

Master Thesis

Looking Beyond What Is Shown

Deconstructing the Meanings of Fetal Ultrasound Imaging



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MA Comparative Women's Studies in Culture and Politics

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Table of contents

Foreword	3
Introduction	4
Methodology	7
Data Collection.....	7
Data Analysis and Presentation of the Data	10
Chapter 1: Becoming Meaningful	11
Meaningfulness of the Sonogram.....	13
The History of Ultrasonography in the Netherlands	16
Conclusion.....	18
Chapter 2: Medical Versus Nonmedical Meanings	19
Separating Medical Ultrasound and Ultrasound-for-fun.....	21
Conclusion.....	24
Chapter 3: Seeing the Baby	25
The Construction of Fetal Personhood.....	26
Complexifying Fetal Personhood.....	28
The Limited Vision of the Visual.....	30
Conclusion.....	31
Chapter 4: Seeing What Is Shown	33
Paradox of Seeing.....	33
Authoritative Knowledge	36
Conclusion.....	39
Conclusion	40
Back to My Unexpected Encounter	41
Bibliography	43
Websites	48

Foreword

This thesis is written for the master program Comparative Women's Studies in Culture and Politics at the Faculty of Humanities at the University Utrecht. The research was executed as part of an internship at the department of Dutch Ethnology at the Meertens Institute in Amsterdam.

I would like to thank my internship supervisor, Irene Stengs, for giving me the opportunity to do an internship at the Meertens Institute and also for her guidance, advice, great insights, trust, and especially, her enthusiasm. I want to thank my supervisor Domitilla Olivieri for her advice, being an inspiration, her eye for detail, and her support. I am extremely grateful to all of my respondents and their willingness to share their intimate experiences with me. Without their openness, this research could not have existed.

I want to thank my mother and all of my friends, classmates, and colleagues that have supported and encouraged me. Finally, I would like to thank Soufyan for his critical comments and for always being there for me.

The photograph on the front page is made by one of my respondents. It is her framed ultrasound image hanging on the wall of her bedroom.

Introduction

Desperate for some distraction in the middle of my research, which involved locking myself in my apartment, transcribing interviews until midnight, and cracking my brain on theoretical arguments, I thankfully accepted the invitation of my friend to go to the Museum of the Tropics (*Tropenmuseum*), a few blocks away from my apartment in Amsterdam. I always enjoy going to this anthropological museum, which has rich collections that range from art to photographs to utilitarian objects from all over the world. The museum pays attention to the Dutch colonial past and raises questions about the exploitation of other human beings, which remains relevant to this day. We decided to do a tour because this is a great way to get more information on the different pieces in the collections. The tour guide was guiding us through the exhibition *Onverwachte ontmoetingen* [Unexpected Encounters], when I indeed had a highly unexpected encounter that took me right back to my research.

Part of the exhibition was a fetus preserved in a glass jar in formaldehyde. The fetus was Surinamese and was dressed up as an Indian, with a grass skirt and a headdress on. It was called *Indiaantje op sterk water* [Little Indian on Formaldehyde] and stems from the colonial period. Visitors were, however, not able to see this fetus because it was inside a sealed wooden box with the text ‘Fragile - Handle with care - Open here’ on it. Only because of the written sign next to the piece and because the tour guide told us, we knew what was inside this box. By putting the fetus on display in this manner, or rather, by not putting it on display, the Museum of the Tropics wanted to raise ethical questions and make visitors aware of the ethical issues that they could be confronted with when putting together an exhibition. The tour guide told us that they did not want to put the international relations of the Netherlands with Suriname on the line by offending them with this piece, so they decided to come up with this

solution: making the fetus part of the exhibition by making people aware that it is inside the box, but not actually showing it.

This raised more questions than it answered. Why is this dressed up fetus offensive? How would taking away the visual aspect make it less offensive? What does this say about the way we view fetuses and the way we view vision? To answer these questions and to achieve a better understanding of the choice that the Museum of the Tropics made, we need to put it in the larger context of displaying fetuses. Ultrasonography has become crucial in this because of its routinization, not only making it an important part of the experience of pregnancy but also influencing our perception of the fetus. By critically analyzing fetal ultrasound imaging, through interviews with expectant mothers and fathers, medical specialists, and professionals working with ultrasonography, and through observations at fetal ultrasound screenings, I will argue how it stands in a long tradition of fascination with the unborn and stretching the limits of visualization. I will answer the research question: ‘What does the routinization of ultrasound fetal imaging do to the experience of pregnancy and the imagery of the fetus in Dutch society?’. Additionally, I will link my research findings to the Little Indian in the conclusion of this thesis.

