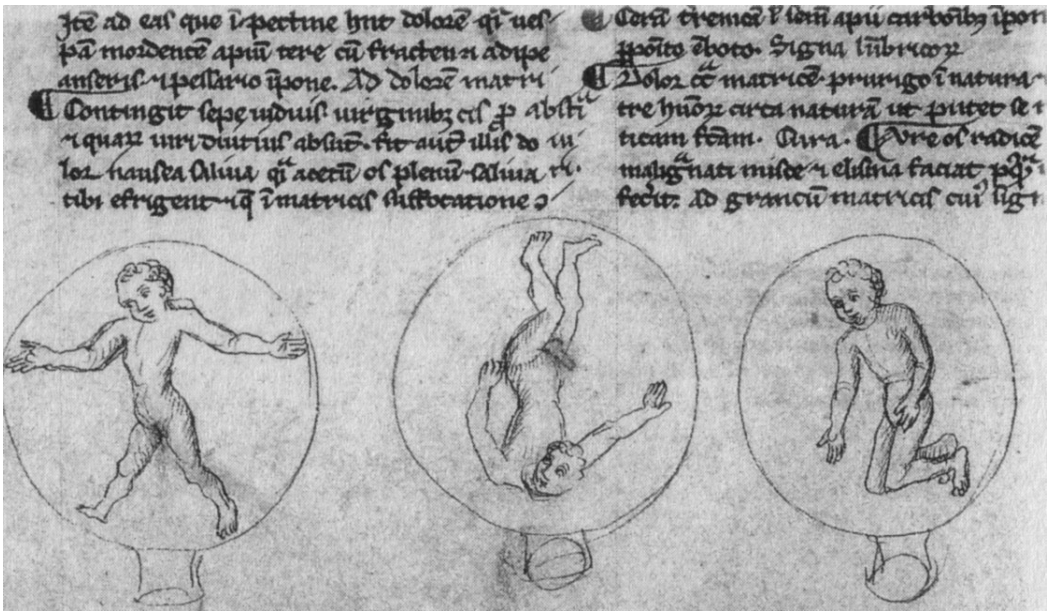


Fig. 2.1.From Musico, 13th century (Newman, 1996, p. 27).

[9] Homunculus is a supposed microscopic but fully formed human being from which a fetus was formerly believed to develop.

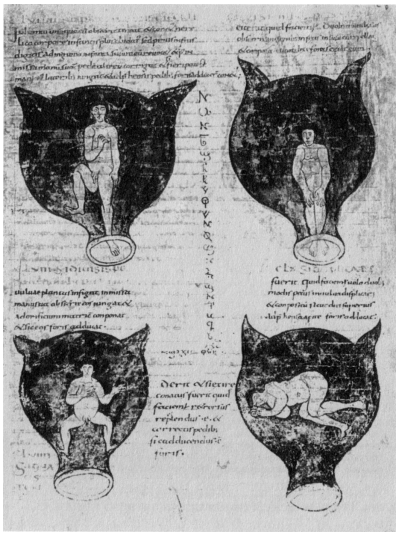


Fig. 2.2. From Musico, 9th century (Newman, 1996, p. 28).

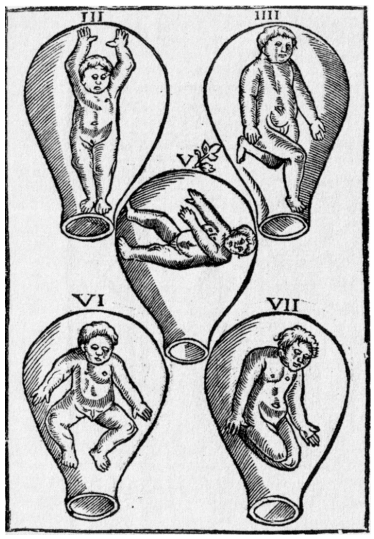


Fig. 2.3. From Eucharius Rösslin, *The Birth of Man kinde; Otherwise Named the Woman's Bookie* (Newman, 1996, p. 29).

During the seventeenth century, obstetrical and embryological knowledge became more complex. The details such as umbilical cords (Fig. 2.4), uterine layering, ovaries (Fig. 2.5), placental tissue (Fig. 2.6) and pelvic bone mass (Fig. 2.7) were added to the representation of fetal images in the midwifery manuals. Nevertheless, the basic schema in the representations of the fetus and the female body did not change until the end of this century. In this basic schema, the fetus is the dominant figure, which is fully formed and is always represented as male. It was "actively negotiating the uterine environment and cut off from a female body" (Newman, 1996, p. 33). The female body is not represented, but only the disembodied womb appears as a fragmented representation of it. Hence, the female body is reduced to a 'vessel,' which could only be a passive receptacle for the fetus.



Fig. 2.4. From Scipione (Girolamo) Mercurio, *La comare o riccoglitrice*, 1618 (Newman, 1996, p. 30).



Fig. 2.5. From Jacob Rueff, Fabricus, *De formato foetu*, 1627 (Newman, 1996, p. 32).

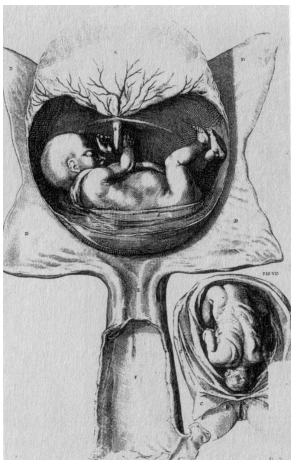


Fig. 2.6. From Hieronymus *The Expert Midwife*, 1637 (Newman, 1996, p. 31).

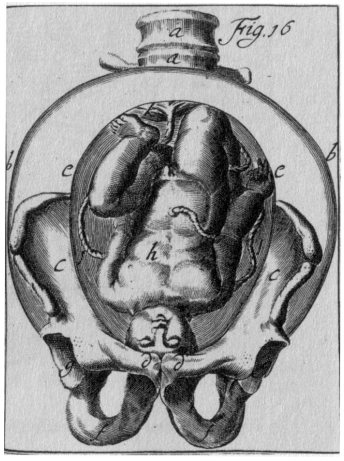


Fig. 2.7. From Hendrik van Deventer, *Operations novum lumen exhibentes obstetricantibus*, 1701 (Newman, 1996, p. 32).

Newman (1996) interprets the increase of details in the obstetrical renderings of uterus and fetus in this period from a different point of view and says that,

> In the course of the seventeenth century, details are added to the core schema of uterus-fetus—first to the uterus, but increasingly from the mid-seventeenth century on to the fetus, which is endowed with seemingly "gratuitous" detail that exceeds the instrumental function of the obstetrical image. The addition of seemingly innocent minutiae in fetal representation works to render the fetus as "lifelike" and "human," an autonomous individual (p. 44).

Starting from the late seventeenth century and mainly in the eighteenth century, three-dimensional obstetrical uterus and fetus models, which are made of wax, clay, wood, or other materials, are added to the illustrations in obstetrical atlases and midwifery manuals. These models were mainly used for pedagogic purposes, parallel to the development of "scientific midwifery" and "professionalization of obstetrics"[10] (Figs. 2.8, 2.9, 2.10).

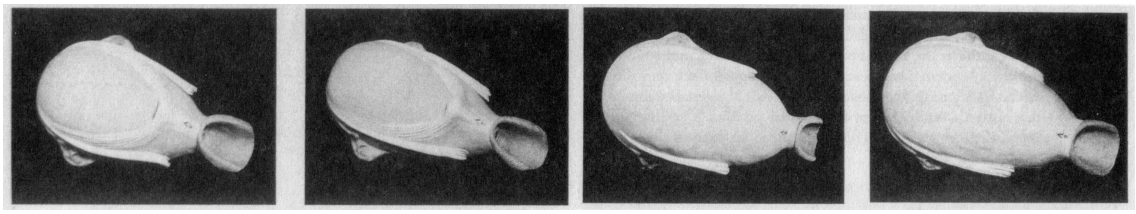


Fig. 2.8. Pregnant uterus at monthly stages, 1740s (Newman, 1996, p. 52).

[10] "Although the regulation of midwifery in Europe dates from the late 1400s, by the mid-eighteenth century women began to be required to have some formal training, lasting anywhere from a few months to two years, in schools associated with either a university or a hospital. [...] As obstetrics became increasingly technologized with the invention and manufacture of forceps and ever more elaborate pelvimeters and specula, and as an accompanying increasingly positivistic view of anatomy produced the body as a series of parts to be manipulated, obstetrics became professionalized and, ultimately, the province of man, especially among urban elites" (Newman, 1996, p. 51).

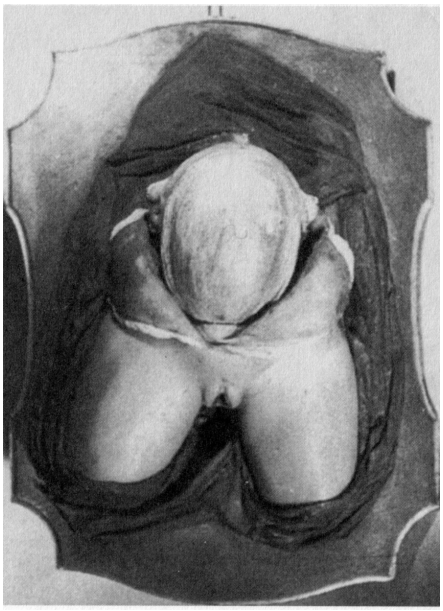


Fig. 2.9. Pregnant uterus at seven months in opened torso, 1740s (Newman, 1996, p. 53).



Fig.2.10. Removal of the afterbirth, 1740s (Newman, 1996, p. 54).

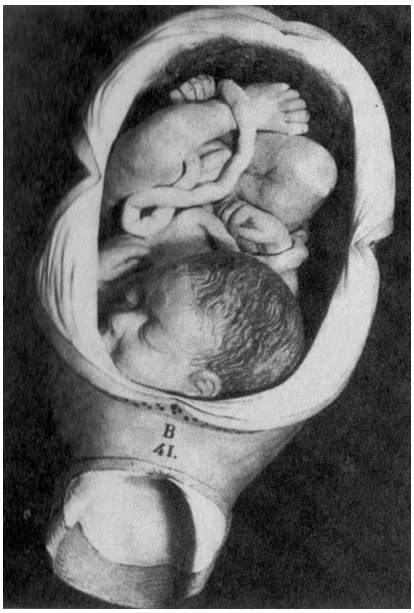


Fig. 2.11. Difficult presentation, 1740s (Newman, 1996, p. 56).



Fig. 2.12. Fetal presentation, 1740s (Newman, 1996, p. 63).

In these models, while the fetuses "look like babies two, even three months old—plump, hirsute, with filled-out cheeks, in peaceful slumber," (Figs. 2.11, 2.12) the uterus, with a few exceptions, is disembodied from the female body, and stands by itself like a vessel laid on a cushion with utmost care (Newman, 1996, p. 62). The only difference of these obstetrical models from the earlier obstetrical images is their construction of gestation and birth startlingly naturalistically.

2.2. Anatomical Illustrations and Models

Anatomical illustrations and models differ from the early obstetrical images and (uterus/fetus) models from the very beginning. Unlike the early obstetrical images and models, they frequently represent the full female body or torso. However, the male body constitutes the norm in anatomical representations.[11] Therefore, although the female body or torso is represented as a whole in anatomical illustrations and models, this is done either so rarely or only by illustrating anatomical organs different from the male body, which are genital and reproductive organs. And even sometimes, no female body is represented, but solely the anatomical representations of the genital and reproductive organs. Newman (1996) gives a noteworthy example as follows:

> Even in that great eighteenth-century tribute to rationalism, the *Encyclopédie*, among 33 plates that illustrate the article "Anatomie," no female body is represented. Female anatomy is represented on a single page containing an illustration of the uterus; another illustration of the

[11] This is relevant for the contemporary anatomy discipline. "For example, contemporary anatomy textbooks designed for medical students still tend to portray the male body as the standard human body, against which the 'different' female body is compared. Illustrations in current medical textbooks routinely use male bodies to portray specific features shared by the sexes, making it impossible to learn female anatomy without first learning male anatomy, while comparative references to female anatomy make constant use of the terms 'smaller', 'feebler', 'weaker' or 'less developed' to demonstrate how women differ from men" (Lupton, 1995, p. 132).

placenta with a fetus standing independently alongside, the umbilical cord reaching not directly to its opened torso but, oddly, behind the head and over the shoulder; and three details of the vulva that focus on the clitoris" (p. 69) (Fig. 2.13).

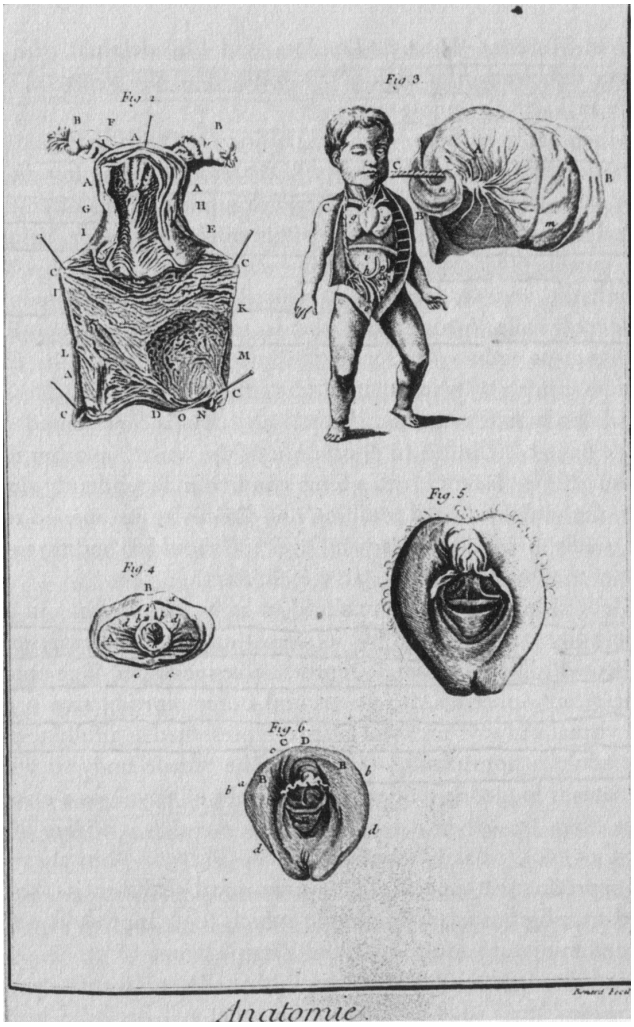


Fig. 2.13. "Anatomie," plate XXII,
L'Encyclopédie, 1762 (Newman, 1996, p. 70).

While the female body is not fully represented in the *Encyclopédie*, in most of the anatomical illustrations and models the female body is fully illustrated or carved. But it is significant that the wholeness of the female body mostly appears as nude rather than an anatomical illustration or model. Only partially the reproductive organs are anatomically represented. Newman (1996) states that, "female anatomy, it seems,

can only be represented synecdochically in its sexual/reproductive specificity" (p. 69). Hence, the female torso is mostly slit enough to present the reproductive organs, which are different from the norm of male anatomy. The uterus always includes a fetus, represented as a fully formed tiny adult, a homunculus.

In anatomical illustrations and models, "the scientific information of anatomy is rendered via the canons of conventional artistic representation" (Newman, 1996, p. 69). These artistic illustrations are gendered and represent the female body "as a classical nude (Fig. 2.14), as a courtesan (Fig. 2.15), as a *venus pudica* (Fig. 2.16), or as Eve before the fall (Fig. 2.17)" (Newman, 1996, p. 69) with "mythological, biblical, classic humanist and anthropological (woman as nature/flower)" narratives of gender (Newman, 1996, p. 82).

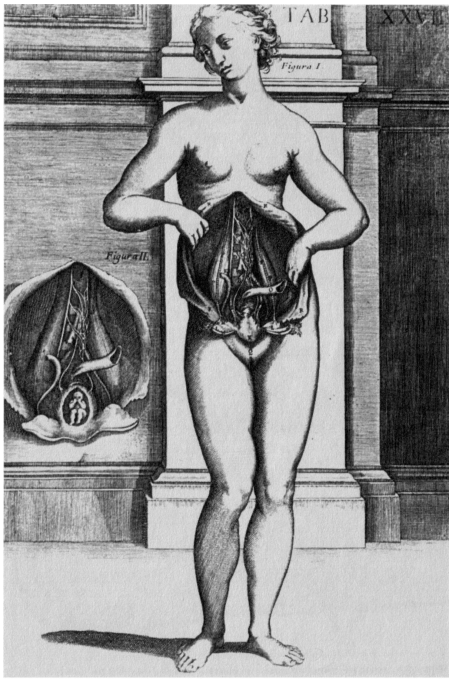


Fig. 2.14. From Petro Berrettini, *Tabula anatomicae*, 1741 (Newman, 1996, p. 73).



Fig. 2.15. From Cosmo Viardel, *Observations sur la pratique des acouchemens*, 1673 (Newman, 1996, p. 74).

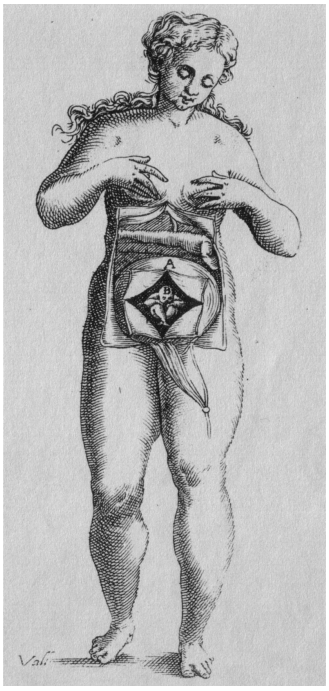


Fig. 2.16. From Scipione (Girolamo) Mercurio, *La comare o riccoglitrice*, 1601 (Newman, 1996, p. 77).

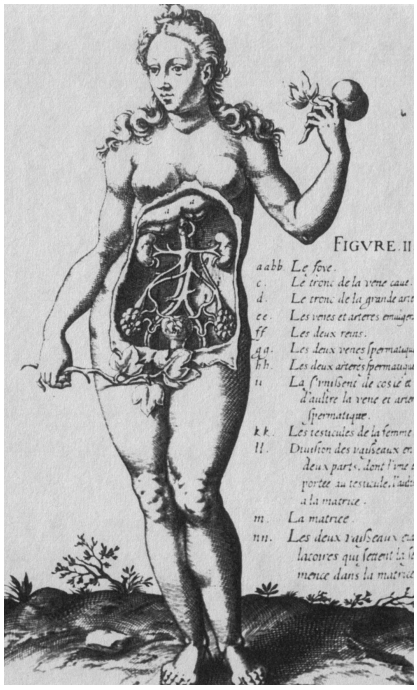


Fig. 2.17. From Jourdain Guibelet, *Trois discours philosophiques*, 1603 (Newman, 1996, p. 79).

In the history of obstetrics, William Hunter's obstetrical atlas takes a significant step with its specialization on the anatomy of the uterus. In 1772, William Hunter published this atlas, called *Anatomy of the Human Gravid Uterus*. In this atlas, only the female torso is represented in an 'amputated' form (Figs. 2.18, 2.19).[12] Indeed, it is still consistent with the synecdochical representation of the female body in its reproductive specificity, which establishes the essence of the anatomical convention.

Hunter's *Anatomy of the Human Gravid Uterus* marks the beginning of a significant shift in the representation of the uterus and the fetus. "Hunter viewed the change aesthetically as a progression from "a figure of fancy," or an imaginative rendering

[12] It is remarkable that while the amputated legs are closed with a piece of fabric in Fig. 19, the female body has been amputated "not only visually and narratively, but literaly" in Fig. 20 (Adams, 1994, p. 131). Especially the latter image involves a violence on the female body. For a detailed discussion on the violence on the female body in epistemological, actual, and representational senses, see Jordanova, *Sexual Visions* (pp. 60-62).