After discussing my methodology, I will describe my observations at a fetal ultrasound screening, in which many fascinating aspects will be introduced and subsequently analyzed in the following chapters. The first chapter will show how the sonogram is meaningful to the expectant parents that I interviewed and how the meanings of ultrasonography historically have been shaped. I will use a text of Jan Draper (2002) to elaborate on the meaning of ultrasound to expectant parents and texts of José van Dijck (2001; 2005) to discuss the history of ultrasound imaging. I will argue that it is nearly impossible to separate medical meanings of ultrasonography from its nonmedical meanings, that is, the psychological, emotional, social, and cultural meanings, and I will use a text of Lisa M. Mitchell (2001) to strengthen my arguments. I will elaborate on the meanings of ultrasound in chapter two by analyzing how the medical and nonmedical meanings are shaped. I will show how this influences the meanings that are given to ultrasound-for-fun and how this makes it hard to distinguish ultrasound-for-fun from medical ultrasound.

In chapter three, I will analyze how our perception of the fetus is influenced by ultrasonography. Through fetal ultrasound imaging, the fetus becomes detached from the maternal body and perceived as an autonomous individual. This has been an important topic of discussion in feminist literature, as the texts of Rosalind P. Petchesky (1987; 1997), Margarete Sandelowski (1994), Barbara Duden (1993), Sarah Franklin (1991), and Toine

Lagro-Janssen (1995) demonstrate. However, I will complexify this personification by describing the experiences of my respondents. I will continue by discussing the important role that vision plays by using texts of Evelyn Fox Keller and Christine R. Grontkowski (1983), Chris Jenks (1995) and Rosi Braidotti (1994; 2011), and argue how this contributes to the personification of the fetus because a visual image can never do justice to the complex experiences of pregnancy.

Finally, in chapter four, I will argue how expectant parents are incapable of interpreting an ultrasound scan and that they have to rely on what the sonographers show them. There is, however, a difference between seeing and being shown, which I will demonstrate by discussing the fetal photographs of the photographer Lennart Nilsson, whose images have circulated widely. I will use the text of Barbara Duden (1993) to strengthen my arguments theoretically. I will argue how Nilsson's work fits within the struggle to define the boundaries between medicine and the broader consumer culture in which it is located. These boundaries are reinforced through authoritative knowledge, which makes us perceive medicine as a natural knowledge system that we take for granted. I will use the texts of Brigitte Jordan (1980; 1997), Robbie E. Davis-Floyd (2003), and Eugenia Georges (1997) to make this argument. Finally, in the conclusion, it will become clear how all of this is connected to the Little Indian in Formaldehyde in the Museum of the Tropics, and I will show how my unexpected encounter with the wooden box became crucial to my understanding of fetal ultrasound imaging.

Methodology

Fetal ultrasound imaging has become a routine part of the experience of pregnancy in Dutch society. Women get at least two ultrasound screenings or sonograms during their pregnancy, which are covered by every basic health insurance. The first one, which takes place around 12 weeks into the pregnancy, is called a dating scan. In 2007, a second scan, an anomaly scan, became commonplace, which takes place at approximately 20 weeks into the pregnancy¹. In addition to this, there are women who get a third ultrasound around 30 weeks into the pregnancy. Women who do not have a “normal” pregnancy (e.g. having twins) have more ultrasounds. Besides these medical ultrasounds, having one or more ultrasound-for-fun screenings is a common practice in the Netherlands. An ultrasound-for-fun (in Dutch: *pretecho*) is an ultrasound that is not made because of a medical urgency but to see the fetus “for fun” (Van Dijck 2005: 110). Most ultrasound-for-fun clinics give the expectant parents a videotape of the complete screening in 2D, 3D, and real-time 3D (also known as 4D), which is a service hospitals or medical ultrasound clinics do not provide.

Data Collection

To answer my research question, ‘What does the routinization of ultrasound fetal imaging do to the experience of pregnancy and the imagery of the fetus in Dutch society?’, I chose to conduct interviews and observations at ultrasound screenings. Interviewing is a particularly valuable research method to gain insight into the world of the respondents (Hesse-Biber 2007: 114). The subjugated knowledge of women’s realities often lies hidden and unarticulated, and by asking questions about issues that are of particular concern to women’s lives, this

¹ Source: <http://www.rijksoverheid.nl/onderwerpen/zorgverzekering/vraag-en-antwoord/wat-zit-er-in-het-basispakket-van-de-zorgverzekering.html>

knowledge can be explored (ibid.: 113). I chose to do semi-structured interviews to retain a degree of control over which topics would be discussed by using a list of written questions, but also leaving room for spontaneity (ibid.: 115-116). I tried to encourage my interviewees to speak freely and at length, and to avoid leading questions.

In my research, I try to get an understanding of the perspectives of the whole range of people involved in fetal ultrasound screenings; the expectant mothers and fathers, midwives, sonographers that make medical ultrasounds and sonographers that make ultrasounds-for-fun. The perspective of the expectant father is often not taken into account, as most research focuses on the expectant mother. In my opinion, it is very interesting to see what role fetal ultrasound has in the experience of pregnancy of the partner of the pregnant woman and to find out how this differs from the role it has for the pregnant woman. I take up gender as a significant variable, which enables me to make a comparison between the experiences of men and women. Their experiences are largely shaped by the medical specialists, which is why I wanted to get a better understanding of how medical specialists view fetal ultrasound imaging. This makes my research innovative and allows me to add to existing literature.

I interviewed three expectant couples, two midwives (females), of which one was also a medical sonographer, and a sonographer (male) that made ultrasounds-for-fun. At the time I interviewed the first couple, Iris (female, 31) and Wouter (male, 30), both born in the Netherlands, Iris was 31 weeks pregnant with her first child and they had three medical ultrasound screenings. The second couple, Simone (female, 25) and Michael (male, 28), had two medical ultrasound screenings and one ultrasound-for-fun. Simone was 21 weeks pregnant when I interviewed her. She was born in the United States and moved to the Netherlands at the age of six, with her American mother and Dutch father. Micheal was born in the Netherlands and has a Dutch father and Australian mother. The third couple, Esmé (female, 36), who was 21 weeks pregnant with non-identical twins and Andreas (male, 34), had around eight medical ultrasound screenings when I interviewed them because Esmé's pregnancy was considered a high-risk pregnancy, seeing as she was carrying twins, had a miscarriage before, and is also a cardiac patient. Esmé was born in the Netherlands, whereas Andreas, born to German parents, has lived in the Netherlands since 2006. All of the expectant mothers and fathers were white, middle-class, and pursued higher education or have a university degree. I replaced all of their names with pseudonyms and I left out details that could reveal their identity to ensure their privacy.

Since my research topic is very personal and private, I mainly looked for respondents within my own network and am aware that my research sample therefore lacks diversity when

it comes to ethnicity, class, and sexuality. However, in order to do in-depth research on such a private manner, my respondents needed to feel comfortable enough to tell me such personal things and I needed to be comfortable enough to ask such personal questions, which is why a bond of trust had to be established before the interviews. I was aware of a possible hierarchical relationship between researcher and researched, and I tried to break down notions of power and authority (Hesse-Biber 2007: 128) by choosing to interview people in my own network. In this way, the respondents already knew me, or at least knew something about me because I met them through a mutual friend or acquaintance. This does not, however, mean that the hierarchical relationship was completely dissolved. I was also aware of the ethical dilemma that can arise from having personal relationships with respondents, as discussed by Buch and Staller (2007: 204), which is that people can forget that you are researching them. Because I saw some of my respondents in my daily life, we also talked about their pregnancy outside of a research setting. I tried to mention my research regularly to remind them of it and I also made sure that I got their permission to incorporate the comments made to me outside the interviews in my research.

The first midwife that I interviewed was Liselotte Kweekel (female, 26), with whom I got into touch through a mutual acquaintance. She had been working as a midwife for four years. Through a “snowball effect” she brought me in contact with the midwife and sonographer Eve Hannant (female, 25), who is half Dutch, half English, and had been working as a midwife for three-and-a-half years. The fun-sonographer, Elvin Papa (46), who is half Surinamese, half Antillean, and born in the Netherlands, started making ultrasounds-for-fun fifteen years ago, after getting a university degree in medicine. When I was looking at ultrasound-for-fun clinics on the Internet, the website of Papa immediately stood out to me because he had many Dutch celebrities promoting his services and he was also one of the very few male and non-white fun-sonographers. I contacted him through e-mail and he invited me to do observations at his clinic, as well as conduct an interview with him.