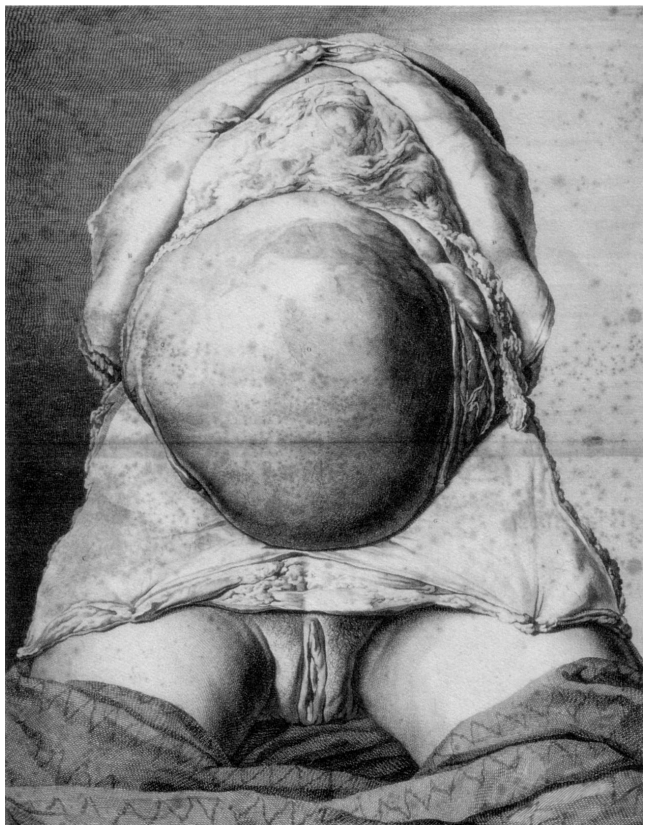


Fig. 2.18. Nine month uterus, William Hunter's *Human Gravid Uterus*, 1779 (Adams, 1994, p. 133).

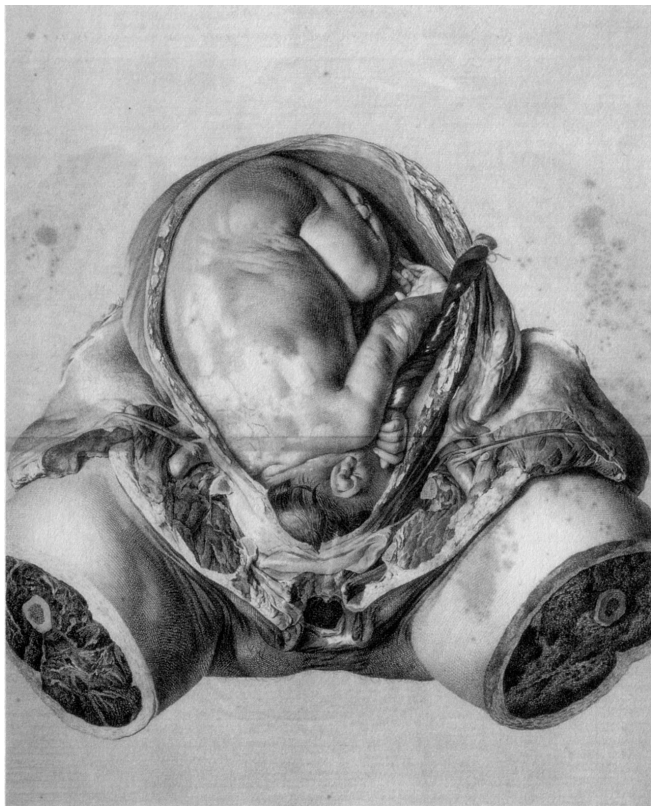


Fig. 2.19. Fetus *in utero*, William Hunter's *Human Gravid Uterus*, 1779 (Adams, 1994, p. 134).

that merely describes the object, to a truthful depiction of an actual body that would convey its own truth, hardly needing textual interpretation" (Adams, 1994, p. 128). Nevertheless, when we look at the representation of the fetuses in Hunter's book, it is obvious that, "a creative, rather than a revelatory gaze is at work" (Adams, 1994, p. 129).

According to Newman (1996), "not until the late eighteenth century are there representations of a woman's fully pregnant body outside such coded narratives" (p. 82) (Fig. 2.20). In this illustration (Fig. 2.20), besides the representation of a

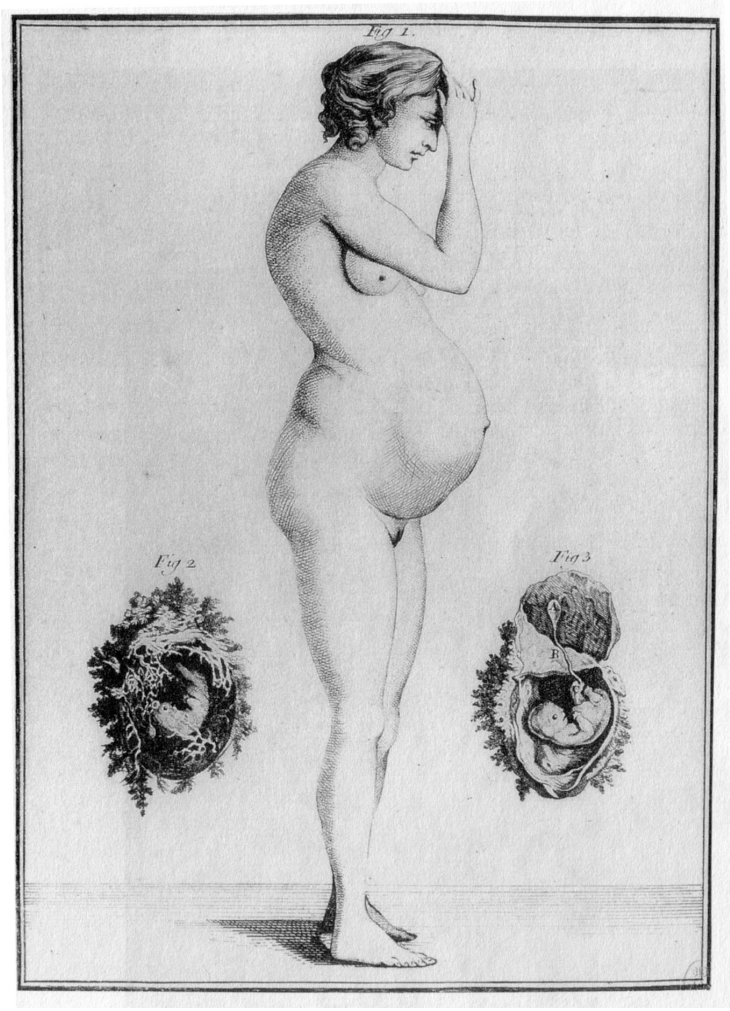


Fig. 2.20. From J. B. Jacobs, *Ecole pratique des accouchemens*, 1793 (Newman, 1996. p 85).

woman's fully pregnant body, the representations of both the uterus and fetus show a radical difference from other conventional anatomical illustrations. One of the most significant differences of this illustration is its realistic representation of the fetus with unformed features and limbs rather than a homunculus, a miniature man. Newman (1996) adds that "the uterus and placenta are rendered with more detail and are sized proportionately" (p. 82).

The eighteenth century was also the beginning of the age of great anatomical wax collections. Although the primary use of these models was medical training, they also enjoyed a wide circulation such as in art academies, in public exhibitions of various kinds, and in private collections (Jordanova, 1989, p. 49). Without making any difference, wherever they were used, anatomical wax models of the female body have always been recumbent and supine women,[13] called "anatomical Venuses," (Newman, 1996. p. 86) "lie on silk or velvet cushions, in passive, yet sexually inviting poses" (Jordanova, 1989, p. 44) (Fig. 2.21). Thus, different from the mythological, biblical, or anthropological narrative codes of anatomical illustrations

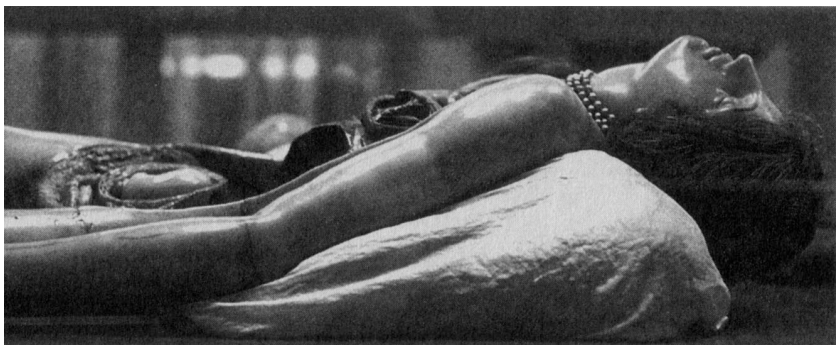


Fig. 2.21. Anatomical model, 18th century (Newman, 1996, p. 87).

[13] Jordanova (1989) claims that, "Yet, I know of no male models which show the complete body either covered with flesh or recumbent" (p. 44).

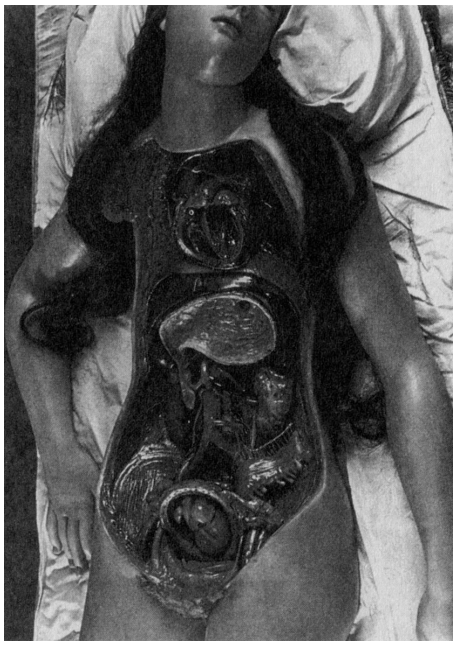


Fig. 2.22. Anatomical model, 18th century (Newman, 1996. p. 87).



Fig. 2.23. Wax model *"Lo Spellato," La Specola*, Florence, Italy (Van Dijck, 2005, p. 50).

of the female body, "they are inserted in a different semantic chain as odalisques" (Newman, 1996, p. 86). They are adorned with flowing hair, bedecked with pearl necklaces, with faces in almost sensual abandon (Figs. 2.22, 2.23).

These anatomical models are always pregnant. So the ultimate aim is to reveal the fetus in depth after removing each tissue and organ through these anatomical models of the female body. This fetus in depth has always been a homunculus and it has never been subject to a dissection. It should be noted that, although the representation of the fetus and the female body became more realistic in anatomical illustrations at the end of the eighteenth century (as mentioned above and shown in Fig. 2.20), the model of the fetus in wax models stayed as a homunculus, a tiny adult, a miniature man.

In sum, the fetus is always represented as male and independent of the female body in obstetrical illustrations and models in midwifery manuals, obstetrical anatomy atlases, and medical dictionaries. The fetal image is never subject to a virtual dissection and is always illustrated and modeled as whole and undivided. Therefore, fetal image was "the image *par excellence* of rights-bearing Enlightenment Man," from the beginning and, in a sense, has become a fetal personhood since then (Newman, 1996, p. 67).

The female body is always represented in a lacking form and "sacrificed to fetal subjectivity in multiple ways" (Newman, 1996, p. 88). In the midwifery manuals, a full and proper representation of the female body is lacking; what we find is always a representation of a fragment, i.e. the womb. In anatomical illustrations and models, although the female body is represented as a whole, it is, on the one hand, figured in explicitly sexualized poses and on the other, it is dissected, opened, and its inside and the fetus it carries are made visible.

In contemporary editions of obstetrical textbooks, mostly the photographic images are used for the prenatal care or well-being, referred to as "prenatal surveillance," rather than any illustrative representation of the female body and the fetus (Newman, 1996, p. 104). The exceptional drawings and models of the female body or the fetus still adhere to the hegemonic conventions analyzed above.

2.3. X-Ray Fetal Image

With the invention of X-ray at the end of the nineteenth century, not only a new medical imaging technology emerged but a new mode of seeing and representation of the body came out as well. Before X-ray, the photography camera was already invented and it had not only become popular with the public but also "by the 1890s photographs had become the standard recorders of objective scientific truth" (Kevles, 1997, p. 15). Just before the invention of X-ray, the first motion picture shows had been made in cabarets. As Kevles (1997) states, "on the eve of the discovery of X-rays, everything was in place: the cameras were loaded, the projection booth ready to go. But no one was prepared for a device that would change the face of the medicine, law, the arts, and the way ordinary people perceived their own bodies" (p. 16). Therefore, the year 1895, which is officially accepted date of the invention of X-ray technology, symbolizes the paradigmatic shift "in accepting the body as porous beyond the ordinary vision" (Kevles, 1997, p. 288).

With the use of X-ray in medicine as a medical imaging technology, a frontier is passed: The opaque body is made transparent, or in other terms, medical imaging technology made the invisible visible without physically penetrating into the body. This was at the same time a new mode of seeing, i.e. a new representation of the inside of the body. It was not operating as the anatomists see inside the body with their eyes. X-ray films were reproducing gray scale shadows of the inside of the body and hence physicians have learnt to read these images in medical sense.

After Wilhelm Röntgen invented the X-ray in 1895, it reached the fetus in a very short time. As Duden (1993) tells,

> A woman's belly was exposed to invisible electromagnetic waves, and the shadows thrown lit up a barium-covered screen. The outlines of a tiny cranium and shortly afterward that of some tender bones were captured on the photographic plate. The six-month embryo was first seen as a tentative skeleton. In the 1930s, biomedical methods certified its presence even before the midpoint of pregnancy. In the 1940s, at the cost of a couple of guinea pigs for each test, scientific verification became even more reliable (Duden, 1993, p. 32).

This invention also signified the beginning of another phase of the project of 'making the female body transparent,' for the sake of seeing the fetus in the womb and reproducing the fetal image without having to cut the female body open or physically penetrate into it (Fig. 2.24). But, later, the harmful effects of X-ray on



Fig. 2.24. X-rayed fetuses (Oakley, 1986, p.101).

both the fetus and the pregnant woman were scientifically proved. However, coincidentally the technology of ultrasound was at the phase of research and development, and it would spontaneously take the role of X-ray technology as the vision of the inside.

2.4. Fetal Photography: Lennart Nilsson

Lennart Nilsson, the Swedish photographer,[14] took the first fetal photographs by working seven years on his project. Nilsson's fetal photographs first appeared in the cover page of the *Life* magazine in 1965 (Fig. 2.25), with an article entitled "Drama of Life Before Birth" (Fig. 2.26). These photographs were the first realistic images of the fetus in the hitherto impenetrable womb. 1960s was a transitional period for medical imaging. X-rays were no more used because of their scientifically proved harmful effects. It was the early development period of ultrasonography so ultrasound fetal images had not yet appeared on the cultural scene. Therefore, fetal photography was met with great fascination (Stabile, 1992, p. 185). In a short time, they were used by anti-abortionist movement, as proof of the beginning of life at fetal stage. They also became "the *locus classicus* for feminist discussions of fetal imagery" (Newman, 1996, p. 10).

According to Duden (1993), Nilsson "conceived of himself as a descendant of the copper engraver, who in the sixteenth century had made illustration possible, and the wood engraver or lithographer who in the nineteenth century had made it cheap and

[14] The nationality of Nilsson is important because in 1960s Sweden was the country, "where many privileged American women of sufficient means obtained abortion" (Newman, 1996, p. 13). And Nilsson worked in cooperation with abortion doctors for his fetal photography project in his country.



Fig. 2.25. Fetus at eighteen weeks, cover page of *Life*, April 30, 1965 (Michaels, 1999, p. 118).

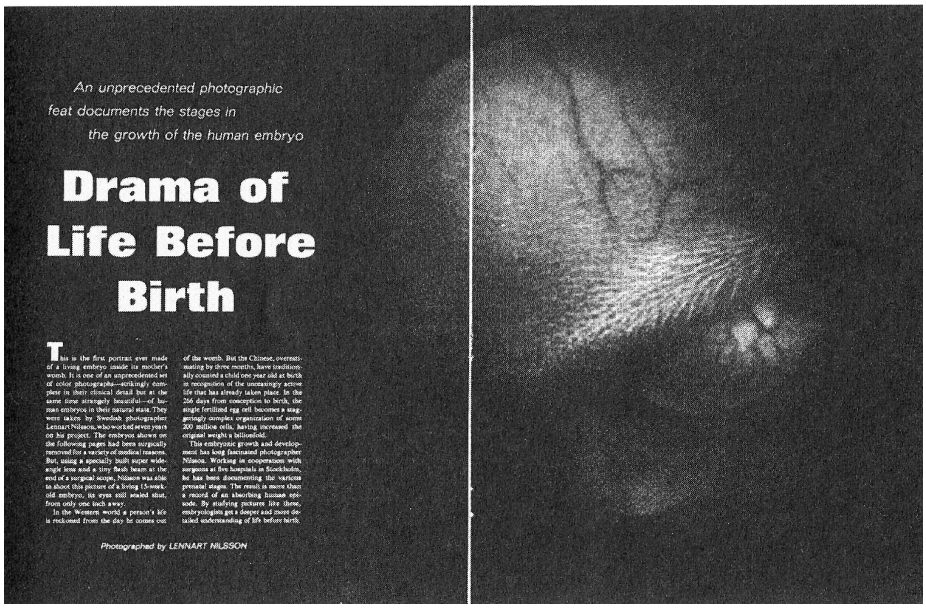


Fig. 2.26. Fetus at fifteen weeks, *Life*, April 30, 1965 (Newman, 1996, p. 11).

therefore popular" (p.12). Besides reproducing fetal photographs and making them popular, Nilsson can also be considered as a descendant of William Hunter and other obstetrical anatomists in his 1965 fetal photographs. As the fiber optics technology for fetoscopy was still at an early stage of development, fetal photographs *in situ* were less in number. Most of the fetal photographs were reproduced in laboratory by utilizing fetus corpses, which had been surgically removed for a variety of medical reasons. Therefore, most of Nilsson's 1965 fetal photographs were still-life photographs of the fetus like Hunter's dissection and illustration of the cadavers of pregnant woman and fetus. In other words, they both pictured dead bodies.

Later, a series of fetal photographs, which were depicting the development of fetus were reproduced by Nilsson and published again by *Life* magazine in 1990. Once again, one of Nillson's fetal photographs was occupying the cover page of *Life* magazine, this time with the caption "The First Pictures Ever of How Life Begins" (Fig. 2.27). Nilsson's fetal development photograph series were also published as a book named *A Child is Born* in the same year (Fig. 2.28).

With his 1990 fetal development series Nilsson broke the lineage with fetal illustration of Hunter and other obstetrical anatomists, and brought out a representational shift. "The living body of the fetus, freed from the obscurity of its life in the womb, should outshine the archaic corpse and reveal its truths unambiguously to the curious gaze" (Adams, 1994, p. 140). These new fetal photographs, which were reproduced with advanced apparatuses and technical skills in medical and surgical processes, also passed a frontier between the representations

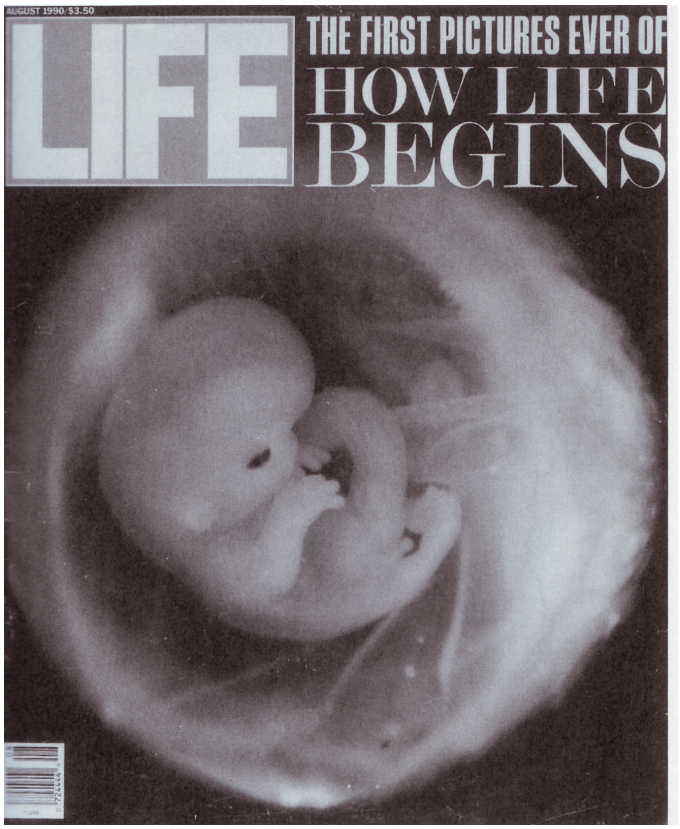


Fig. 2.27. Life magazine cover page, August 1990 (Michaels, 1999, p. 121).

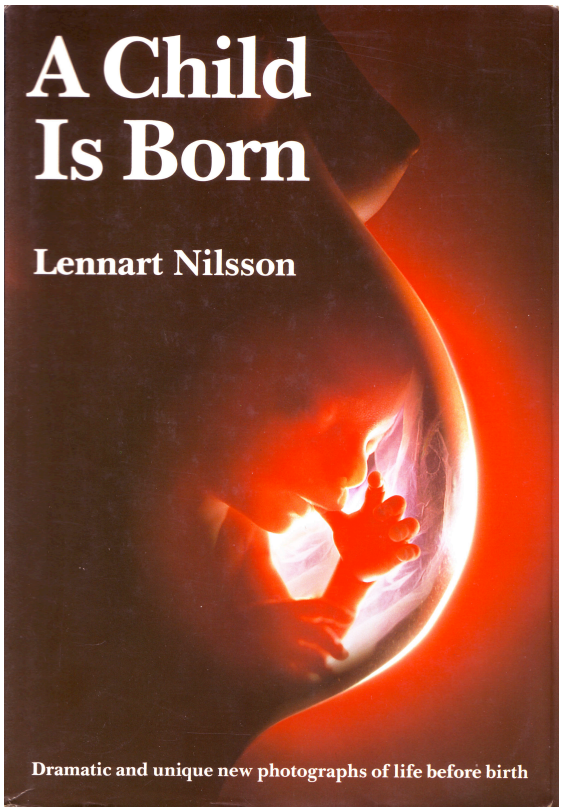


Fig. 2.28. Cover page of Nilsson's book *A Child is Born*.

of visible and invisible. Duden (1993) expresses that as the disappearance of "the frontier between visible things that are visibly re-presented and invisible things to which representation imputes visibility" (p.16).

In the 1965 fetal photographs of Nilsson, the reader could easily recognize the images while reading the corresponding text, as illustrations of an extended caption. In the 1990 fetal photograph series, "the illustrative function of the pictures has been inverted. (…) Without instructions from the writer, one cannot read anything into these shapes" (Duden, 1993, p. 12). (Figs. 2.29, 2.30)



Fig. 2.29. Four weeks embryo (Nilsson, 1990, p. 79).



Fig. 2.30. Six weeks after fertilization (Nilsson, 1990, p. 85).

The main intention in fetal photographs of Nilsson (especially in 1990 series) is to show the development of fetus. It becomes more humanlike in its bubble at every week and month passing. (Figs. 2.31, 2.32, 2.33) At the beginning, while it is a specimen, towards the end of gestation the text presents it as “an astronaut,” i.e. an individual/subject (Fig. 2.34). Adams (1994) states that “the only consistent “truth” that these photographs seem to tell is that the fetus, whether a corpse or a living organism, is essentially an independent individual” (p. 143). In all fetal photographs of Nilsson, there is one thing lacking as a black void surrounding the spaceship of the astronaut fetus: the body of the pregnant woman. These photographs only carry some traces of the amniotic sac and placenta at different levels. Therefore, the female body is obliterated.



Fig. 2.31. Embryo approximately six-weeks-old (Nilsson, 1990, p. 89)

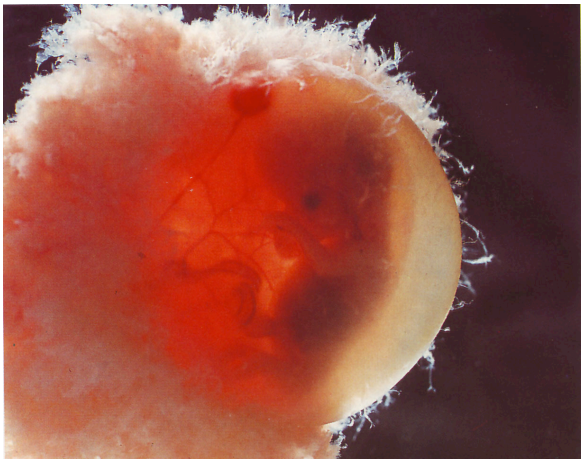


Fig. 2.32. Eight weeks old embryo/fetus (Nilsson, 1990, p. 91).

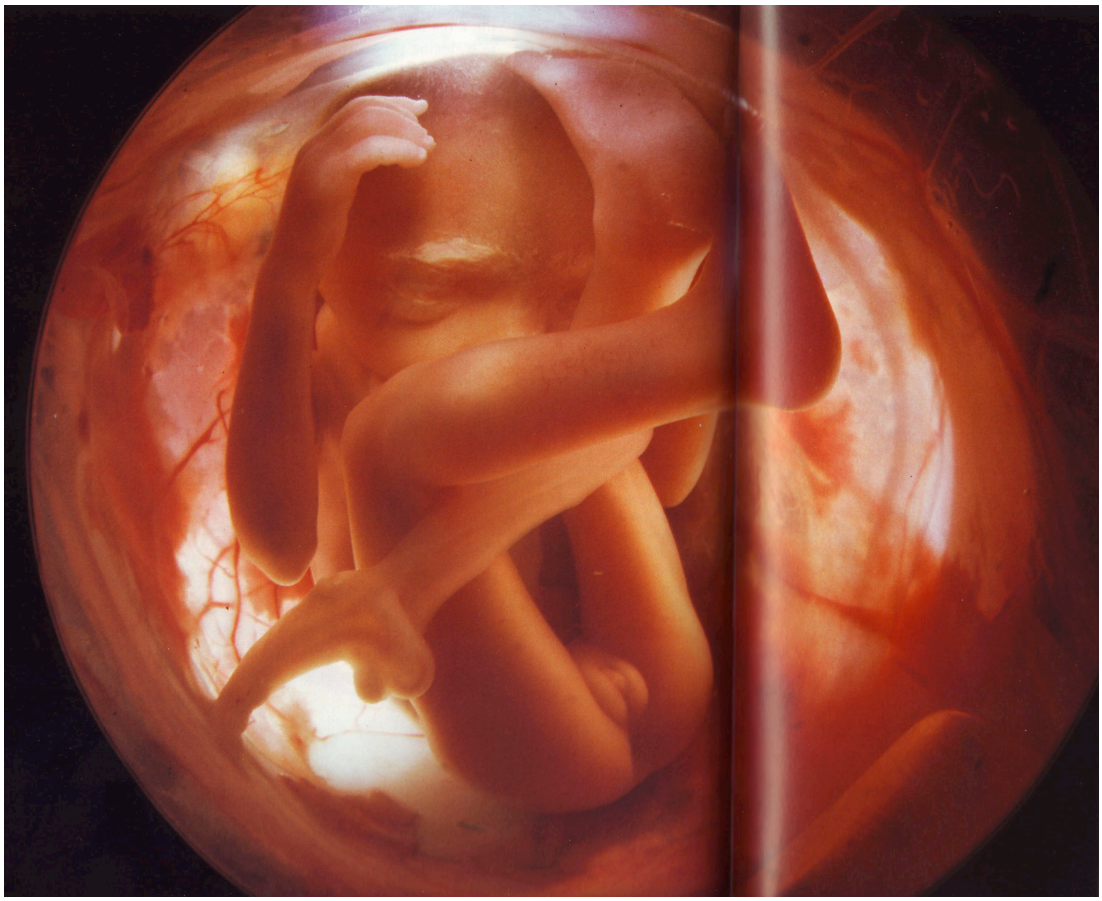
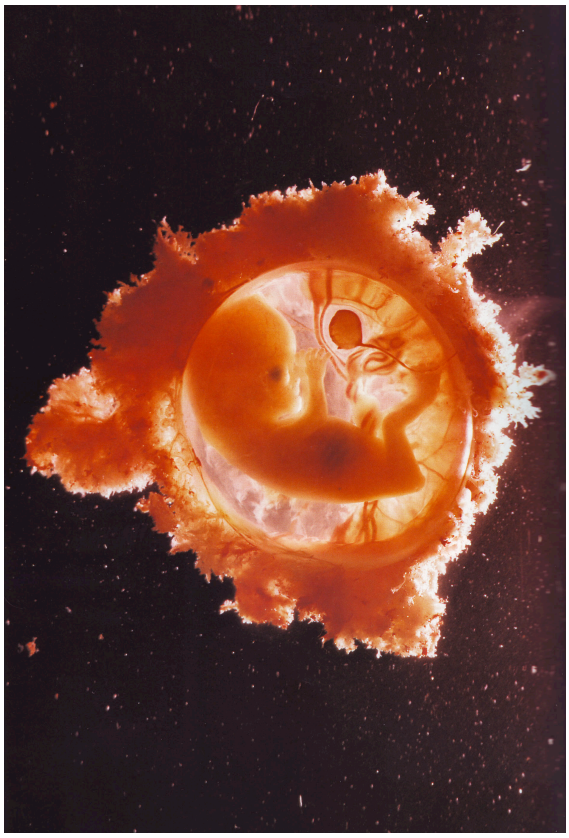


Fig. 2.33. Eighteen weeks old fetus (Nilsson, 1990, p. 138).



"Mankind is a newcomer to the universe, and this 3-month-old fetus may be seen as a symbol of our advent—a space traveler in his capsule, complete with lifeline. The ragged halo is the chorionic sac, which adheres to the placenta" (Nilsson 107).

Fig. 2.34. Three-month-old fetus (Nilsson, 1990, p. 106).

2.5. Ultrasound Fetal Image

In the 1960s, ultrasound technology started to be used in obstetrics as an extension of military sonar technology. And with the use of ultrasound in obstetrics, a new era is opened in the obstetrics discipline and medical imaging in obstetrics. [15] Indeed, this is the second stage of the breakthrough in making the female body transparent, which was started by X-ray technology. The use of ultrasound expanded in a very short time both by the supply of ultrasound apparatuses in obstetrical clinics and by the demand of the people to see the ultrasound fetal image; pregnant woman and her

[15] For a more general history of the development of ultrasound see Edward Yoxen's article, "Seeing with Sound: A Study of the Development of Medical Images," Kevles' book *Naked to the Bone*, and Ann Oakley's article, "A History Lesson: Ultrasound in Obstetrics" in her book *Women, Medicine and Health*. Also see Woo's online article "A Short History of the Development of Ultrasound in Obstetrics and Gynecology."

partner have always been in deep curiosity and impatience to see 'their unborn baby'. On the cultural scene, this can even be termed as "ultrasound mania", following Lisa Cartwright (1995) who called the vociferous response and demand to X-ray imaging technology "X-ray mania" (p.107).

Ultrasound fetal image "appeared as an echo outline of an inaudible "sound"" (Duden, 1993, p. 32). When we look at the technical reproduction of ultrasound fetal images, there are basically three phases. In the first phase, an inaudible sound wave is produced by a transducer[16] encased in the probe of the ultrasound machine and sent into the womb through the abdominal surface (called "abdominal ultrasound examination") or through the vagina of the pregnant woman (called "transvaginal ultrasound examination"). This inaudible sound wave is a single focused arch-shaped form like it is seen on the monitor of the ultrasound machine. It is the sum of all the individual pulses emitted by the transducer that is between determined frequency ranges.

Whenever this inaudible sound wave is sent to the pregnant woman's body, the second phase immediately begins: the woman's body returns sound as an echo. The sound wave penetrating into the body is reflected with different intensities with respect to the density of the tissues of the womb and the fetus. Finally, in the second phase, these echoes vibrate the transducer's elements in the probe and are converted into electrical pulses.

[16] A transducer is an electronic device for converting energy from one form to another. Microphones, loudspeakers, thermometers, position and pressure sensors, and even common light bulbs are examples of transducers in our daily life.

In the third phase, the electrical pulses are sent to the ultrasound machine in order to process and transform them into an image on the monitor. While the emitted sound wave is transformed as an echo by the woman's body, a data set about the womb and the fetus is inscribed on them.[17] Then, ultrasound machine processes the necessary inscribed data to locate and determine the level of illumination/brightness of each pixel on the monitor. Therefore, the arc-shaped ultrasound fetal image appears on the monitor as a cumulative surface effect of illuminating pixels, which might be called "light itself." (Fig. 2.35)



Fig. 2.35. Ultrasound of second-trimester fetus (Van Dijck, 2005, p. 105)

[17] The ultrasound machine is designed to determine three different data from each received echo: Which transducer element received the echo, the strength of the echo, and the time lapse between the transmission of the sound wave and the return of the echo.

2.6. What Makes the Ultrasound Fetal Image Distinct?

There are historically three types of fetal images before the ultrasound fetal image, as explained above. These are illustrated fetal images in midwifery manuals, medical dictionaries, and obstetrical anatomy atlases; X-ray fetal images; and Nilsson's fetal photographs. All of these different types of fetal images correspond to different technologies in medical imaging.

The illustrative fetal images are reproduced by drawing and printing in an artistic mode of representation. X-ray fetal images are reproduced by imposing electro-magnetic waves on the pregnant body and having a fetal image on a photographic plate. Nilsson's fetal photographs are, at the beginning, the photographic reproduction of the dead fetuses in the studio; later he used fiber-optics technology to make photographic shootings in the uterus of the pregnant women, called fetoscopy. Whatever the medical imaging technology used in these different types of fetal images, the mode of representation of the female body and its relation with the fetus are same. The representation of the fetus is the primary form in the frame and the female body becomes an ecological environment for the fetus or is totally obliterated.

Until the invention of X-ray and ultrasound and their use in obstetrics, fetal images were reproduced by two different modes of medical imaging technologies. The first one was the artistic reproduction of fetal images as illustrations on paper by drawing and/or printing. These were the fetal images in midwifery manuals, obstetrical and anatomical atlases until the end of the nineteenth century. The second mode of

medical imaging technology was the photographic reproduction of fetal images by using photographic camera. These fetal images took their places mainly, but not only, in medical publishing.

Therefore, today, with the addition of X-ray and ultrasound we have three different modes of technologies for the reproduction of fetal images with different mimetic capacities. When they are chronologically put, first there is fetal illustration or simply fetal pictures. Secondly, there is fetal photography, which is mostly pronounced with the name of Nilsson. Both of these analogue technologies are under the hegemony of naturalistic or realistic mimetic capacities of the technology used. Therefore, for medicine/obstetrics, variations in the fetal images until X-ray and ultrasound only come out with respect to the mimetic/analogical capacities of the tools in illustration or the apparatus in photography.[18]

Finally, there is a third mode of technology in which fetal image is reproduced: "electronic" medical imaging which involves the use of X-ray and ultrasound.[19] Electronic medical imaging technologies, which are also called "inscription technologies" (Van Dijck, 2005, p. 15), do not "depend on an observing subject or its

[18] Here, I utilize the distinction between "tool" and "apparatus" made by Flusser (1984). According to him, the difference between a tool and an apparatus is more than the difference between their mimetic capacities. Flusser simply defines tool as "a simulation of a body organ which does work" (1984, p. 61) and then continues his definition, "tools as such are objects which remove other objects from nature to put them where we are –in order to produce them. In doing so, they change the original form of those objects, impose a new form on them; in other words, tools inform objects" (p. 16). The chalk, pen, or brush of the draftsman in illustrating the female body, womb or fetus is this sort of tool, which is an extension of the hand and/or finger(s). An apparatus is simply "a toy which simulates thought" (Flusser, 1984, p. 60) and "apparatus do inform, they do simulate human organs, not the eyes (…), they do have recourse to science, people do act as a function of them, and there are indeed intentions and interests hidden within apparatus. (…) Automation is essential" to apparatus (Flusser, 1984, p.17). Following this, ultrasonographic apparatus can be considered as the toy of the obstetrician, which simulates the obstetrical thinking on the female body, womb, and fetus.

[19] Electronic imaging technologies are not limited to X-rays and ultrasonography. They include a wide range of techniques in medical use, such as computed tomography imaging (CTI), magnetic resonance imaging (MRI), positron emission tomography (PET), etc. and non-medical use such as robotic image recognition, ray tracing, texture mapping, virtual reality simulators, etc.

surrogate, the camera" (Newman, 1996, p. 107). According to Newman (1996), "they are not analog media dependent on a point of view located in real space: they signify no "particularized individuality," and they make no "deictic declaration: this is how I see"" (p. 107). In Van Dijck's words, "they seek to dispose of mediation (such as an artist's drawing) and instead record the interior body directly onto a machine" (2005, p.15). Therefore, the representation schema of the fetal image reproduced by the electronic obstetric imaging operates differently than the naturalistic or realistic mimesis/analogy. Hence ultrasound fetal images—which are the most common electronic images in obstetrics today—are mathematical reading, formulation, ad encoding of the data about the inner elements of the female body, and specifically the womb, and decoding by transforming this data into an image on the monitor by rendering the intensity of light. Of course, this is an electronic seeing, which is totally different than a deictic declaration ("this is how I see"). Hence, for layperson it is difficult to see, read, and understand these images. And the trained medical gaze of the obstetrician once again is in operation and he not only reads these images for pregnant woman and her partner, but makes a translation as well.

One of the ideals of medicine has always been to make the body "transparent" (Van Dijck, 2005, p. 15). The artistic/photographic analogue medical imaging technologies served the ideal of transparency by dissecting corpses.[20] In artistic medical imaging, the draftsman is expected to illustrate by his pen each 'important'[21]

[20] For a detailed analysis on the genealogy of the dissection of corpses see the chapter "Open up a few Corpses" in Foucault's book *Birth of the Clinic*.

[21] There has been a struggle between the anatomist and the draftsman with respect to each one's perception of 'important' thing(s) in what they see during the dissection. Duden (1993) puts this conflict very well by quoting from Soemmering, who is one of the admirers of William Hunter: "It is well known how difficult it is to find the right kind of draftsman, who is capable of seeing clearly what the anatomist demands from him, and is not too stubborn to let himself be guided in this job" (p. 40). And she explains that, "Soemmering knows that the struggle is about that which shall be seen,

detail of tissues and organs of the corpse that is exposed to light by the scalpel of the anatomist. In photographic medical imaging, the photographer is expected to pose each important phase of the fetal development on to the light-sensitive emulsion of the film by his camera. In either case, a cadaver—a dead body—is cut open and/or exposed to light to see the mechanism of life.[22] In other words, in both artistic and photographic medical imaging technologies, the female body is made cadaverous in order to see the fetus inside of it. Hence, in a sense, the mimetic/analogue fetal image is a "still life" in the cadaverous female body both by artistic and photographic medical imaging technologies.

The invention of the electronic medical imaging technologies, and especially the ultrasound, signified the beginning of another phase of the project of making the body transparent. These new electronic medical imaging technologies reproduce the fetal image without having to cut the female body open or physically penetrate into it. Therefore, they are categorized as "non-invasive" technologies.

Ultrasound fetal images affect people not only because of the non-invasive character of its technology but also because of their immediacy. Ultrasound renders electronic fetal images on the monitor both in motion and in real time. These are "live" electronic images of the fetus. Hence, the invention of ultrasound symbolizes a revolutionary shift from still life to "life itself." Obstetrics widens its corpus of knowledge by extending the possibility of additional observation, measurement and calculation on the live images of the fetus. While obstetrics has always been

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between the anatomist who "knows" what ought to be there and captured by the artist, and the artist who sees the object for himself" (Duden, 1993, p.41).