My second research method was doing unstructured observations. Doing unstructured observations has the aim to develop a narrative account of the behavior of the participants by recording as much detail as possible of that behavior (Bryman 2008:257). With unstructured observation, the researcher does not make use of an observation schedule and it is often used in connection with non-participant observation (*ibid.*). Although non-participant observation is described as observation in which the researcher does not participate in the social setting, the presence of the researcher always has an influence on the people being observed. My presence, as well as the voice recorder, could have made the respondents more self-aware. I

was present at two ultrasound-for-fun screenings and at two medical ultrasound screenings of Simone; her dating scan and her anomaly scan.²

Data Analysis and Presentation of the Data

By tape-recording all of my interviews, I could analyze the exact words that were used by the interviewees. After transcribing the tape recordings, I started with a thematic analysis, which means identifying how similar processes or worldviews recur repeatedly in the data (Buch & Staller 2007: 213). I compared this to the findings from my literature research and the common themes I extracted from it. This way of analyzing allowed me to compare and contrast the perspectives of the respondents. Additionally, since I interviewed both expectant mothers and expectant fathers, I was able to compare and contrast the answers that women and men gave to my questions. One interview asked for a different analysis, which was the interview with Andreas, who is a post-doctoral researcher in the field of anthropology. Because he is an anthropologist that is trained to look critically at things that others might take for granted, he already extensively thought about the practice of fetal ultrasound imaging and was highly reflexive about his own emotions and behavior. My interview with him was therefore very different from my interviews with the other men and women.

Throughout the research process, I practiced reflexivity, which means that I was mindful of my personal positionality and that of the respondents (Hesse-Biber 2007: 117). I was also concerned with issues regarding the representation of the researched because I had the responsibility of telling their stories in a way that did justice to them. In particular, writing down my research findings when it comes to the sonographers towards whom I was critical presented me with a challenge. Being critical is necessary but this should not be done in a hurtful manner. I had the power to write down anything about my respondents and I had to be highly aware that this happened in a respectful manner. At times, I encountered difficulties translating what my respondents said in Dutch into English because some connotations can get lost in translation. I tried to pay close attention to ‘textual subtlety’ (Spivak 1988: 278) when translating, and sometimes I put the Dutch word in brackets behind the translation if I was unsure if this would be the case.

² I have elaborated more on the choices of my methods and their implications in the internship report of my internship at the Meertens Institute.

Chapter 1

Becoming Meaningful

After waiting for almost half an hour, Simone's name is called out by a woman behind the desk of 'Obstetrics' and Simone and I are asked to come to the room where the ultrasound equipment is. It is a small room with a small desk right next to the door that has a computer on it. There is a chair in front of the computer and two chairs on the opposite side of the desk. There is an examination table with the ultrasound equipment next to it, which looks like a large computer on wheels with a relatively small screen and a strange looking keyboard. There is a constant prevailing sound, as if a large air suction apparatus is put on full force. The sonographer seems a bit surprised to have me there instead of Michael, Simone's partner. He made it to the hospital but went straight back home because he was too sick to even sit up. We sit down on the other side of a desk in front of the sonographer and I put my voice recorder on after asking for permission from the sonographer.

"My task today is that I will make an ultrasound. Have you had an ultrasound before in this phase?", the sonographer asks Simone to which Simone replies that she has not. The sonographer goes on by asking Simone all sorts of questions. She asks about her period, whether she uses drugs or alcohol, if she smokes, what her weight and height are, and whether she has taken folate. She types all of Simone's answers into the computer while looking at a computer screen that we cannot see. She does not explain why these questions are of relevance to her but goes over them quite quickly, and with a monotone voice, as if asking these questions are a routine to her. After this brief round of questions, she explains: "I will look if the baby [*kindje*] looks right in your womb, if the little heart beats nicely, and I will measure him. So you may lie down on the examination table."

Simone stands up from her seat but seems a bit taken aback by how fast the sonographer goes to doing the ultrasound. “I have a lot of questions, so I can ask them afterwards right?”, she asks while she lies down on the exam table.

“Yes”, the sonographer answers, “because afterwards you have an intake with the midwife. You may lower your pants, below your hips.” The sonographer puts “cold gel” on Simone’s abdomen. As she puts the transducer on her abdomen and a grayish image appears on the screen, the sonographer says: “Well, a whole baby is already in there”.