[22] Foucault (1991) aphoristically states the funtion of dissection as, "The living night is dissipated in the brightness of death" (p.146).

passionate to put under surveillance the pregnancy and to govern the female body, the invention of the ultrasound is both motivated and effected the disciplinary focalization of the obstetrics on the fetus through the ultrasound fetal image. Therefore, a new sub-discipline emerged in obstetrics called "fetology." In a sense, fetology can be considered as the ethical legitimization and professional justification of the obstetrics in making the fetus 'real' patient in the core of the body, and making the female body a peripheral element, an ecological environment on the way to obliteration.

As Kevin Robins (1996) states, "it is said that we are undergoing an 'image revolution' on an unprecedented scale, and this supposed revolution is then associated with the historical transition to a postmodern era." (p. 3) Whether modern or postmodern, it is obvious that we are living in an age of images. But this 'revolution' has another component that is mostly neglected: sound. We should perhaps re-write Robins' above statement: we are undergoing an *audio-visual* revolution (rather than just an image revolution). The ultrasound image does not merely put sound and image together. As a form of image produced electronically through sound and echo, it occupies a strange and strategic place in the so-called audio-visual revolution of our time.

In the audio-visual age, images are mostly electronic, including ultrasound fetal images. Here, it should be underlined that electronic images differ from others in one important respect: they are produced by light itself, instead of projecting or printing the image by light on a surface as it is done in cinema or photography. Electronic images are produced by electrical/electronic processes and are rendered on a monitor

as the accumulation of illuminating lights. Given that the ultrasound fetal image is also often described in terms of "life itself," it becomes a singular kind of electronic image, which brings the concepts of "life" and "light" together.

The constitutive connection between light and life is indeed a very old one. It is possible to observe it in religious and mythical belief systems. This is a major factor that explains the popularity of the ultrasound fetal image as the very appearance of the beginning or origin of life. We thus see, once more, that, first of all, technological progress does not make ancient ideas and beliefs disappear but rather gives them new conditions and puts them in new contexts; secondly, articulating life and light under new conditions, the ultrasound fetal image is based on certain philosophical, political, ethical, legal and religious presuppositions about life.[23]

In the following chapter, I will present and elaborate Foucault's and Irigaray's works and will assemble a new theoretical framework which brings the two together on the particular question of ultrasound fetal image.

[23] These arguments are mostly related with the abortion/anti-abortion debate especially in the Western literature (which I have utilized much). In this thesis, I am not dealing directly with this issue. My main concern is the phallogocularcentric construction of the ultrasound fetal image and the female body in our world of understanding, seeing and giving meaning. Therefore, I will elaborate the ultrasound fetal image in a critical way by taking it to the site to which it belong, i.e. the female body, in a Foucauldian and Irigarayan framework. And, finally, I aim to constitute an alternative framework to see and think ultrasound fetal images through the female body by returning to abortion/anti-abortion debate.

3. ASSEMBLING THE THEORETICAL FRAMEWORK

I will use the theoretical frameworks and methodologies of Michel Foucault and Luce Irigaray in a complementary way in an effort to develop a theoretical analysis of the ultrasound fetal image. Both Foucault's and Irigaray's critical positions are quite distinct in the trajectory of Western thought, and I will first describe their singular positions. Secondly, I will present their approaches and will discuss the place of each in my project. Finally, I will establish a theoretical and methodological framework depending on the Foucauldian and Irigarayan perspectives.

I will first discuss Foucault's concept of medical gaze. I will however take this early Foucauldian concept in the context of his later theory of power-knowledge and the concept of bio-power. My emphasis here will be on the ways how the concept of medical gaze produces an entirely new approach to body, life and death. This will enable me to focus on how the female body and its procreative potential are governed by the discipline of obstetrics, that is, what I am going to call the *obstetricization* of the female body. Emphasizing the historical discontinuity which produced the modern medical gaze, I will argue that the ultrasound fetal image is a further instance of this modern institutionalization. Medical imaging technologies, ultrasound technology in particular, have been used in the disciplining and normalization of women's bodies, which is also a process of pathologizing the female body. Further, fetal images are perceived as representing the human subject in

its earliest form. This perception leads to the birth of a new sub-discipline called "fetology".

I will then turn to Irigaray's texts and will focus on her mimetic and homeopathic strategy in deconstructing the phallogocentric logic. The obstetrical clinic can be regarded as a "phallogocularcentric" staging in which the ultrasound fetal image occupies the center scene. How to break the silence of the pregnant woman lying on the gynecological table watching her body's interiority illuminated by the phallomorphic and phallocratic male vision and voice? I will pose the question of how Irigaray's mimicry can be employed in such a setting to subvert it and to re-write fetal images as productions of woman's body. The purpose here is to shift the image from a phallomorphic site to a vulvomorphic one, from the phallic medical gaze to the woman's touching gaze. I would like to suggest that this touching gaze can be regarded as an inscription written by the echo of woman's body, which is no longer a merely receptive surface but a mobius band whose turns, folds and reverbations are productive of images.

3.1. The Foucauldian Perspective

Michel Foucault stands out as one of the significant radical philosophers of the twentieth century. His conception of power not only completely differs from the political theorists who usually follow "totalitarian theories"[24] but, when put together with his theorization of "knowledge," also forms the main axis in his writings.

[24] Although Foucault does not deny "global, *totalitarian theories*" such as Marxism and psychoanalysis as useful tools for local research in a fairly consistent fashion, he underlines their "inhibiting effect". He explains this inhibiting effect as a hindrance brought to research by their attempt to think only in terms of totality. (Foucault, 1980a, pp. 80-81).

Foucault exposes different forms of power/knowledge operating on the body of the modern Western individual and society, through his historical strategy called genealogy, and by doing so he opens ways to new forms of political struggle and resistance.

In what follows, I will first describe briefly Foucault's position in the contemporary social theory. I will then explain his conception of the medical gaze and his general perspective on the historical change in the forms and techniques of power and conceptions of the body in Western culture. Lastly, I will develop a Foucauldian framework that may help us to understand the ultrasound fetal image in a critical way.

3.1.1. Approaching Foucault

As Paul A. Bové (1988) states in the foreword to the English translation of Gilles Deleuze's book *Foucault*, it is difficult to situate Foucault in contemporary political and social theory.

> Because there is commonly such a buzz of contradictory comment going on around him—as his friends and enemies push him to the left, right, and center or sometimes off the political spectrum altogether—*Foucault* could assert that it proves what he contends: conventional categories really don't fit him; he is posing an entirely new and different set of questions about a whole range of sometimes unthought of matters. (Bové, 1988, p. viii)

In his early period, in a series of studies under the methodological title "archaeology," Foucault utilized a version of structuralist method in which the objective laws governing all human activity are laid out, as a reaction to

phenomenological concept of a meaning-giving transcendental subject. For example, in his books *Madness and Civilization* and *The Birth of the Clinic*, Foucault analyzes the rule-governed systems of the asylum and the hospital as institutional and discursive practices on the body of the insane and the patient as historically produced objects.

It can be said that, although Foucault used structuralism and interpretive methods, he was not exclusively a structuralist, nor an adherent of hermeneutics. He might be better described as thinker of historical change and discontinuity[25]. His particular concern was to understand the minute historical and institutional transformations that led to the emergence of a modern culture at the level of institutional and everyday experience. Foucault shows how certain institutional structures and cultural practices have produced modern individuals by developing new forms of power and knowledge. Dreyfus and Rabinow (1983) briefly formulate the contribution of Foucault to social theory as "heightened methodological sophistication and a unique emphasis on the body as the place in which the most minute and local social practices are linked up with the large scale organization of power" (p. xxvi).

Foucault concentrates on the question of how the human sciences study and understand human beings. First he points out the historical turn of the human sciences at the end of the eighteenth century. At this point, he formulates his conception of power and its relation with knowledge. He pays special attention to the exercise of power on the bodies of individuals and the ways in which the notions of

[25] When Foucault is asked what he thinks about "discontinuity, " he responds, "my problem was not at all to say, '*Voilá'*, long live discontinuity, we are in the discontinuous and a good thing too', but to pose the question, 'How is it that at certain moments, and in certain orders of knowledge, there are (...) sudden take-offs, (...) hastenings of evolution, (...) transformations which fail to correspond to the calm, continuoust image that is normally acredited?'" (Foucault, 1980b, p. 112).

life and death are re-conceptualized in such an exercise. So Foucault's method is not purely linguistic and is strongly influenced by Nietzsche's genealogical approach to the history of the body. Foucault employs Nietzschean genealogy[26] by especially using it as a key for understanding the historical change in the forms of power as relations of force and their exercise on the body. He shows how certain institutional structures and cultural practices have produced dividing practices for the sake of normalizing and governing individuals through their bodies by developing new conceptions of medical gaze, power/knowledge and bio-power.

3.1.2. Medical Gaze

In his unconventional history of modern medicine, *The Birth of the Clinic*, Foucault elaborates a concept of "medical gaze." The medical gaze forms the defining feature of the modern clinic. He aims to find out "how the medical gaze was institutionalized, how it was effectively inscribed in social space, how the new form of the hospital was at once the effect and support of (this) new type of gaze" (Foucault, 1980c, p. 147).

There are two important aspects in Foucault's archaeology of medical gaze. First of all, the medical gaze is a complex perceptual formation in which audition and touch

[26] It is problematic to call genealogy a historical method in the conventional sense since "genealogy opposes itself to traditional historical method" (Dreyfus and Rabinow, 1983, p. 106). Although Foucault is not in full accord with Nietzsche, he utilizes genealogy as his historical strategy—preceding his method of "archeology" in his major works in the 1970s—because of its theoretical coherence and practical ability to let Foucault write the history of the present on power/knowledge, and the body. Dreyfus and Rabinow (1983) briefly outline genealogy in comparison to traditional historical methodology as follows: "For the genealogist there are no fixed essences, no underlying laws, no metaphysical finalities. Genealogy seeks out dicontinuities where others found continuous development. It finds recurrences and play where others found progress and seriousness. It records the past of mankind to unmask the solemn hymns of progress. Genealogy avoids the search for depth. Instead it seeks the surfaces of events, small details, minor shifts, and subtle contours" (Dreyfus and Rabinow, 1983, p. 106).

are also involved. Secondly, "the medical gaze required a new concept of *pathology* as well as a shift in the place of *death* in the medical field" (Mutman and Ocak, 2008, p. 23).

The medical gaze is not a merely neutral and scientific gaze, but a singular and complex perceptual-linguistic formation whose rationale is to make the invisible pathological body visible and readable. The most important step in the evolution of the medical gaze is when a *symptom* becomes a *sign* for the doctor to speak. This also signifies the birth of the clinical method which "was bound up with the emergence of the doctor's gaze into the field of signs and symptoms" (Foucault, 1991, p. 91). Before the medical gaze, diseases were conceived by means of classification. With the appearance of the new element of time and progression, it became possible to restore the disease at the level of words, in terms of a "history" and a "case" that covers its total being (Foucault, 1991, pp. 94-96).

The history of the medical gaze involves a two-stage process. First, the observing gaze became non-interfering: characterized by a supreme attentiveness divorced from any theory or philosophy, the silent and gestureless clinical gaze acquired the paradoxical ability to hear a language as soon as it perceived a spectacle (Foucault, 1991, pp. 107-108). Hospital was the new architectural space that arranged the distribution of light and dark, opaque and transparent, seen and unseen; it was transformed into a neutral and homogenous domain where the gaze learned to construct its own method of effective observation and diagnosis. This enabled the medical gaze to turn gradually, in a second step, from a non-interfering gaze into a predictive, directing one. The observing gaze now developed a new ability to see

"the tangible spaces of the body, which at the same time is that opaque mass in which secrets, invisible lesions and the very mystery of origins lie hidden" (Foucault, 1991, p. 122). This was the moment of "opening up a few corpses" to allow the gaze to penetrate into the secrets of the body. The result was the production of what Foucault called the "visible invisible". This was parallel to a radical change in the concept of disease: it was no longer attacking life from outside, but now it implied the more complicated idea of *pathological life*. Morbid phenomena are thus understood on the basis of the same text of life (Foucault, 1991, p. 153). Further, this new concept of disease was accompanied with a new type of sign, the *anatomo-clinical sign*. The new sign was no longer an extension of the symptom but it was a marginal, restricted, imperceptible sign, diagonally traversing the visible body of disease. It belonged to a convergent series, a random configuration. If the earlier clinical sign focused on disease, the new anatomo-clinical (or anatomo-pathological) sign focused on the lesion.

The new methods of seeing, hearing and touching attempted to read projectively the lesional signs and to locate the disease within the body of the patient. Signs projected upon the living body an anatomico-pathological series. The task was now analyzing the series and mapping the volume of the body. Foucault describes this new perceptual configuration in terms of the "sight/touch/hearing trinity": "the inaccessible illness is tracked down by markers, gauged in depth, drawn to the surface, and projected virtually on the dispersed organs of the corpse" (Foucault, 1991, p. 164). It was now possible to assign the invisible spatially. According to Foucault (1991), the eye does not have the most important function here. It is *touch* that enables the doctor to locate "visceral tumours, scirrhous masses, swellings of the

ovary, and dilations of the heart", whereas the *ear* allowed him to hear the crackling bones and the rumbling arteries. "The medical gaze is now endowed with a plurisensorial structure. A gaze that touches, hears, and, moreover, not by essence or necessity, sees" (Foucault, 1991, p. 164).

The medical gaze thus admits a highly complex structure. Its privilege does not depend on a simple, natural and innocent capacity of pure observation but on its *homogenizing* the sensorial complexity. The medical discourse can produce its statements once the hegemony of the gaze over the other senses is established. The gaze is hegemonic to the extent it provides the principle of the production of visibility and intelligibility of new objects such as tissual lesions.

The multi-sensorial perception is a way of anticipating the triumph of the gaze, which will finally be represented, according to Foucault, by autopsy. The other senses are regarded as supplementary. It is *only death* that provides the triumph of the sovereign gaze by "bring(ing) to truth the luminous presence of the visible" (Foucault, 1991, p. 165). Only when life is completely stabilized it can produce a visible and intelligible form—at least before the decay of the body. The very visibility or the scene of life is thus indistinguishable from death: Foucault calls this visibility "invisible visibility" (Foucault, 1991, p. 165). It is "the structure … that commands clinical anatomy and all medicine that derives from it" (Foucault, 1991, p. 165). The "structure" governs plurisensorial and heterogeneous forces by which what is invisible is made visible, accessible and intelligible.

3.1.3. Power/Knowledge

Now, I would like to present Foucault's conception of power and its interaction with knowledge. According to Foucault (1980a), there is a common point in the liberal and Marxist conceptions of power. He calls this common point as "an economism in the theory of power" (Foucault, 1980a, p. 88). In the liberal, juridical theory, "power is taken to be a right, which one is able to possess like a commodity, and which one can in consequence transfer or alienate, either wholly or partially, through a legal act or through some act that establishes a right, such as takes place through cession or contract" Foucault, 1980a, p. 88). Although the Marxist conception of power is formulated in a totally different way, there is still an inherent economism in the theorization of it, "which one might term an economic functionality of power. This economic functionality is present to the extent that power is conceived primarily in terms of the role it plays in the maintenance of production and of class domination which the development and specific forms of production have rendered possible" (Foucault, 1980a, p. 88). Thus Foucault briefly states the economism in the liberal/juridical and the Marxist conceptions of power as follows:

> In the first case we have a political power whose formal model is discoverable in the process of exchange, the economic circulation of commodities; in the second case, the historical *raison d'être* of political power and the principle of its concrete forms and actual functioning, is located in the economy (Foucault, 1980a, p. 89).

Foucault seeks to conduct a non-economic analysis of power which leads his genealogical research and writings to flow into different directions and obstinately pursue different forms of power.[27] He employs varying tools and means in his

[27] In his genealogial research and writings, Foucault attempts less toward a "theory" of power than toward an "analytics" of power, that is "toward a definition of the specific domain formed by relations

analysis. First, he asserts that "power is neither given, nor exchanged, nor recovered, but rather exercised, and it only exists in action" (Foucault, 1980a, p. 89). Secondly, he re-defines power as "a relation of force" rather than "the maintenance and reproduction of economic relations" (Foucault, 1980a, p. 89). These two assertions make it necessary to pose questions such as what the exercise of power involves; how power is exercised; what kind of mechanisms operate in its exercise; and of what power consists. Foucault (1980a) states that "there is an immediate answer that many contemporary analyses would appear to offer: power is essentially that which represses. Power represses nature, the instincts, a class, individuals. (…) In any case, it has become almost automatic in the parlance of the times to define power as an organ of repression" (pp. 89-90). But, according to him, the notion of repression is wholly inadequate to the analysis of the mechanisms and effects of power. He exposes in his genealogical writings that the mechanisms of power formations are "something quite other, or in any case something much more, than repression" (Foucault, 1980a, p. 90) and specifically emphasizes that "the history of the last centuries in Western societies did not manifest the movement of a power that was essentially repressive" (Foucault, 1990, p. 81).

Foucault relates these mechanisms of power to two points of reference: "on the one hand, to the rules of right that provide a formal delimitation of power; on the other, to the effects of truth that this power produces and transmits, and which in their turn reproduce this power" (Foucault, 1980a, p. 93). He asserts that, in any society, relations of power can only be established by "the production, accumulation, circulation and functioning of a discourse" (Foucault, 1980a, p. 93) which constitutes

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of power, and toward a determination of the instruments that will make possible its analysis" (Foucault, 1990, p. 82).

the truth for the social body. Thus the general terrain of his concern becomes "the rules of right, the mechanisms of power and the effects of truth" (Foucault, 1980a, p. 94). Then he seeks to adopt the methodological imperatives and precautions to his general terrain of research. He argues that "in the very first place, it seemed important to accept that the analysis in question should not concern itself with the regulated and legitimate forms of power in their central locations, with the general mechanisms through which they operate" (Foucault, 1980a, p. 96). Instead, Foucault focuses on the local, regional, material institutions (such as hospital, asylum, prison, etc.) in which extreme forms of power are embodied and exercised with specific techniques and effective apparatuses, which are less legal in character.

In his search for an appropriate method, "a second methodological precaution urged that the analysis should not concern itself with the power at the level of conscious intention or decision; that it should not consider power from its internal point of view" (Foucault, 1980a, p. 97). In other words, we should refrain from the questions of who possesses power and what his aim is. Instead, the invested intention of power, its real and effective practices should be sought, where it installs itself. The exercise of power "at the level of on-going subjugation as continuous and uninterrupted processes which subject our bodies, govern our gestures, dictates our behaviours, etc." (Foucault, 1980a, p. 97).

Foucault puts his third methodological precaution as power should not be taken as the consolidated and homogenous domination of one individual, of one group or of one class over others. In other words, "power is not that which makes the difference between those who exclusively posses and retain it and those who do not have it and

submit to it" (Foucault, 1980a, p. 98). Foucault develops a new paradigmatic point of view by taking power as circulating and functioning in the form of a chain, without being localising or being possessed.[28] "And not only do individuals circulate between its threads; they are always in the position of simultaneously undergoing and exercising this power" (Foucault, 1980a, p. 98).

The network established by power, which makes it freely circulate, should not lead only to a descending model of analysis that absolutely takes power as something distributed from a center to the molecular elements of society. According to Foucault, rather an "*ascending* analysis of power" should be conducted, "starting from its infinitesimal mechanisms, which each have their own history, their own trajectory, their own techniques and tactics, and then see how these mechanisms of power have been—and continue to be—invested, colonised, utilised, involuted, transformed, displaced, extended, etc., by ever more general mechanisms and by forms of global domination" (Foucault, 1980a, p. 99).

Foucault's last methodological precaution is about directing our researches not to the State apparatuses and the ideologies accompanying them but towards "the production of effective instruments for the formation and accumulation of knowledge" which are "methods of observation, techniques of registration, procedures for investigation and research, apparatuses of control" (Foucault, 1980a, p. 102). Power is exercised through these mechanisms. It organizes and puts into circulation apparatuses of knowledge rather than ideological constructs.

[28] In his book *The History of the Sexuality*, Foucault formulates this methodological precaution as "power is not something that is acquired, seized, or shared, something that one holds on or allows to slip away; power is exercised from innumerable points, in the interplay of nonegalitarian and mobile relations" (Foucault, 1990, p. 94).

In sum, with these methodological precautions, Foucault overcomes the classical assumptions on power through the sovereignty of state, the form of the law, or the overall unity of domination. According to him, these are only "terminal forms" power takes and he claims that power must be understood

> in the first instance as the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization; as the process which, through ceaseless struggles and confrontations, transforms, strengthens, or reverses them; as the support which these force relations find in one another, thus forming a chain or a system, or on the contrary, the disjunctions and contradictions which isolate them from one another; and lastly, as the strategies in which they take effect, whose general design or institutional crystallization is embodied in the state apparatus, in the formulation of the law, in the various social hegemonies (Foucault, 1990, pp. 92-93).

Foucault's concept of power particularly focuses on its interaction with knowledge. Indeed, for Foucault, this is more than an interaction, and it will lead him to use "power/knowledge" as a single concept, which consists of the concepts "power" and "knowledge" separately but in relation rather than in terms of a unity. The main obstacle is the tradition that makes us believe that "knowledge can exist only where the power relations are suspended" (Foucault, 1995, p. 27). According to Foucault, "we should admit rather that power produces knowledge (…); that power and knowledge directly imply one another; that there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations" (Foucault, 1995, p. 27). Therefore, power/knowledge is a relational concept that is formed by two singular concepts.

Towards the eighteenth century, a new mechanism of power emerged, or rather is invented, which possesses "highly different procedural techniques, completely novel instruments, quite different apparatuses" and most importantly incompatible with the relations of sovereignty (Foucault, 1980a, p. 104). Totally different from the mechanisms of sovereign power, which depends upon the Earth and its products, this new mechanism of non-sovereign power is more dependent upon bodies. Foucault calls this new type of power "bio-power."

3.1.4. Bio-Power

Foucault produces the concept of bio-power in distinction from more traditional concepts and forms of power such as the sovereign power: "For a long time, one of the characteristic privileges of sovereign power was to decide life and death" (Foucault, 1990, p. 135). This sovereign power was being exercised through "a right of seizure: of things, time, bodies, and ultimately life itself" (Foucault, 1990, p. 136). Starting from the seventeenth century, sovereign power over death (ultimately the seizure of "life itself") changed into new forms and mechanisms of power through parallel changes in political, economic, social, and philosophical realms in Western societies. There was a development not only in education (universities, secondary schools) and the army, but also in the fields of political practice and economic observation of population.

The new form of power came out by fostering "life itself." Foucault (1990) states that "the old power of death that symbolized sovereign power was now carefully

supplanted by the administration of bodies and the calculated management of life" (p. 139). He calls this new form of power "bio-power."

> In concrete terms, starting in the seventeenth century, this power over life evolved in two basic forms; these forms were not antithetical, however; they constituted rather two poles of development linked together by a whole intermediary cluster of relations (Foucault, 1990, p. 139).

One of these forms is "disciplinary power." Disciplinary power is the knowledge of and power over the individual body. While representing the body as "a machine," disciplinary practices exercised power and produced knowledge on capacities, gestures, movements, location and behavior of the body to make the individual more powerful, productive as well as useful and docile. Foucault (1990) describes this new formation as "an anatomo-politics of the human body" (p. 139). Disciplinary practices were "embodied in institutions such as the army and the schools, and in reflections on tactics, apprenticeship, education, and the nature of societies" (Foucault, 1990, p. 140). Disciplinary practices utilized techniques such as surveillance, examination, and discipline. Rather than the threat of violence or force, disciplinary practices diffuse into the individual (body) by creating desires and by attaching individuals to specific identities.

The other form of bio-power is "regulatory power." While focusing on the "species body," regulatory power as the "bio-politics of the population" exercised power and produced knowledge on biological processes affecting birth, death, the level of health and longevity (Foucault, 1990, p. 139). Regulatory power is inscribed in demography to develop policies and interventions for governing the population, such as "the evaluation of the relationship between resources and inhabitants, the constructing of tables analyzing wealth and its circulation" (Foucault, 1990, p. 140).

Hence the biological body of the individual becomes the main concern of "political practices and economic observation, of the problems of birth rate, longevity, public health, housing, and migration" (Foucault, 1990, p. 140).

Therefore, on the one hand, a benevolent bio-power emerged, a power "whose highest function was perhaps no longer to kill, but to invest life through and through" (Foucault, 1990, p. 139). On the other hand, the same benevolent power brought "numerous and diverse techniques for achieving the subjugation of bodies and the control of populations" (Foucault, 1990, p. 140). Hence Foucault attempts to show how these forms of power play a significant role in the "normalization" of the modern individual through its body.

3.1.5. Developing a Foucauldian Framework

I would like to argue that the medical gaze is already an instance of power-knowledge. While this particular form of observation enables a specific form of knowledge such as the medical knowledge of the human body, it is also a constitutive part of a particular medical institution such as the clinic. Hence it might be said that the clinical form of medical authority and power and the knowledge of the body obtained through medical gaze are in a reciprocally constitutive relationship. It can also be argued that the medical power/knowledge is "disciplinary" in the sense of producing individuals as patients and disciplining the patient's body as well as "regulatory" in the sense of the larger societal implications and connections of hospitals and medical knowledge with health policies, population growth, various social measures, etc. However, once we articulate the notion of

power into the concept of medical gaze, we have to bring up the issue of gender relations. This necessarily complicates Foucault's concept of power/knowledge.

According to feminist theorist Sawicki (1991), "although Foucault intended to" in his book *The History of Sexuality*, "he never wrote a history of women's bodies" (p. 67). Indeed, he was planning a part of this book "to be a study of the sexualization of women's bodies and of concepts of pathology related to it" (Sawicki, 1991, p. 67). In addition to this,

> Foucault intended to locate the processes through which women's bodies were controlled through a set of discourses and practices governing both the individual's body and the health, education and welfare of the population, namely, the discourse and practices of "bio-power" (Sawicki, 1991, p. 67).

I aim to utilize Foucault's methodological framework and his emphasis on the body through his distinct conception of "bio-power" and its related conceptual network, especially the concept of "power/knowledge." The disciplinary techniques put into operation through the "medical gaze" (with its technological apparatuses for governing and normalizing the female body) may help us to conceive the ultrasound fetal image in a critical way and take this image to the site it belongs, i.e. the female body.

The reproduction of the ultrasound fetal images in the obstetric clinic, as well as their distribution in the culture at large by different media, are all in need of a Foucauldian analysis. The aim of such an analysis is to expose the specific mechanisms of a political technology of the body through which power/knowledge is articulated specifically with the female body. Ultrasound fetal images must be seen and

understood from a specific point of view that aims to unfold their politico-technical production and reproduction, through the medical examination, manipulation and construction of the female body.

Although feminist writers such as Sawicki and Bartky agree with the Foucauldian position on the issue of new reproductive technologies—including the ultrasound screening of fetal images—especially by regarding such technologies as a "potentially insidious form of social control," they also make a significant criticism of the Foucault's work (Sawicki, 1991, p. 70). Both Sawicki and Bartky emphasize that Foucault fails to address the gendered character of the body in his studies. According to Bartky, Foucault does not see, or at least does not mention, the difference between the bodies of women and men. Bartky (1988) states this concisely when she writes:

> Foucault treats the body throughout as it were one, as if the bodily experiences of men and women did not differ and as if men and women bore the same relationship to the characteristic institutions of modern life (p. 63).

Therefore, according to Bartky (1988), Foucault is blind to "those disciplines that produce a modality of embodiment that is peculiarly feminine" (p. 64). She concludes:

> To overlook the forms of subjection that engender the feminine body is to perpetuate the silence and powerlessness of those upon whom these disciplines have been imposed. Hence, even though a liberatory note is sounded in Foucault's critique of power, his analysis as a whole reproduces that sexism which is endemic throughout Western political theory (Bartky, 1988, p. 64).

It is important to underline that these feminist criticisms do not call for a wholesale dismissal of Foucault's work; rather they are carefully made, specific criticisms that have learned from Foucault and have been directed at a certain aspect of his thought. In order to overcome this lack in Foucault's genealogies of medical gaze and modern sexuality and to present a more complicated and gender-focused approach, now I would like to turn to Luce Irigaray's feminist deconstruction.

3.2. Luce Irigaray: Deconstructing Phallogocentrism

Luce Irigaray is not just a feminist, a political figure. Indeed with her original readings of Western philosophical texts from Plato to Heidegger and with her singular approach to psychoanalysis, she stands out as a significant original thinker in contemporary intellectual and academic scene. Irigaray mainly focuses on the "phallogocentrism" of Western thought. She attempts to transform the social and symbolic order in a radical way. Her target is the Western metaphysical thought and representational systematicity of language which are both "phallomorphic" in logic and form, and "phallocratic" in institutionalization. Irigaray's aim is to construct the general parameters or matrix for a new symbolic order in which sexual difference will be recognized. This is no less than developing a new language, logic and form which will replace phallomorphic order with a "vulvomorphic" one. Irigaray calls this "the culture of the two," in distinction from the phallocratic and specular "culture of the one" in which we live.

In this section, I will first focus on Irigaray's strategic "style" of (re)reading and (re)writing the Western metaphysical texts to expose their "phallogocularcentric"

nature. I will then develop an Irigarayan strategy that enables me to frame the ultrasound fetal images in a new way which takes account of the constitutive role of the female body in their production.

3.2.1. Binary Oppositions and Sexual Difference

There are many ways of approaching to Irigaray's thought. I would like to begin with Margaret Whitford's description of her as "a philosopher of change" (Whitford, 1991, p. 15). By this fine description, Whitford underlines Irigaray's project of producing the conditions under which the status of the female might be altered in the symbolic realm.

Following Whitford, Naomi Schor too defines Irigaray's project as "a radical transformation of the social and symbolic order" (Schor, 1994, p. 11). Then, the question will be why this kind of radical transformation is necessary and essential. According to Irigaray, the Western metaphysical tradition has been constituted in a phallogocentric framework, i.e. a form of logocentrism, which also takes phallus as privileged form and meaning of its constitution. This phallogocentric framework established and occupied philosophy and philosophical texts in a "phallomorphic" form and logic. Hence, philosophy and philosophical texts theoretically elaborated and further reinforced the phallocratic symbolic order and economy.

According to Irigaray, all the phallogocentric constructions of Western metaphysics are operationalized by binary oppositions that work in and by language and the representational system. The terms of a binary opposition do not have equal force.

One is the dominant and the other is the subordinate**.** What makes a term subordinate is the fact it always gets defined by the characteristics of the dominant. This is why, in a binary opposition, while the subordinate term appears as lacking certain characteristics, these characteristics happen to be the ones that the hegemonic term "naturally" has. In other words, the hegemonic or dominant term constitutes a sameness with regard to which the subordinate term becomes other. Commonly known binary oppositions of a given culture, binary oppositions such as "masculine vs. feminine", "culture vs. nature", "active vs. passive" operate by a teleology of transforming the subordinate term to the "Other" of the dominant term's "Same." If we give a summary view of patriarchy (i.e. the opposition of "man vs. woman") according to Irigaray, we can say that it begins by defining "woman" as lacking certain characteristics; that is, it associates her with a series of characteristics which identifies her with lack of proper reasoning: she is loving and caring … emotional … weak … lacking rationality … lacking in general … not fully human subject. It thus becomes obvious who has these characteristics: "Man" becomes the representative of human species. According to this (phallocratic) logic, "Man" can gather himself together, can unify himself under the guidance of his reason, and is therefore "One": man is the sex which *is* one, i.e. phallus. Not being the Same and not being One, woman is Other (Irigaray, 1985, p. 74).

Thus the feminine sexuality, imaginary, and language have been "conceptualized on the basis of masculine parameters" (Irigaray, 1985, p. 23). According to Irigaray, all the differences can only be brought out by and through the feminine as she is "the sex which is not one." This is an important metaphor to understand Irigaray's analysis. While the feminine is conceived within its subjugation to the masculine by

Western thought and culture, Irigaray argues that the female sexuality, imaginary, and language (which constitute the feminine in its multiplicity) are totally different and cannot be understood by their similarity to or distance from the phallic One.

Irigaray's controversial reference here is the female body, particularly the female anatomy. She insists on the anatomical difference of female genitals: "…her genitals are formed of two lips […] within herself she is already two—but not divisible into one(s)—that caress each other" (Irigaray, 1985, p. 24). The anatomical and morphological multiplicity of the female genitals brings out a different conception of the body that exists in its multiplicity. And this multiplicity is a real multiplicity in which the ones forming the two are not identical and not one, hence Irigaray's title, "*this sex which is not one*".

The female body does not have single sexual organ but has many, "more or less everywhere" on her body. "She has at least two of them, but they are not identifiable as ones. Indeed, she has many more. Her sexuality, always at least double, goes even further: it is *plural*" (Irigaray, 1985, p. 28). Thus, neither the autoeroticism nor the heteroeroticism of female body can be reduced to one, as it is in the masculine imaginary which is "rather too narrowly focused on sameness" (Irigaray, 1985, p. 28).

Most importantly, female sexuality, imaginary and language cannot be conceived by the logic of phallogocentrism which is based on "the predominance of the visual, and of the discrimination and individualization of form" (Irigaray, 1985, p. 25). This visual or "gestalt" aspect seems to be foreign to the feminine "which is not one."

Irigaray thus defines her philosophical task as that of producing a style of writing which is based on these fundamental anatomical features of the female body.

3.2.2. Irigaray's Style

Is it possible to read and write in a feminine style in a world that has been established in phallomorphic form and in phallocratic institutionalization? Although it seems somehow paradoxical, Irigaray argues that she can (re)produce a feminine style only by staying within the phallomorphic form and phallocratic institutionalization of Western metaphysics and language. Hence, she employs a style of deconstructive reading and writing, similar to Jacques Derrida's. Whitford describes this style as "homeopathic." In her words, both Derrida and Irigaray "operate within what they are seeking to contest, and accept that there is no position *outside* metaphysics or language from which to disrupt metaphysics or language" (Whitford, 1994, p. 17). Irigaray explains her own homeopathic position as follows:

> We do not escape, in particular, by thinking we can dispense with a rigorous interpretation of phallogocentrism. There is no simple, manageable way to leap to the outside of phallogocentrism, *nor any possible way to situate oneself there, that would result from the simple fact of being a woman* (Irigaray, 1985, p. 162).

Here it should be emphasized that Irigaray does not merely repeat Derrida's strategy of deconstruction, but she employs it as a critical device. Whitford is keen on the precise nature of this relationship, and, against the more common opinion on Irigaray's debt to Derrida, she argues that what must be acknowledged is indeed Derrida's debt to feminism.[29] She says that

[29] Whitford (1994) emphasizes that, "most discussions of Derrida and Irigaray focus on Irigaray's debt to Derrida; a question that has not really been raised yet is that of Derrida's debt to feminist thought.

> Derrida's tactic, destabilizing the metaphysical opposition by privileging the hierarchically inferior term, can be compared with Irigaray's claim in *This Sex Which Is Not One* that "one must assume the feminine role deliberately" (Whitford, 1994, p. 16).

How can one destabilize or deconstruct metaphysics while staying within it? We need to ask: how can Irigaray break with phallogocentrism while working within the phallomorphic text? Starting from the vulvomorphic nature of woman's anatomy, Irigaray aims to use the potential multiplicity of the feminine imaginary to disrupt, discontinue and subvert the holistically enclosed world of phallogocentrism. For her, the opposition of mind and body is definitively involved in the construction of patriarchal culture, as man is always identified with mind, reason and consciousness. She thus takes this opposition as a strategic beginning point. Departing from this opposition, her purpose is producing a vulvomorphic logic which involves the "female body" of a different thinking, seeing, and meaning, which is also a thinking, seeing and meaning of difference. Here, there are two critical points. First of all, the vulvomorphic logic should not end up again with "the hegemony of the One." In other words, simply changing the positions of male and female, and making the female the dominant term does not bring any opening. This will only reproduce the phallogocentric thought under the disguise of vulvocentrism. Irigaray never attempts to construct a vulvocentric thought which is a mere replica of phallogocentric thought in reverse. She resolves the problematic of the hegemony of the One by constituting the vulvomorphic logic through exposing and explaining the multiple nature of female anatomy. Hence, she develops a writing style that also shows a characteristic multiplicity.

[…] There is certainly much more to be said on this issue, and the Derrida-Irigaray relation clearly needs exploring more closely." (p. 17)

Secondly, a logic taking the female anatomy as its initial mo(ve)ment should not fall back into an anatomical or biological essentialism. From the very beginning, Irigaray has been accused of this kind of essentialism. For example, Monique Plaza, Ann Rosalind Jones and Toril Moi, who are "for the most part (though not exclusively) socialist feminists," criticized Irigaray's early writings for biological essentialism (Schor, 1994, p. 5). Indeed, the beginning of the 1980s was dominated by the "essentialism vs. anti-essentialism" debate in academic circles. The interpretation of Irigaray has gone through a deadlock period because of this debate. This deadlock period of monolithic essentialist readings of Irigaray, by a wide range of theoretical and political spectrum (from Lacanian feminists to socialist/materialist feminists)[30], has nevertheless brought an opening: "a climate in which the binary pair essentialism/anti-essentialism has been put into question" (Whitford, 1994, p. 16). In general, essentialism has increasingly been interpreted as a "position" rather than an ontology, and in particular, Irigaray's biological or anatomical essentialism as the difference of the feminine has gradually been interpreted as a "strategy". Within her project of constructing a new symbolic order out of a patriarchal one, in which women are to become subjects in the symbolic, essentialism is increasingly conceived as an obligatory stage that Irigaray suggests one must pass through and go beyond. On this point, for instance Schor agrees with Whitford: "The major misreading of Irigaray, according to Whitford, consists then in taking her essentialism for the final stage, the last word, when it is only a part of process" (Schor, 1994, p. 12). In addition to Schor and Whitford, Gallop (1988) also argues that

[30] In her essay "Previous Engagements," Naomi Schor makes a list of the accusations of essentialism that came from various different theoretical and political circles (Schor, 1994, 6-10).

> … she [Irigaray] is not trapped in the body but uses anatomical figures to renew thought, to move it out of its ideological ruts. The tendency to dismiss Irigaray as trapped in biologism bespeaks the split which makes us suspect that any sustained attention to the body must fall outside the bounds of serious thought (p. 8).

The essentialist reception of Irigaray brought a second opening. As Whitford states, "greater attention is now being paid to the status of Irigaray's writing as *text*, that is to say, writing that employs rhetorical devices and strategies" (Whitford, 1994, p. 16). Irigaray overcomes the problem of essentialism by appealing to figures of speech. In other words, her strategy of nesting in the language comes out by involving her speech in a process of re-metaphorizing the body.

She utilizes and shares "the style of writing and speech," which has evolved since Hegel as "a style that comes close to that of tragedy, poetry, the Platonic dialogues, the way in which myth, parables, and liturgies are expressed" (Schor, 1994, p. 4). Here, the paradox is that this return to originary forms in philosophers' styles of writing has involved "a return to the moment at which male identity is constituted itself as patriarchal and phallocratic" (Schor, 1994, p. 4). Irigaray's homeopathic manoeuvre here is that she puts into operation the strategy of mimicry in the style of writing but her style flows totally towards another course called "the poetics of the body". She puts the aim in/of her style as follows:

> The issue is not one of elaborating a new theory of which woman would be the *subject* or the *object*, but of jamming the theoretical machinery itself, of suspending its pretension to the production of a truth and of a meaning that are excessively univocal (Irigaray, 1985, p. 78).