“Really? Can you already see that properly?” Simone asks as she sits up and tries to get a glimpse of her unborn. This is quite hard because the screen is facing the sonographer sitting next to her, which means it is turned away from her.

“Wait a minute because now you tighten your muscles. I’ll make a picture quickly”, the sonographer says.

Lifting her head up while trying to lay flat and relax her muscles, Simone peaks at the screen. “Whoa! It is so much bigger than I thought.”

“Yes, right?”, the sonographer replies, although she knows that the fetus we see on the screen has a much larger size than the actual fetus, which is only approximately five centimeters.

“You see, the little head, jaw, hand, belly, and little feet.”

“Yes, and the heartbeat”, says Simone, and at that moment, she gets emotional and tears up. “I have seen it before on pictures but never this... well”, she explains with a broken voice.

“No, right?”, the sonographer says, “look, now he’s moving. You see that?”

“Yes”, Simone replies, “it is almost as if he’s jumping. Or are you doing that?”, mistrusting her own eyes as she is watching the “jumping” fetus.

“I’m not doing anything”, the sonographer answers, “I’m trying to bring it onto the screen.” She has to tell Simone repeatedly to relax her abdomen because she keeps trying to sit up to get a better view of the screen.

The sonographer points out a leg, the head, and a hand. “It’s waving”, she tells Simone. The sonographer announces that she will do several measurements and there are long silences as we all concentrate on the screen.

“This is the foot?”, Simone asks while staring intensely at the screen.

“That is a part of the knee”, the sonographer replies, which shows that Simone, just like me, was not able to read everything that is on the scan. The sonographer points out more body parts. “Oh whoa! He is waving, hello!”, Simone says to the screen.

The sonographer makes a few more photographs and then says “well, lovely. You can see that he is beautifully on term, exactly what we thought. Two hands. Lovely. Congratulations.”

After Simone has removed the gel from her abdomen with a paper towel given to her by the sonographer, we sit down at the desk again.

After the sonographer tells Simone her expected due date, she asks if Simone has any questions about the ultrasound because she can ask the midwife all of her other questions.

“Yes, I do have a few questions about this”, Simone replies.

“About the ultrasound scan or, uh...”

“Yes, uh, about pregnancy in general?”

“But then it is best that she, uh...”

“All right, but you can answer questions about the ultrasound scan?”

“Yes, but she will have half an hour for this.” The sonographer clearly wants to end this appointment because she is on a tight schedule. However, Simone ignores this and asks: “what is it exactly that you see on an ultrasound because, uh, I mean, if there is something wrong or...”

“At a 20 weeks scan they will look at innate anomalies, now you can see: he is beautifully in the womb, the heart is beating, the baby is moving, his head looks normal, arms and legs. But whether he has a good heart or whether the kidneys are working, you can’t see that yet, it is too small for that, they check that at 20 weeks.”

“Yes, but we saw the heart beating,” Simone replies.

“Definitely. Let’s go to the midwife. You can take the photographs with you”, and the sonographer stands up before Simone has the chance to ask any more questions.

Meaningfulness of the Sonogram

Pregnancy is a rite of passage and is regarded by many cultures around the world as a life-changing event (Davis-Floyd 2003: 1). The social status and social roles of the pregnant woman, the expectant father, and the couple as a whole significantly changes (Mitchell 2001: 77). All of my interviewees described the first ultrasound as an important milestone in the pregnancy. When viewing pregnancy as a rite of passage, the first few months can be seen as the most liminal because the woman is not showing, she has not felt quickening, and many expectant couples have only told their close family and friends about their pregnancy (ibid.: 80). All of the women I interviewed knew they were pregnant because they intuitively felt it, experienced the bodily discomforts that are the first signs of pregnancy (e.g. feeling nauseous and extremely tired), and because they did a home pregnancy test that showed that they were pregnant. However, their first ultrasound scan was the ultimate confirmation of their pregnancy and was therefore a milestone.

To Simone, the first ultrasound scan meant a lot and she became emotional during the screening when she first saw her fetus. “You really see a small body, a little head, and at my first ultrasound you also really saw it moving around a lot, which was all so humanlike and truly felt as if, uh yes, it was a real human, like I had never seen before and that is why an ultrasound is really special”, Simone told me during our interview. She continued: “I always knew that I was pregnant, the first few months I was extremely tired and nauseous and stuff like that but yes, you might just as well have had a strange disease instead of being pregnant”. Although she knew she was pregnant, she needed the visual evidence in order to truly believe it and this spoke to her imagination quite strongly. She considered it to be very different from other medical check-ups, like taking blood samples, which is “just something that you do and then you’ll hear if there is something wrong with your blood”. Although both the ultrasound screening and taking blood samples can be seen as medical tests serving the same purpose, which is checking if the mother and fetus are healthy, the ultrasound has a much greater impact.