In this poetics of the body, Irigaray's writing involves a process of re-metaphorizing the body. Jane Gallop (1988) claims that the Irigarayan poetics of the body in its

"vulvomorphic logic, by newly metaphorizing the body, sets it free, if only momentarily" from the straitjacket of phallomorphic meanings (p. 96). In its vulvomorphic logic, Irigaray explains her style as follows: "This "style" does not privilege sight; instead, it takes each figure back to its source, which is among other things *tactile*" (Irigaray, 1985, p. 79). In this sense, Irigaray's "rhetorical techniques are various and wily and she does not hesitate to mystify, to mislead" (Weed, 1994, p. 81).

3.2.3. Adopting Irigaray

Whitford suggests that we should "engage with Irigaray," which means "opening up the possibility of using her work as a feminist resource" in a productive way within her texts' characteristic "multiplicity," rather than a definitive account of her work in a restrictive closure. (Whitford, 1994, p. 15)

My way of engaging with Irigaray is to use her concept of sexual difference and her homeopathic approach in a (re)reading and (re)writing of the ultrasound fetal image. The aim here is to move this image from a phallomorphic site to a vulvomorphic one. I would like to argue however that the fetal image is not simply a belonging or property of the female body. Rather the female body is the site in which this image is produced: it is carved in, extracted from and inscribed on it. While these mo(ve)ments are surely patriarchal within the domain of the medical gaze and the social imagery that circumscribes these images in a singular phallomorphic reading, a vulvomorphic logic of these images can also be read and mobilized by attending to the female body's difference.

3.3. Medical Gaze and Female Difference: Foucault's Genealogy and Irigaray's Deconstruction

I have a twofold task. First, following the Foucauldian approach, I have to develop a critical elaboration of the ultrasound fetal image as an instance of modern clinical gaze that puts into operation the power/knowledge of modern medicine and disciplinary techniques in the obstetrical clinic. Secondly, this critical analysis of the ultrasound fetal image should focus on the sexual difference and expose the phallomorphic logic of the modern medical gaze.[31] In other words, I need to develop a methodological framework which should articulate the Foucauldian and Irigarayan theoretical approaches in the singular case of the ultrasound fetal image.

In the obstetrical clinic, the medical gaze is exercised through a technologically produced image. The ultrasound fetal examination takes the female body as a volume for bringing the medical knowledge by the aid of mapping the inside of it. The disciplinary techniques of the obstetrics spatialize the female body in order to produce knowledge through an ocular reading of the text of life, which necessarily seeks the pathological in this text because of its phallomorphic logic. Although the disciplinary techniques are developed to foster life itself, both the ontology and the epistemology of the modern medical gaze necessarily looks for the pathological, which not only leads to the emergence of the medical sub-discipline fetology, but

[31] I should refer here to Jacqueline Rose's programmatic statement: "there can be no work on the image, no challenge to its powers of illusion and address, which does not simultaneously challenge the fact of sexual difference" (Rose, 1996, p. 226).

also renders the pregnant woman's body marginal with regard to the fetus placed at the center.

Thus, I would like to argue that, while seeking the pathological in the text of life, the obstetrics produces a phallocratic framework by taking the fetus as the dominant or pivotal figure and the womb merely as the background or the environment. The emergence of fetology as a separate discipline reinforces this tendency in a further institutionalization and disciplining of this power over life. Thus the female body has become the remaining, residual other. This "phallogocularcentric" structure of the modern medical gaze can only be overcome by a new framework in which sexual difference is taken into account. Irigaray's approach to sexual difference, which emphasizes feminine difference in terms of a plural(izing) female body rather than lack of penis or phallus, will help us to re-elaborate the obstetrical clinic and the operation of the medical gaze in it. While, in the obstetrics clinic, the opaque inside of the female body is illuminated by the light of the medical gaze, which is phallocratic in its insistence on pure visibility, I would like to show that this very operation is dependent on the female body's powers of receiving, hosting, making live and giving echo to otherness.

4. ENGAGEMENTS WITH THE ULTRASOUND FETAL IMAGE

In this chapter, I will concentrate on the ultrasound fetal examination and its output, the ultrasound fetal image. Although ultrasound technology is used in many sub-disciplines of medicine, its most common and popular use is in the obstetrics. Different than the other sub-disciplines of medicine (with the exception of gynecology), obstetrics focuses exclusively on the female body. In what follows I will begin with a definition of obstetrics, i.e. what this discipline involves in medical sense.

Secondly I will focus on what I call the obstetricization of the female body. The concept of obstetricization has two senses: first, it implies a historical process in which the obstetrical apparatus itself is produced, and second it refers to the institutionalized process of obstetrical examination of the pregnant woman's body. In terms of its historical sense, the ultrasound apparatus can be taken back to the stethoscope as its genealogical precursor. In terms of an institutionally established medical process, the "obstetricization" of the female body involves the silent patriarchal prescription implied by the masculine standard, since the implicit human standard for the medical gaze is the male body. I would like to further argue that the female body is also pathologized as an essential characteristic of the obstetrical clinical gaze, ultimately under the new sub-discipline fetology.

Lastly, I describe the obstetrical clinic as a phallogocularcentric stage set-up in which the ultrasound fetal image occupies the center. This staging requires that a narrative of the ultrasound fetal examination is constructed. This will enable me to show how the operation of the obstetrical clinical gaze obliterates the female body through fetal images, which are its own inscriptions. Yet, as I will show, the female body is hardly passive but it is actually involved in the production of these inscriptions.

4.1. Definition of Obstetrics

A long-standing definition of obstetrics is "the branch of medicine concerning the care of women during pregnancy, labor and the puerperium" (Rothman, 2000, p. 112).[32] Hence obstetrical activity begins with the confirmation of pregnancy. It lasts during the gestation period of the pregnant woman, which is medicalized by the obstetrics as the prenatal (or the antenatal) care.[33] The summit of the obstetrical activity is birth that is medicalized and hospitalized, and the delivery is increasingly done with surgical methods. And, finally, after delivery, obstetrics makes the diagnosis and treatment of disorders of the female reproductive organs.

Obstetrics is a medical and surgical specialty that initiates itself by scientifically confirming the pregnancy by reliable laboratory tests, or alternatively, with the visual reproduction of the embryonic/fetal image in ultrasound examination. Presently the latter is a more popular method. The confirmation is followed by the prenatal care.

[32] I must add two other dimensions. First, the scope of obstetrics also includes the abortion. Secondly, with gynecology, obstetrics deals with the diagnosis and treatment of infertility.
[33] Ann Oakley (1986) mentions that, "in some European languages (including Finnish, Danish, Norwegian, Swedish and Dutch), the term for antenatal care uses the word 'control': this can scarcely be irrelevant" (p. 2).

During the routine obstetrical examinations in this period, the female body is put under strict medical surveillance. The main strategy in establishing the prenatal care on the female body reveals itself here by the obstetrical claim "to know what is going on inside the uterus better than the pregnant woman herself" (Oakley, 1986, p. 27). At this stage, ultrasound imaging appears as the most important medical means of knowledge and control because it enables obstetrician to map the opaque female body by visualizing the uterus and the fetus. In the prenatal care, the female body is also governed by the obstetrics through several means: regulating the diet, organizing the life-style, and changing habits, etc. Later, the delivery is either made naturally under the guidance or control of the obstetrician or made as a surgical operation. After birth, obstetrics continues the diagnosis and treatment of the reproductive organs in order to ensure the health and fertility of the female body.[34]

4.2. Obstetricization of the Female Body

There are mainly two stages in the history of the obstetricization of the female body. First, pregnancy was incorporated into the medical discourse and practice as a 'natural' state in the seventeenth and eighteenth centuries. Secondly, beginning with the nineteenth century, it was re-defined as pathology (Oakley, 1986, p. 12). Hence the history of obstetrics is not merely a medicalization, but also an increasing pathologization of the procreative potential of the female body.

[34] Within the scope of this thesis, I will deal mainly with the obstetrical activity of prenatal care in which ultrasound fetal imaging is mostly used.

4.2.1. A Brief History of the Modern Obstetrics

Before the emergence of the modern clinic in Foucault's sense, pregnancy was seen as a "natural" state of the reproductive potential of the female body. As it was a natural state, there was no need for routine medical supervision. In the early modern hospitals, there was no department specialized in pregnancy. And there was no profession (hence professional) claiming the care of the pregnant woman as an expert territory (Oakley, 1986, pp. 11-12). Hence, "the first and most fundamental notion was that pregnancy itself was not a disease" for medicine (Oakley, 1986, p. 14). In traditional societies, the pregnancy was under the control of women themselves. Specialized women, mostly old women called "midwives" took care of the childbirth and helped the delivery. The process itself was customary and should be considered as a good example of what Foucault called "popular knowledge."[35]

In the seventeenth and eighteenth centuries, pregnancy was incorporated into the medical discourse as a natural state. "A substantial corpus of medical advice literature for pregnant women" was in existence by the end of the nineteenth century (Oakley, 1986, p. 12).[36] This literature consisted of advices mostly on the diet, habits, life-styles, i.e. the experience of pregnancy. In addition to this advice literature, there were only a few therapies practiced, such as bloodletting and a few monitoring techniques, such as abdominal palpation (Oakley, 1986, p. 25).

[35] "... popular knowledge (*le savoir des gens*) though it is far from being a general commonsense knowledge, but is on the contrary a particular, local, regional knowledge, a differential knowledge incapable of unanimity" (Foucault, 1980a, p. 82).
[36] Oakley (1986) adds that, "there was also a more narrow, but overlapping, corpus of professional literature dealing with pregnancy" at the same era (p. 12).

On the one hand, “the early literature on pregnancy made no separation between obstetric texts and the ‘advice’ literature” (Oakley, 1986, p. 14). On the other, while providing information in these books, the authors made a systematization of the everyday experience of pregnant women. “Thus systematized, this experience then came to be represented as technical-medical knowledge” (Oakley, 1986, p. 14). This stage might be seen as the beginning period of the modern medical power-knowledge whose ultimate rationale would be governing the pregnant body.

There were still some obstacles in front of the emergence and development of the modern obstetrics. The most significant of these obstacles was the scientific diagnosis of pregnancy accurately. Unless pregnancy could be diagnosed relatively accurately and early, obstetrics would be limited to little more than a last-minute preparation for labor. This would be accomplished in 1920s by reliable laboratory tests (Oakley, 1986, p. 17). But real progress in modern medicine came out with the shift in medical paradigm and discourse, which stimulated the second stage in the medicalization of pregnancy, i.e. the birth of the modern obstetrics.

In order for the obstetrics appear, there must have occurred a paradigm shift in the way the disease is conceived. This is the moment of the emergence of the concept of pathological life. The medicine was wholly re-ordered in accordance with the pathological anatomy. In the new clinical method, the anatomo-pathologists discovered “a non-philosophy, or abolished philosophy, that *they had conquered in learning at last to perceive*” (Foucault, 1991, p. 155, emphasis mine). The medical gaze was divorced from theory and was constituted and institutionalized as a complex apparatus of observation and perception in which the touch and the hearing

as well as the gaze are involved. The new medicine saw the disease and the morbid phenomena as a natural part of the text of life, rather than something attacking the body from the outside. The text of life inscribed in the body became readable by the medical gaze. Thus modern clinical medicine is established on the project of rendering the body transparent and getting beyond its surface by making the invisible inside visible and thus governing the body in a much more effective way.

Parallel to all these developments in medicine in the nineteenth century, pregnancy was redefined as pathology rather than being natural. Thus the modern obstetrics emerged as a medical profession and "obstetrical" clinic was institutionalized under the reign of a new form of medical gaze, i.e. the obstetrical gaze. All medical technology in the obstetrical clinic was designed to render the female body transparent, which would bring out the scientific "truth" through obstetrical gaze. To foster life, obstetrical gaze should not only define the normal and the pathological but also govern the female body by disciplinary techniques in order to make it more useful, productive and docile parallel to the public health movement and population control in this period. The routine examination designed for this was called "prenatal care." The medical instruments such as stethoscope and specula and later the medical imaging apparatuses such as X-ray and ultrasound were given to the service of the obstetrical gaze. The hospital was re-organized not only in spatial terms but also clinics were institutionalized in which obstetrics took its place. In all this modern progress, the female body appeared as the object on which obstetrical disciplinary and regulatory powers are exercised on both individual and social levels.

I now want to turn to the concept of the anatomo-pathological as it appears in the history of obstetrics, that is to say the gradual pathologization of the female body and its procreative potential.

4.2.2. The Concept of the "Anatomo-pathological" in the History of Modern Obstetrics

In modern medicine, the female body is conceptualized and constructed on the basis of male parameters. With the development of anatomy, the male body is taken as the scientific 'standard.' Hence the female anatomy is seen as a deviance from the male one. In other words, the female anatomy could be represented only with its difference from the anatomic form of the male body, i.e. the reproductive and genital organs.

A certain regime of visibility and visuality plays a central role here. Since this regime depends on the visibility of the male genitals in opposition to the invisible, dark nature of the female genitals, I will call it "phallomorphism." Phallomorphism operates within the logic of specular comparison of the dominant with the subordinate figure as binary opposites. It is a scopic and specular regime that depends on a privileging of the visible. Hence, in phallomorphic logic, the subordinate figure is always defined by the characteristics of the dominant one. Modern medical apparatus is phallomorphic in its assumption of the male anatomy as the standard human figure. In modern medical system of representation, the female body can only take place by the difference of its genital and reproductive organs—a

difference that is conceived in comparative terms of similarity and is often reduced to absence or lack of parts or organs visibly seen in the standard male form.

In this phallomorphic regime, the female body can at best be represented partially in the anatomical atlases. This is still relevant for the medical education today. Lupton (1995) states that the "contemporary anatomy textbooks designed for medical students still tend to portray the male body as the standard human body, against which the 'different' female body is compared" (p. 132). And the phallomorphic logic of the modern medicine (as well as of the society) presents itself discursively in these textbooks "while comparative references to female anatomy make constant use of the terms 'smaller', 'feebler', 'weaker' or 'less developed' to demonstrate how women differ from men" (Lupton, 1995, p. 132).[37] Obstetrics maintains the phallomorphic concept of human body.

The phallocratic society legitimizes itself by presenting the different anatomical and biological structure of the female body as responsible for the weakness, emotional nature and lack of rationality of feminine subjectivity. The menstruation, female hormones and the reproductive potential of women are seen legitimate reasons to define their social status in domestic work as well as in the social division of labor and even 'enthroned' by the 'holy' social role of being mother. Parallel to this phallocratic institutionalization of social relations, women have always been kept out of the modern scientific field in the history of modern medicine, like many other professional fields. They have been seen as the practitioners of traditional medicine

[37] Phallomorphic logic not only reigns in medicine but also in his psychoanalytic theory, as in Lacan's acceptance of the clitoris as a "little penis".

(which has mostly been equated with witchcraft[38]) or, at most, at a secondary level in modern medicine, such as midwives and nurses. As Turner (1995) states, even today "within the division of labor in medical services, women continue to function as subordinate labor and this feature of female employment in medicine is forcefully illustrated by the case of nursing and midwifery" (p. 131).

In the history of medicine in Europe, by the fourteenth century, the women healers were excluded from medical practice "except for obstetrics, which remained the province of female midwifes even among the upper classes" (Ehrenreich and English, 1973, p. 19). At the end of this century, midwifery started to be subject to regulation and "by the mid-eighteenth century women began to be required to have some formal training, lasting anywhere from a few months to two years, in schools associated with either a university or a hospital" on midwifery (Newman, 1996, p. 51). In the same period, the discipline of anatomy began to consider the body as a series of parts to be manipulated under the scrutiny of clinical gaze, which is established on the phallomorphic logic. At the same time, the obstetrics became increasingly technologized. Forceps, more elaborate pelvimeters and specula were invented and manufactured. Therefore obstetrics not only became a male profession under the phallomorphic anatomo-clinical gaze but also midwives were legally barred from surgical practice because of the patriarchal belief that women are technically inferior in the use of surgical devices (Ehrenreich and English, 1973, pp. 15-20). An illustration showing the differences between a male and female midwife from the phallocratic point of view exposes all these phenomena explicitly (Fig. 4.1).

[38] For a brief history of the accusation of the women healers as witches in medieval Europe, see Barbara Ehrenreich and Deirdre English's pamphlet *Witches, Midwives, and Nurses: A History of Women Healers*.

Thus, “obstetrics became professionalized and, ultimately, the province of men, especially among urban elites” (Newman, 1996, p. 51).



Fig. 4.1. Frontispiece of S. W. Fores, Man-Midwifery Dissected, 1793 (Newman, 1996, p. 48).

4.2.3. The Stethoscope and the Ultrasound

The emergence and historical development of the anatomo-pathological gaze can also be read in terms of the invention of medical technology as extensions of the body of the medical apparatus. I have already referred to the new methods of seeing, hearing and touching which constituted the medical gaze. These new methods offered a projective reading of the lesional signs and managed to locate the disease within the body of the patient. According to Oakley (1986), as “… obstetricians and

gynaecologists have observed, the commonest abdominal tumour in women is pregnancy" (p. 159). This is an early expression of how women's body is entirely pathologized by modern medicine. Hence signs projected an anatomo-pathological series upon the living body. The task was now analyzing the series and mapping the volume of the body. The invention of the *stethoscope* was of prime significance in this process:

> The stethoscope, the solidified distance, transmits profound and invisible events along a semi-tactile, semi-auditory axis. Instrumental mediation outside the body authorizes a withdrawal that measures the moral distance involved; the prohibition of physical contact makes it possible to fix the virtual image of what is occurring well below the visible area. For the hidden, the distance of shame is a projection screen. What one *cannot* see is shown in the distance from what one *must not* see (Foucault, 1991, p. 164).

The word "gaze" began to refer to a complex sensorial field, which Foucault describes as a new perceptual configuration defined by the sight/touch/hearing trinity: "the inaccessible illness is tracked down by markers, gauged in depth, drawn to the surface, and projected virtually on the dispersed organs of the corpse" (Foucault, 1991, p. 164). As I have already argued in the third chapter, the new organization made it possible to locate the invisible spatially. According to Foucault, "the medical gaze is now endowed with a plurisensorial structure. A gaze that touches, hears, and, moreover, not by essence or necessity, sees" (Foucault, 1991, p. 164).

Although touch and hearing are involved, Foucault talks of the medical gaze: since what is involved is below the threshold of visibility, the gaze becomes a virtual gaze by the inclusion of touch and hearing. But this also implies that the privilege of the gaze or of the visible depends on a complex process which is witness to, first, the

inclusion of touch and hearing, and then the homogenization of this sensorial complexity. This is the process in which the medical gaze becomes hegemonic and is regarded as a gaze purified from theory. This is immediately related to the role of language in Foucault's analysis: as soon as the hegemony of the gaze over the other senses is established, medical discourse begins to produce its statements. I would like to argue that this hegemony of the medical gaze is in conformity with the phallomorphic scopic regime which operates by the principle of the visible unity of a form based on the conceptual model of Phallic One. In other words, the senses under the homogenizing attempt and dictation of gaze are made to operate in a phallomorphic regime and produce the intelligibility of new objects in masculine parameters. There is thus already a masculine matrix embedded in the very operation of the anatomo-pathological, and by implication the obstetrical gaze.

The use of stethoscope in obstetrics is more than an instrumental mediation necessary for the virtual medical gaze but it also provides the required "moral distance" while, as Foucault (1991) says, "fixing the virtual image of what is occurring well below the visible area" (p. 164). Therefore, phallomorphic scopic regime of the obstetrical gaze also ensures the phallocratic moral values. Oakley (1986) gives a remarkable historical instance of this moral distance enabled by the use of stethoscope in obstetrics from the Victorian period.

> In a fierce debate with the Master of the Rotunda Hospital, Robert Collins, in the 1830s, Hamilton asked if Collins would 'propose to apply the stethoscope to the naked belly of a woman, for if so, he may be assured that in this part of the world at least (implies Britain), such a proposal would be indignantly rejected by every … practitioner of reputed respectability' (p. 26).

In the necessity of this phallocratic moral distance, abdominal and vaginal examinations operated by sight and touch of the obstetrician were also problematic. Oakley (1986) states that, in the nineteenth century "even abdominal examinations in pregnancy were considered highly improper. When abdominal examination was done, it was normally conducted under the bedclothes and with the examiner's eyes on the ceiling" (p. 19) as it is illustrated in Fig. 4.2. Despite this initial resistance, the stethoscope provided the physician precisely with this kind of moral distance.



Fig. 4.2. Gynecological Examination (Ehrenreich and English, 1973, p. 25).

Today, often characterized as a "non-invasive" technology, the ultrasound imaging is an advanced instance of the instrumental mediation that provides the required moral distance while, again, "fixing the virtual image of what is occurring well below the visible area" in Foucault's well-known description of its predecessor, the stethoscope

(Foucault, 1991, p. 164). The ultrasound apparatus not only takes away the direct contact with the female body, but also ensures the obstetrical gaze to operate on the female body by producing the uterus and the fetus as visible and manipulable objects. Hence, the obstetrician has the scientific specular evidence of his major claim that he knows what is going on inside the uterus better than the pregnant woman. Thus, with the ultrasound imaging, the obstetrical power/knowledge reached a certain threshold: "it is now possible to make direct contact with the fetus, and acquire a detailed knowledge of her or his physiology" (Oakley, 1986, p. 155).

4.2.4. The Obstetrical Gaze and Ultrasound Imaging

The modern era of obstetrics really began with the invention of ultrasound imaging technology and its adoption to obstetrics for seeing the inside of the uterus. This gave the medical apparatus an increased capacity of controlling and governing the process of pregnancy under the concept of prenatal care.

Indeed, this was an expansion of the powers of medical gaze. Before, the medical gaze operated by translating and transforming the data gathered by auditory and tactile senses and devices from the surface of the opaque body, in conjunction with the anatomical knowledge that is accumulated from the dissection of the corpses and projected on to the body. With the invention of X-ray, for the first time, the medical gaze could penetrate into the opaque mass of the body non-invasively and expanded its territory by making it transparent. Thus, the body not only became transparent but the still images of its interiority became reproducible. X-ray technology started to be

used by obstetrics, within a few years after its invention,[39] for the diagnosis of pregnancy and the measurement of the growth and normality of the fetus (Oakley, 1994, p. 193). In the mid-1950s, with the scientific research proving the long-term hazards of X-ray, the use of X-ray in obstetrics began to decline. It would soon be replaced by the use of the ultrasound.[40]

The invention of electronic medical imaging technologies such as ultrasound signified the second breakthrough in the expansion of medical gaze. As Kember (1995) states, "the body can now be anatomized 'live' and functioning because the process of imaging can replace the practice of dissection in the search for medical knowledge" (p. 100). Therefore, starting from the 1960s, ultrasound technology is adopted to obstetrics and used in the clinic not only for the diagnostic examination of pregnancy but also in the treatment of pregnancy by seeking the potential pathology in the pregnant woman's body as well as the body of the fetus. While ultrasound imaging enlarged obstetrical corpus of knowledge by extending possibility of observation, measurement and calculation, obstetrics legitimized itself in governing the female body in and by disciplinary techniques.

Thus, in the second half of the twentieth century, ultrasound imaging was identified with the obstetrical clinic and had a number of significant consequences for obstetrics. First, the era of pathological redefinition of pregnancy process reached its summit: The obstetrical ultrasound imaging enabled to seek the pathological in the pregnant women's body, and thus making the pregnancy a pathological process and

[39] Oakley (1986) states that "the first X-ray of a pregnant woman (with a dead fetus) was performed by E. P. Darts and W. W. Keen of Philadelphia, in 1896" (p. 28).
[40] Oakley (1994) does not think that "it is mere coincidence that the use of X-rays in obstetrics declined rapidly in the late 1950s—which was also the time at which the pioneering work on obstetric ultrasound was done" (p. 195).

the female body as the site/text of pathology. Second, a conceptual differentiation of 'normal' from 'abnormal' pregnancy became central to the obstetrical discourse (Oakley, 1986, p. 16). Third, as William Arney states, not only the "organizing concept in obstetrics changed from 'confinement' to 'surveillance,'" but "the hospital became the center of a system (of) obstetrical surveillance that extended throughout the community" as well (qtd. in Balsamo, 1996, p. 89). Fourth, the range of the professional authority of the obstetrician expanded to include the responsibilities for interpreting the obstetrical ultrasound images (Balsamo, 1996, p. 90). The obstetricians had to get new certificates or licenses that approved their right to use obstetrical ultrasound apparatus and capability of interpreting the ultrasound images. And finally, there appeared the live images of a new body inside the pregnant woman's body, i.e. the fetus, to watch, to put under surveillance and control. This last consequence of the expansion of the ultrasound imaging in the obstetrical clinic led "some obstetricians to claim that the fetus is actually the *primary* obstetrics patient" (Balsamo, 1996, p. 90). This finally led to the emergence of a new obstetrical sub-discipline called fetology.

4.2.5. Fetology

Today, the ultimate instance of the obstetricization of the female body should be regarded as fetology. The obstetrical clinical gaze takes the uterus as the central organ, which is surrounded by other reproductive organs, i.e. ovaries, fallopian tubes, cervix and vagina. However, from the very beginning, the medical representation of

this central organ has always been occupied by another figure: the fetus.[41] Hence, for the obstetrical operation of the clinical gaze, it has been primary and necessary to render the uterus transparent for being able to reach the fetus.

The scientific scope of obstetrics is initiated with the diagnosis of the pregnancy, i.e. the formation of the embryo/fetus. The obstetrical process per se, i.e. the prenatal care begins as soon as the form of embryo or fetus is identified. According to Rothman (2000), the medical model of pregnancy tends to conceive the relationship between the pregnant woman and the fetus as "as essentially parasitic and vaguely pathological" (p. 112). Obstetrics perceives the pregnant woman and the fetus as two separate patients and defines "pregnancy as inherently a conflict of interests between the two" in which "the fetus is highly valued" (Rothman, 2000, p. 112).[42] Therefore, the obstetrician mostly focuses on the fetal image in routine ultrasound examinations during the prenatal period.

In search of the anatomo-clinical sign, the doctor traverses the body of the fetus, i.e. the visual text it provides, and records its age, weight, the size of its "head" (ultrasonic cephalometry), or of its "nose" and "nasal structure", as well as expected date of delivery. Various other measurements take an extensive record of the body in search of possible pathology—the doctors can detect heart or kidney failures. Lisa Mitchell (2001) shows that "claims about what can be seen through this window are numerous: the state of fetal anatomy, fetal growth and development, hundreds of fetal pathologies, fetal sex as early as eleven weeks, and fetal sleep, rest and activity

[41] Look at the anatomical and obstetrical illustrations and models in chapter two.
[42] Rothman (2000) gives an instance of this phenomenon by a quotation from the classic obstetrical textbook *Williams Obstetrics* as follows: "the fetus has rightfully achieved the status of second patient, a patient who usually faces much greater risk of serious morbidity and mortality than does the mother" (p. 113).

patterns"; some go as far as "witnessing fetal masturbation" and observing "enough fetal behaviour" to begin the practice of "fetal psychoanalysis" (p. 4). This goes as far as the possibility of fetal surgery inside the womb. By taking the medical fantasy of controlling the deviations and singularities of body to its very process of emergence and formation, the fetology begins to treat the fetus as a patient, and hence a small human that is not yet out of her mother's womb, but in a sense already formed there. The fetus is constructed as the originary form of the human subject. But this is not merely a question of ideology. The role of the medical, scientific text cannot be underestimated. The image is individualized as soon as the visual text and data are available: a case and a file is made before the baby is officially born. Hence, *de facto*, birth becomes a mere change of place. "The fetus is thus an unborn patient/individual, or is treated as one, with its own singularities and deviations. If Foucault showed in *Disicipline and Punish* that modern individual is produced by disciplinary technologies, i.e. almost by definition pathological or abnormal, we must say that this disciplinary production is now taken to the time *before* the official birth of the individual" (Mutman and Ocak, 2008, p. 25).

One of the major premises of obstetrics is that every aspect of both the pregnant woman and the fetus is potentially important. However, as implicitly stated above, obstetrics is more inclined to develop observation, measurement and calculation about the fetus since the technology of the ultrasound foregrounds the fetus as the very figure in focus. In addition, in the obstetrical ultrasound session, while the fetal form is totally put under surveillance and control, the pregnant woman's body is examined partially, mostly limited to her uterus. Therefore, the primary patient under care becomes the fetus. Here, the limitation is established on the basis of the

phallomorphic operation of obstetrical gaze, which involves the technological operation as well. Fetus is given a form, individualized as such by the obstetrical gaze. The result is obstetric dispensing "with the mothers as intermediaries, as necessary informants on fetal status and life-style" (Oakley, 1986, p. 157). In a sense, the ultrasound imaging process obliterates the pregnant woman's body from view not only with the fetal image almost totally occupying the ultrasound monitor but also with the phallomorphic virtual accomplishment of the obstetrical relation between the obstetrician and the fetal form/image. Treichler (1990) shows that, in the case of the United States, fetology appeared as a medical reaction to the women's challenge to the medical model of childbirth. According to her, "... most U.S. medical discourse focuses on the act of the fetuses alone, and further represents it as an act in which the physician's presence is crucial. Indeed, in some obstetrics and gynecology textbooks the woman is erased altogether" (p. 122). This erasure of woman's body from the process of childbirth is a male medical fantasy of unmediated access to the body, made possible by the specific institutionalization of ultrasound technology.

The disciplinary production of the individual taken to the time *before* birth (in Foucault's sense) and the phallomorphic establishment of the obstetrical gaze (in Irigaray's sense) work in a complementary way to legitimize a fetal personhood with its pathologies, its individuality and its rights. While some obstetricians see themselves on the side of the fetus as their primary patient in a fetological understanding[43], some others "see themselves as the arbiters between the two parties in the presumed conflict (…) between a woman and her fetus" (Rothman, 2000, p.

[43] Balsamo (1996) states that "pprotection of the fetus is often offered as a commonsensical and, hence, ideological rationale for intervention into a woman's pregnancy, either through the actual application of invasive technologies or through the exercise of technologies of social monitoring and surveillance" (p. 89).

110). However, in both positions, the pathological understanding of pregnancy is maintained and it not only produces a fetal personhood but also obliterates the pregnant woman's body in the ultrasound examination. For both positions sustain the same medical, institutional and technological process of prenatal care.

4.3. The Scene of the Body: Obstetrics as "Phallogocularcentrism"

So far I have talked about the emergence and development of the obstetrical gaze as a version of the medical gaze. Now I would like to turn to the scene itself, the examination room, and to offer a critical reading of it as a particular form of staging of the human body, which I will call "phallogocularcentric."

4.3.1. Ultrasound Fetal Examination in the Obstetrical Clinic

The ultrasound fetal examination is not a merely medical practice, but a social practice that has increasingly gained a ritual character. In what follows I will give a straightforward description of the process itself. The process begins with the pregnant woman's visit to the doctor, usually with her partner. The ultrasound apparatus stands in the centre of the examination room with a gynecological table next to it. The process involves a kind of micro-hospitalization: there is a dressing cabinet for the pregnant woman to take off her clothes and wear a hygienic medical dress. When she is ready, the obstetrician asks her to lie down on the gynecological table and uncover her belly. After squirting the pregnant woman's belly with a cool blue gel, the obstetrician sits down in front of the ultrasound apparatus. The pregnant woman lies perpendicular to the obstetrician and the partner of the pregnant woman

stands up in a position where he can see the monitor. The monitor is half turned to the pregnant woman. Hence, the positions of the obstetrician, pregnant woman and her partner are all organized with regard to the screen of the monitor. Each one has his/her visual access to the screen. The light of the room is dimmed. When the obstetrician moves the probe of the apparatus (which is linked to it with a cord) on the abdominal surface of the pregnant woman, a grayish, arc-shaped image appears on the luminescent screen of the monitor. That is the ultrasound image.

The obstetrician moves the probe on the abdominal surface and taps on the keyboard of the apparatus with his/her other hand. Fully focused on the image in motion on the luminescent screen, the obstetrician captures the 'right' fetal position and freezes a 'proper' still-image of the fetus. If the fetus is not in an appropriate position, he/she taps gently on the belly of the pregnant woman to stimulate the fetus to change its position in order to get a proper fetal image. Then, carefully observing the image, he/she begins to make measurements and calculations on this fetal still-image by using the apparatus. These are dictated to a nurse who takes record. During this process, there is no conversation between the physician and the pregnant woman. The obstetrician's sole focus is the image on the screen while dictating the medical information in purely technical and medical language, with corresponding values and numbers. The nurse writes down every term and value into the file of the pregnant woman.[44]

[44] In addition to the morphology of the fetus, echography apparatus can reproduce "images of internal organs, cross-sections of brain and heart" (Adams, 1994, p. 136). So the development of the fetus can be surveiled. The age, length, weight and expected date of delivery can be calculated as an estimation. For a detailed explanation on the technical reproduction of ultrasound fetal images see chapter two.

During this obstetrical knowledge recording, the couple too attentively look at the screen to capture some kind of shape that looks like a baby, and to the words of the obstetrician to make some sense. While the obstetrician makes observations, measurements, and calculations, the couple also look closely at the face of the obstetrician as they are anxious to understand if there is anything wrong in the ultrasound fetal image. And, from time to time, the obstetrician may interrupt his/her medical speech and turns to the couple to show something on the screen, and explain in plain language something of his/her choice. “The couple smile, laugh, and point at the screen even though they often do not recognize anything in the blur” (Mitchell, 2001, p. 3) (Fig. 4.3).

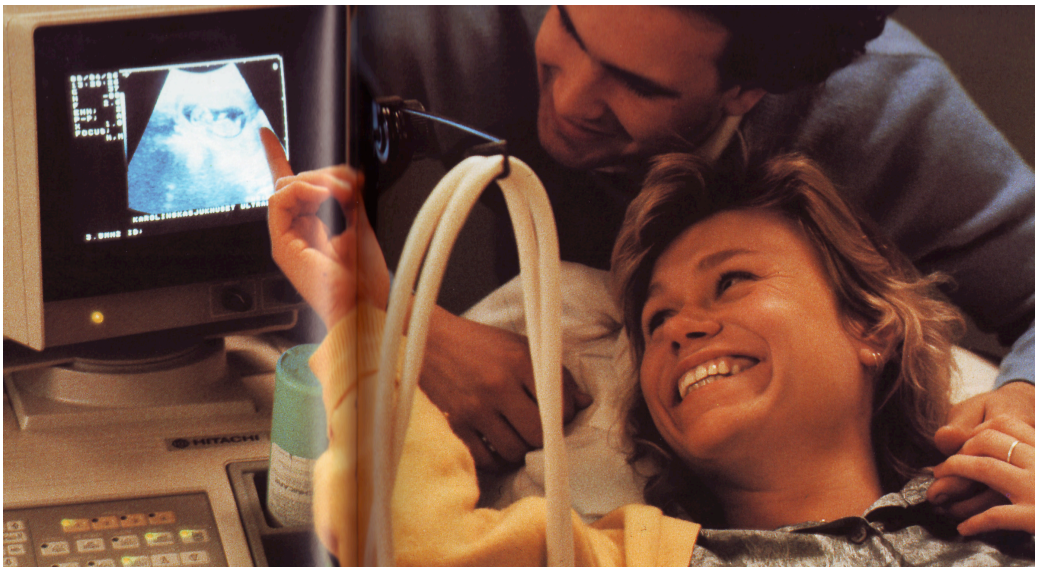


Fig. 4.3. A couple looking at the fetal image in the obstetrical ultrasound examination (Nilsson, 1990, p. 104).

The ultrasound examination is finished by the obstetrician turning off the machine. The light of the examination room is turned on. The obstetrician or the nurse wipes away the gel. The woman takes off the hygienic medical dress and puts on her

clothes in the dressing cabinet. Before leaving the ultrasound examination room, the obstetrician gives a printed still image of the fetus or the video recording of the session, known as "Baby's First Picture" (Figs. 4.4, 4.5) or "Baby's First Video," respectively (Mitchell, 2001, p. 3).[45] These recordings (of whether still or moving images) consists internal images of the uterus and the fetus.

4.3.2. Ultrasound Examination as a Phallogocularcentric Stage Set-up

As we have seen above, the fetal image as "originary" human form occupies the center scene while the obstetrician constructs a narrative based on the examination of this image. I call this form of staging of the fetus "phallogocularcentric", i.e. phallus-logos-ocular-centric. This is a particular form of representation or theatrics, in which vision and discourse, form and truth, are co-produced in a particular distribution of senses and bodies. How can we problematize this particular regime of truth?

If we remember the technical operation of the ultrasound, it begins with the sending of inaudible sound waves to the woman's body, and the body's echoic response to these. Depending on different densities of its tissues, the body gives echoes in different intensities, which are then transformed into pixels at varying shades allowing the ghostly appearance of forms on the monitor. Offering an expert interpretation of the resulting shadowy image, the obstetrician gives a medical account of the fetus and uterus. It all seems to depend on the extraction of knowledge

[45] This still/moving image of the fetus is mostly shown to the relatives and friends with amazement. The still image takes its place in the first page of the 'Baby Album.' The videotape takes its place among the home video recordings. In any case, this image is totally different than other photographs and video recordings.



Fig. 4.4. Ultrasound embryonic image.



Fig. 4.5. Ultrasound fetal image.

from the body by employing a technological apparatus. *But what is it that makes us assume that the body is passive in this process?* It is our assumption that its echo is simply the homogenous repetition of the same sound. That is to say, the assumption that the body or matter is mere surface which gives the same sound back. My basic thesis depends on a problematization of this assumption. The body does not merely respond to a message that is sent to it—neither the woman's body, nor the body of the fetus. The two bodies "reflect" their difference, and the body always reflects and resonates a difference for it is not a homogenous surface which simply gives back the sounds that hit it. The tissular surface of the body is a *differential* force field. The message that it returns is not the same one that is sent. Once we begin to see the body as active in this process, we have a chance to inscribe the (female) difference into the medical account. As I will argue in my conclusion, the female body is the home of difference. The reason why I describe the obstetrical stage as phallogocularcentric (phallus-logos-ocular-centric) is precisely that it depends on a double operation which is regarded as natural: by virtue of its appearance as a distinct shape in color contrast with and through its environment, the fetus becomes the focus, and the woman's body is thus reduced to a mere environment. This kind of figuring on a ground, the production of the fetal gestalt, is constitutive of the obstetrical as well as fetological narratives. If we begin to see the body as active however, the present obstetrical narrative appears entirely paradoxical: while the visual configuration or gestalt was made possible by the echoes that the body produces in response to what it receives, the obstetrical reading completely ignores the body as mere surface, frame or environment. The obstetrical examination of the pregnant woman is thus transformed into an examination of the fetus, which finds its ultimate rationale in

fetology. Surely the woman's body, organs and health are not simply medically ignored, but rather that her particular activity is pushed to the background.

There is a teleology at work here. The teleology of forming fetal images, of reaching an ultimately visible and intelligible form, makes the heterogeneous inaudible echoes of the active (female) body to go under the reign of the obstetrical clinical gaze. Hence the regime of the obstetrical gaze operates on the basis of suppressing what is absolutely necessary in making the fetus visible and intelligible: the vocal production of the tissular, bodily difference. It is not surprising in the end that the woman is completely marginalized, her very being treated as surface and environment. As Oakley (1994) states, it is the institutional and technical setting itself which produces this marginalization, and not any ideological intention or gender bias on the part of the doctor: "the obstetrician, who can view an ultrasound scan, or a chart describing ultrasonically-surveyed growth, has much less time to spend conversing with the owner of the surveyed fetus—the mother. The machine tells the doctor what the doctor wants to know" (p. 196). Although this techno-scientific discourse is illegible to the pregnant woman and her partner, the doctor does not necessarily have to translate it into ordinary language in as much as its sole purpose is reading, recording and filing information.