This was especially true for Esmé and Andreas. When I interviewed them, Esmé was 23 weeks pregnant with twins. She had a miscarriage one-and-a-half years before, when she was several weeks pregnant and before she had even had her first sonogram. Before her miscarriage, she had the bodily discomforts that are the first signs of pregnancy and a pregnancy test confirmed this. Due to their miscarriage, they realized very well that “feeling” pregnant and having a positive outcome of a pregnancy test is not a guarantee. “If you are pregnant, it is not evident that you will have children”, Andreas said. Especially in the first trimester, when the chances of a miscarriage are the highest, the pregnancy causes insecurity. Each ultrasound scan, and Andreas and Esmé had many because of Esmé’s high-risk pregnancy, helps with letting go of these insecurities and fears, as Esmé described. The first ultrasound scan shows that there is at least a fetus with a beating heart growing inside the woman. This evidently still does not guarantee that they will have a healthy baby, but it is one step closer to it.

To the partners of the pregnant women, the ultrasound is significant because it is a way to become more involved in the experience of the pregnancy. Michael described this as follows:

“That the baby is inside of Simone does not mean that I am less of a father, or less responsible, so I want that whole process... I mean, I can never experience it as

conscious as she can, but as much as possible, I do want to experience it up close and these steps [having ultrasound scans] are definitely a part of that.”

The ultrasound screening enables Michael to experience Simone’s pregnancy “up close” because ‘ultrasound has opened up the womb’ (Van Dijck 2005: 106). Due to this, the pregnant woman can share some of the intimate perceptions of pregnancy with others (ibid.). Wouter, Iris’s partner, described this: “of course, your girlfriend runs to the bathroom constantly and you feel fine, so that [ultrasound] makes it... you could just see that there was something happening. Ultrasound scans make it, at least for the man, much more tangible.” Andreas described it as “looking into the world” of their twins, which brought him closer to them, while he thought that Esmé was already close to them because she carried the fetuses. Andreas also made sure that he was there for every ultrasound scan, even though they had already had around eight at the time I interviewed them. He found it really important to be there, no matter how much trouble he had to go through at work to get time off.

Draper (2002) did research on men’s experiences of the ultrasound scan and argues that seeing the fetus on the screen was more significant to men than other signs of pregnancy, such as the pregnancy test, feeling fetal movement, and the growing abdomen of their partner. The ultrasound scan was their window into the interior of their partner’s body and was the strongest evidence of their baby, which then became more than just an abstract concept, more than a ‘blue line on a test’ (ibid.: 782). Ultrasound images ‘replace and displace the boundaries of space’ (inside/outside the pregnant woman’s body) and time (before/after birth) (Braidotti 2011: 197). It disrupts the definition of pregnancy as an “interior” experience (Petchesky 1997: 139) and it serves to ‘redress technologically the inequality in men’s knowledge of, and access to, the fetus’ (Sandelowski 1994: 232). The pregnant woman is no longer the knowledgeable one but instead, the medical specialist, the sonographer, and even society at large seem to become more knowledgeable about the pregnancy than the woman herself.

The pregnant woman and the expectant father ‘occupy different epistemological standpoints as knowers of the fetus’ (ibid.:233). The knowledge of the pregnant woman is embodied (corporeal and concrete) because she carries the fetus in her body, which gives her ‘a tactile and kinesthetic awareness’ that the expectant father cannot have (ibid.:234). The knowledge of the pregnant woman’s partner is limited to visual and tangible sources of information (ibid.). Only through his partner’s body can he sense the fetus, and this is only possible with her permission. This makes the expectant father’s knowledge more

disconnected and abstract than the pregnant woman's knowledge because it is disembodied. Fetal ultrasonography has changed the epistemology of the prospective parents by emphasizing vision as the primary source of information about the fetus and by extending the sensory capabilities of the expectant father (ibid.). Expectant fathers and sonographers become more equal to the pregnant woman when it comes to knowing the fetus because 'her knowing is made less exclusive and singular and more dependent on technology' (ibid.: 239).