4.3.3. Echo: Science and Allegory

The word "echo," which means "resonance" in English, comes from ancient Greek mythology. According to Ovid's *Metamorphoses*, Echo is a water nymph, whose special gift is storytelling. Her stories were so beautiful that no one could resist

listening to her. But Echo was cursed by Jove's wife Juno, who realized that her husband used Echo to keep her busy while he was with his young lover. The curse was that Echo could no longer speak unless she was addressed by another. Losing her own voice Echo became a body that could only reverberate the sound of another person talking to her. She was devastated and spent her days in solitude. Then one day she saw Narcissus and instantly fell in love with him. Yet she could not approach to him unless he speaks first. She followed him and patiently waited for him to say something. When hunting, Narcissus lost his companions, and looking for them, he shouted: "is there anybody here?" Echo replied: "Here!" Narcissus responded: "I will stay here. You come to me." Echo repeated again: "Come to me." Narcissus called again, "why do you fly from me?" and Echo replied "fly from me." Then Narcissus said: "come here, let us meet" and Echo resonated: "let us meet" and then approached and wanted to embrace him. But Narcissus rejected and shouted: "Hands off! Embrace me not! May I die before I give you power over me!" And the nymph sadly replied: "I give you power over me." Broken and humiliated, her body melted into the air and her bones turned into stone. Only her echoing voice remained.[46]

In an essay titled "Echo," Gayatri Spivak (1993) offers a careful reading of this passage in Ovid's original Latin text. According to her, because of the structure of the Latin verb "to fly", Ovid cannot make Echo repeat exactly the last lines of Narcissus' question "why do you fly from me?" and therefore he has her say instead, in an ironically imperative form, "fly from me"! According to Spivak, this gap is Echo's deconstructive power, her power of differing from Narcissus. It is not for nothing that the conventional psychoanalytic theory made Narcissus a central figure:

[46] I made this summary by cross-checking several translations of *Metamorphoses* of Ovid. I utilized Mary Mines's and Ted Hughes's books, Spivak's translation in her article "Echo" and Petek's summary of the Echo myth in her article "Narcissus and the Echo at the Movies."

in Freud's theory of ego, the myth of narcissus has played a constitutive metaphorical role, and in Lacan's theory of mirror stage, one can feel the effect of the same myth in Lacan's emphasis on visuality and Gestalt in the formation of the human subject. However Spivak's argument implies that, while Narcissus has a visual double, his reflection in the mirror which is his same, Echo's doubling is reverberation, which is never full, never the same, and admits *difference*. I have described above the surface of the body as a differential force field capable of giving a *differing* response. The allegory itself is an early articulation of the differential, non-natural "nature" of nature, of body or matter. It is this differential nature which is translated into a visual image by the ultrasound machine. Although the female difference is productive and active here, the process silences the very body which makes it possible by translating its vocal force into a vision that is kept at a safe distance and mastered by the medical apparatus.

Can we apply the allegory of the Echo to the obstetrical narrative? Before the pathologization of pregnancy, the woman was able to give a verbal account of her experience, to tell her story. With the curse of pathologization, she lost her voice and can now only respond to the obstetrician when she is addressed. She was reduced to a body under the obstetrical authority. Yet this cannot mean a total obliteration of her power. For woman's difference is what enables the image itself to be produced (Narcissus as observer looking at his double, who is fetus as small man). But this kind of application is superfluous for its logic depends on a search for correspondences or similarities between two systems of signification (scientific and

literary). Rather than such a symbolic logic of sameness, I would like to focus on the powers of the (female) body as the larger text of life in my concluding chapter.

5. CONCLUSION

The phallogocularcentric staging of the ultrasound fetal examination provides a visible *form*. But it is not clear what exactly we see on the screen: is it an embryo, or a fetus, or an unborn baby or a small human?

It is not just an image. And it is certainly not a just image. The fetal image has exceeded the limits of the obstetrical clinic from the very beginning. Lennart Nilsson's fetal photographs became very popular all around the world and met with fascination and astonishment and he soon became an international celebrity. While the ultrasound imaging technology made a breakthrough in modern obstetrics and legitimized fetology, ultrasound fetal images have been published, broadcast and screened in all sorts of media outside their medical context. They are not only presented as "the life before birth", "the beginning of life", and even "life itself" but are also seen as the scientific evidence of the genesis of life. Anti-abortion movement (also known as pro-life movement) immensely utilized and abused fetal images. The claim of the anti-abortion movement is that the fetal images constitute the scientific evidence of fetal personhood. Hence, with the increasing ubiquity of the fetal image in the culture at large, it has also emerged as a prime instance of what Michel Foucault called "biopolitics." The result is the vast and heated debate we have today on the nature of the fetal image in law, medicine, politics and the media.

Here, I would like to argue that "the desire to see the fetus is a singular desire to capture the very moment of the birth of the human, or better, the *event* of birth as the genesis or formation of the human form understood in both visual and morphological senses" (Mutman and Ocak, 2008, p. 25).[47] All the parties in the debate unfold the ultrasound fetal image by reading it as a visual text at the moment of recognition of the *form* on the monitor. In this recognition, the fetal form is identified necessarily by a separation from its site and becomes an autonomous image/text. "The separateness and autonomy of, what we shall call for the sake of a better expression, the "originary human form" is achieved by giving it a shape or *Gestalt*" (Mutman and Ocak, 2008, p. 25).

The ultrasound system of graphic visual representation creates a privileged focus that separates the fetus from the body of the pregnant woman and reduces it to a frame or environment. By calling the uterus an "envelope", maybe Luce Irigaray wants to draw our attention to its protective role (Irigaray, 1987, p. 122). This reduction is then the most important step on the way to the notion of "fetal personhood." On the one hand, the anti-abortion movement proclaims that it is "the living unborn child", "another human being indistinguishable from any of us" in the words of Dr. Bernard Nathanson[48], the famous presenter of the popular anti-abortion video *The Silent Scream* (qtd. in Petchesky, 1987, p. 173). On the other, fetologists see in this image their primary patient and "the life before birth" they are supposed to take care of and govern. Therefore, the pregnant woman stands in a conflicting position as the other,

[47] Liley tells the following anectode: "I forget which psychiatrist or psychologist it was who, in categorizing the various medical specialties in terms of the psychologic traits of their practitioners, decided that the obstetricians were compensating for an ungratified childhood curiosity to know where babies come from. If that is true, then many ... today could be said to have handsomely overcompensated" (qtd. in Oakley, 1986, p. 155).

[48] Petchesky (1987) introduces Nathanson as follows: "Nathanson is in "real life" a practicing Ob-Gyn, ex-abortionist, and well-known anti-abortion crusader" (p. 173).

secondary patient from the fetological point of view. From a technologically determinist perspective, it can be said that, with the identification of the ultrasound apparatus with the prenatal care in the obstetrical clinic, and hence having the 'live' moving images of the fetus, not only anti-abortion rhetoric is transformed "from a mainly religious-mystical to a medical/technological mode" but also fetology is legitimized as a new sub-discipline in medicine by being able put the fetus under surveillance and control the whole process through its image (Petchesky, 1987, p. 172). But this perspective still does not sufficiently explain what we see in the ultrasound fetal image.

In order to understand the formation of the originary human form, two important aspects in the obstetrical staging of ultrasound examination should be underlined. First of all, unlike any ordinary gynecological examination, the partner of the pregnant woman is mostly present in the fetal examination. This transforms the perception of the fetal image into a new family member.[49] Secondly, the obstetrician directs all the staging. The obstetrician not only identifies the fetal form but also guides the pregnant woman and her partner in this identification process. The staging becomes a pedagogical process in which the pregnant woman and her partner learn to see the fetal form. It is also a process of rationalization: clinical information is supposed to facilitate their rational decision-making process in case of emergency.

The affective aspect of the ultrasound fetal examination is important as well. We should realize the significance of the fascination and astonishment of the pregnant woman and her partner when they encounter the image of their future baby. The

[49] This sequence in staging triggers the desire of having the ultrasoundgraphic pictures, which will take their place in the baby photo album known as "baby's first picture."

fetal image is not an image of an organ or a tissue. Although ultrasound imaging can be applied specifically to an organ in fetal examination, the identification of a future "baby" is radically different in the sense that it is emotionally charged. This is actually a ghostly image, a kind of blur that can only be identified by the trained eye of the obstetrician. The obstetrician draws the contours of the fetal image and makes it to be perceived as a form or *Gestalt*. Of course, it gets an increasingly more distinct shape in time, but it always needs the guidance of the obstetrician. The obstetrician's discourse is fundamental in the identification and perception of the image as a human form, or an "originary" human form. This unfolding of the image in time can be described as teleological, because from the beginning, there is the assumption of a final human form. In other words, an ideal form is already presupposed as the form of a healthy, normal baby.

Hence visualization is fundamental. Further, ideality and visibility are indistinguishable from each other in the sense that the ideal is not simply medical but also aesthetic or formal. The obstetrician's account has almost no reference to the woman's body during the examination, and his/her exclusive focus is the fetus. The medical/disciplinary governance of the woman's body, dietary and other instructions, is after the ultrasound examination is over.

5.1. Fetus as an Ethico-Political Figure

The obstetrical regime is at once medical, aesthetic and ethico-political. Its strategic operation is the production of the fetal image, which is constructed as "originary" human form. This image or originary form has a long history, as I have showed in

previous chapters. But the modern technology of the ultrasound gives it an entirely new function and status. Today, the representation of the fetus as a homunculus, a tiny miniature man can only be a parody. What we have now is a different figure in terms of its medical inscription as well as its moral and political force and value.

The fetal image has been idealized, has been made "live", and hence has had a personhood since the first fetal photographs of Nilsson. Nilsson erected the fetal image by utilizing dead fetuses in his studio and presented them alive in a standing, upright position inside the amniotic sac. The background was darkened and was made to look like space in which the fetus appeared as "an astronaut." While the female body is completely erased in his photographs, he produced the image of the standing fetus as a small human, as a *distinct* and *viable* life form. In his1965 photo-essay in *Life* magazine, he totally narrativized these images in terms of a notion of fetal person. Later, with the advance of fiber optic technology he started to produce fetoscopic photographs and published his famous book, *A Child is Born*. This time, the photographs were inconceivable without captions. While the fetoscopic photographs were given more literal explanations, these medico-technological figures legitimized not only the disciplinary power/knowledge of obstetrics but also fetology. Nilsson's fetal photography helped to create a whole theatrics, a system of dramatic representation, and this staging of the ultrasound created a public perception and discourse of "life *before* birth." This powerful rhetoric can be described as the best expression of a medico-political fantasy, which extends the biopolitical logic over new territories such as the new fetal territory as well as the inside of the womb.

The ultrasound is the major agent in the production of this medico-political fantasy. On a medical level, fetology has developed a number of new medical practices from fetal surgery to fetal psychoanalysis (if fetal behavior is observed on a level sufficient to make psychoanalytic judgment). On the cultural and social level, the fetal images are now part of the individual photo album. Under the pressure of this emergent figure, now the systems of medical as well as cultural classification are also rapidly changing. But this change involves a blurring of categories. In a very interesting recent work, Nicole Isaacson (1996) draws our attention to the new strange category of the "fetus-infant."[50] This medico-political fantasy is based on the production of the fetus as an "originary" human form. In the case Isaacson discusses, the fetus-infant is treated as a member of the family not only by the family but also the whole neighborhood.

The ultimate political instance of the displacement of the originary human form from the medical to social context is the anti-abortionist campaign in the U.S.A., in the mid-1980s, which became very well-known by its propaganda film *The Silent Scream*. In this film, the physician Bernard Nathanson begins his narration with a significant reference to fetology. The film involves a number of visual and discursive distortions of medical knowledge as well as fetal imagery, as a number of medical experts have exposed (Petchesky, 1987, p. 174).[51] If we remember that the fetal

[50] Isaacson offers a careful reading of obstetrical literature and elaborates the concept of the "fetus-infant" in this literature.

[51] Here, I will return again to Nicole Isaacson's work on the new ambigious category of the "fetus-infant". She refers to the amazing case of "Olivia". Following the finding of a heart defect in the fetus in a routine aultrasound, the parents realized that it is nearly impossible to find an appropriate donor after the birth. They decided to name the fetus "Olivia"and treat her as a child. Moreoever, the community accepted Olivia as a child and asked the mother how she was doing that particular day, etc. (Isaacson, 1996, pp. 457-477). Isaacson succinctly argues that the fetus-infant is an entirely new medical category which blurs the distinction between before and after, fetus and child, etc. What is at stake here is the production of an originary human form as well as the fantasy of access to the "before" of the subject.

image is a visual construction in the obstetrical clinic, then there is nothing unexpected in this further visual and verbal manipulation. The anti-abortionist concept of "life" is a visual form or figure which is in fact an artifact or installation. In addition to medical experts, the women's and pro-choice movements have also shown that the anti-abortionist use of the images of fetus depends on visual and verbal manipulation. It is possible and perhaps imperative to defend a true medical image against the abuses and manipulations of the anti-abortionists. However it is also to be kept in mind that, without the medical production of originary human form by the ultrasound, the anti-abortionist movement would be deprived of a significant reference. It is more important to underline that the anti-abortionist concept of "right to life" depends on a very specific problematic of life. This is a problematic that sees life as development and ultimate fixing of a visible *form*. The ultrasound itself must be seen as a manifestation of the deeper and more systematic biopolitics, or at least, as that which motivates its invention: the desire to see the event of birth, the origination of the human form.

Nilsson's fetal images are specifically made to look upright. These images are in a way directly phallomorphic. Interestingly, the ultrasound fetal imaging cannot produce this upright form. As the fetus continuously changes its position and posture in the womb and as it grows and mutates, its ghostly, blurred shape is always in motion and the ultrasound imaging cannot provide a clear form. The structural and systematic need for expert account and explanation as well as simple visual guidance demonstrates that the alterity of the fetal image is irreducible. The continuous and irreducible alterity of the fetal image produces an uncanny shape that must be made sense of and governed by the medical apparatus. It keeps sending signs of life that

must be interpreted. These signs and forms however are interpreted in a binary system of representation, which operates by dualisms of mind vs. body, idea vs. matter, representation vs. real, man vs. woman, and so on.

The production of this binary grid depends on the freezing and fixing of the differential movement of force in a visual form. In transforming the echoes into pixels which then form images, the ultrasound fixes and measures the differential force field of the body in order to be able to know and govern it. But does this mean that the body is merely an "object" of scientific representation? Jose van Dijck (2005) makes an interesting observation on the consequence of the use of medical technologies: although these technologies render the body transparent, the result is not simply an increase in our knowledge, but also the emergence of new unknown aspects about the body. According to her, "the mediated body is everything but transparent; it is precisely this complexity and stratification that makes it a contested cultural object" (Van Dijck, 2005, p. 4). How can we think of a body that is always already plural and changing? As a differential force field the body is not a static object placed before a knowing subject. The body is always in excess of itself, transgresses its boundaries and transforms itself that is it can no longer be taken as an ultimately stable form. The concept of body cannot be taken as only one side of a binary opposition, as the opposite of the mind. Instead it must be seen as involving mind and technology itself as its parts and extensions by which it knows and figures itself. It can then be seen as constantly transforming and complexifying itself. When the body is conceived in this way, the experience of ultrasound is no longer simply a power exercise, but it now reveals a different body in process.

5.2. Towards a Culture of the Two

The theoretical frameworks of Foucault and Irigaray, which I used in a complementary way, reveal the complexity of the obstetrical ultrasound examination and body in process. Foucault's bio-politics is at work in this imaging process but it is not limited solely to an exercise of power. His theoretical arguments also involve the reconstruction of the body not only through the medical gaze but the production of knowledge of the body through medical discourses and practices as well. Here, an articulation of Foucault's concepts with Irigaray's is necessary and essential in order to constitute a more elaborate theoretical framework to reveal the complexity of the obstetrical ultrasound imaging and the body in process.

Irigaray's argument already implies the theoretical and practical limits of Foucault's concepts. Foucault's bio-politics lacks in two points. First, Foucault only takes into consideration the body as a singular object. Although he attempts to include the difference between two sexes, Foucault's arguments are stuck in the phallomorphic sameness of the culture of "oneness", i.e., the phallocratic culture of patriarchal world. His argument can actually be taken as an indication of the patriarchal nature of the object he investigates. Secondly, Foucault makes his bio-political analyses through the production of medical knowledge, technology, its spatial organization, and hence the teleology of the medicalization of the body. In a sense, he indirectly shows the phallocratic practice of medicine in its discursive operations. But these discursive operations are still within the phallomorphic limits of language and phallocratic limits of Western metaphysical establishment. The critical perspective must be re-iterated here in order to develop a new perspective. I find this further critical aspect in Irigaray's project. Here, I have to underline that, Foucault produces

a theoretical framework which enables us to articulate it with Irigaray's project and produce a new form of analysis.

Irigaray insists on staying within the phallomorphic language of the one and phallocratic metaphysical establishment in order to project a vulvomorphic symbolic order and thinking. This is a homeopathic position. The plurality of the second sex in her sexuality, language and imaginary can be unconcealed only by staying in this homeopathic position. And this attitude can take us to a different medical, ethical, and politico-aesthetical position in which we can develop new ways of seeing and understanding the obstetrical ultrasound imaging and the body in process in their complexity. Instead of one and same, we can see, think and understand the obstetrical imaging process and the representational operations on the female body and the fetus as the unfolding a multiple body, which is always at least "two".

This is the most obvious question, which gets never asked: Are there not indeed two bodies, i.e. the woman and the fetus? Luce Irigaray suggests that the woman's body can actually be seen as a model for a culture of the two against the phallocratic culture of the One. While the latter is a form of culture in which the binary system serves to establish the hegemony of the One, the female body, especially the female procreative power, implies the possibility of thinking and living the two in a non-binary, non-hierarchical way.

I will take as my guide her short interview with the biologist Helene Rouch: "On the Maternal Order." Irigaray is interested in Rouch's fascinating research on the role of

placenta. According to Rouch, although placenta is a tissue formed by the embryo, it behaves like an organ that is practically independent of it.

> The embryo is half-foreign to the maternal organism. Indeed, half of its antigens are paternal in origin. Because of these, the mother should activate her defense mechanisms to reject this other to her self. The placenta, which is also this other, prevents this mechanism from being activated. In a complex manner, it will block or at the very least greatly minimize maternal activity leading to rejection, but only locally, around the uterus, and moreover in such a way that the mother keeps her defensive capacities against potential infection (Irigaray, 1993, p. 40).

The placenta operates as an intermediate between the woman's body and the fetus. It is both an interval and the element filling the gap between two. It regulates the blood circulation and exchanges between the two organisms by reallocating maternal substances for the benefit of both. When the woman body (as the self) recognizes the embryo as the other and activates her defense, placenta operates as a negotiator between the two bodies. Hence the woman's body neither shows an aggression to the fetus as the other nor creates a fusion with it. The two can live together without fusion or aggression.

Although the placenta plays such an essential role, it is seen as merely an appendage or excess. In fact, according to Rouch, the hegemonic culture is not innocent in this: most of the time, the placenta is kept by the hospitals and clinics in order to sell it to the cosmetics industry, for it is an immensely nutritious organism. Rouch insists that the placenta belongs to the woman's body, and it should remain in her possession legally. From Irigaray's point of view, her research shows the significance of the female body and subjectivity as model for a new, more democratic and plural culture. Rouch's emphasis on the role of placenta expresses a different problematic of life than that of the hegemonic fetal culture and obstetrical regime. Life is no

longer seen in terms of a visible form or *Gestalt*, which introduces a hierarchical opposition of figure and ground. The woman's body is no longer merely the frame or ground of a visible form. Woman's body is a singular organism, a unique life form, which *enables* another one to live on equal terms with and within it. In this approach, the female body/woman is an *active* organism or life form with its own singular order and forces. This model should also have significant implications for morphology as the medical and biological science of form. It implies that the form is not merely a visualizable object of representation but in fact a relational process, which is plural and ever-changing. In conclusion, I would like to emphasize that my research suggests a radical transformation of the way we conceive and organize our medical and aesthetic cultures and knowledges.

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