At the same time, the important role played by ultrasound screenings play during pregnancy was also nuanced by my interviewees. To Simone, the first ultrasound in particular was of great importance, while the second one, which was an ultrasound-for-fun scan, and the third one, the 20 weeks scan, were less impressive because she "had already seen it". Besides this, as the pregnancy progressed, feeling the fetus takes up an increasingly important role, which makes seeing the fetus no longer the only way to establish its viability (Sandelowski 1994: 237). Although the expectant parents told me that they attach great value to seeing the fetus, they also told me that they did not necessarily feel the need to have many more ultrasound scans than the ones they had. In particular, they were quite negative about a scan in 3D. Wouter and Iris said that the 3D scan looked quite scary, Simone and Michael called their fetus an alien in 3D, Esmé described the 3D scan as really strange, and Andreas thought that the fetuses looked extremely ugly in 3D. For most of them, the 3D scan did not necessarily have additional value to the 2D scan.

The History of Ultrasonography in the Netherlands

The ultrasound scans play an important role during pregnancy but the meanings that expectant parents and (medical) professionals attach to them are complex. This is because a sonogram has different, intertwined meanings: medical, social, psychological, emotional, and cultural (Van Dijck 2005: 101). Before I will dissect the meanings of ultrasonography in the following chapters, it is necessary to look at the history of fetal ultrasound imaging to see how these meanings have been constructed historically.

In the mid-1980s and early 1990s, before ultrasound scanning became routine in the Netherlands, gynaecologists tried to familiarize patients with ultrasound and started to promote it as a unique family ritual (Van Dijck 2005: 110). They invited the pregnant woman's partner, her children, and other family members to the screening and gave 'a guided tour of the fetus' that promoted parental bonding and provided psychological reassurance (ibid.). Most hospitals provided a videotape of the unborn child as well, which became a cultural artifact as it was considered to be the first home video of their child (ibid.). Despite

this, hospitals had strict regulations that permitted only one ultrasound during each low-risk pregnancy. Only medical indications would constitute a reason to have a second or third scan. The hospital thus had a ‘slightly confusing hospital regulation’ because it systematically promoted nonmedical meanings of the ultrasound, while at the same time, the regulations point to the exclusive medical meanings because no extra ultrasounds were made unless strictly necessary (ibid.).

Due to these regulations, ultrasound-for-fun clinics started to appear in the Netherlands in the early 1990s. They found a niche because most women only had one ultrasound screening during pregnancy, while they often wanted to “see” their fetus more often (Van Dijck 2005: 110). These fun-sonographers were never regulated by state policy, which Van Dijck attributes to them ‘occupying a regulatory no-man’s land between photography and medical specialty’ (ibid.). Anyone who could afford an ultrasound machine could start an ultrasound-for-fun clinic. Prices for an image or videotape of an ultrasound-for-fun screening now lie anywhere between 30 Euros (for 2D) and 150 Euros (for real time 3D, also known as 4D).

In 1998, the Dutch union of gynaecologists called for a decrease of nonmedical use of ultrasound because they became convinced that ‘the hospital was not the most suitable place for ritual family gatherings and photo ops’ (ibid.: 111). They stopped with taping the ultrasound for expectant parents and midwives took over the first-trimester scans on healthy women with normal pregnancies from gynaecologists (ibid.). In theory, this meant that a neat division in labor emerged between the gynaecologist, the midwife, and the fun-sonographer. Gynaecologists only made an ultrasound when there was a medical indication or with high-risk pregnancies, midwives or sonographers trained in basic ultrasound scanning made the routine scans of healthy women, and commercial fun-sonographers provided the expectant parents with the photographic evidence (ibid.: 112). In practice, however, the professions are not so easily demarcated, which will become clear in this thesis. A separation between specialists is also found in the description of Simone’s ultrasound screening. At the end of the screening it becomes clear that the sonographer only has a limited amount of time. She requests Simone to save her questions for the next medical professional in the chain, the midwife, who is there to monitor her emotional and psychological needs. The sonographer seemed to become slightly agitated when Simone crossed the demarcation by starting to ask her things that did not belong to her tasks.

For a long time, the Netherlands has been an exception when it comes to fetal ultrasound screenings. By 2005, an ultrasound checkup in each trimester had become a

routine part of standard prenatal care in most European countries³ (ibid.: 108). In the Netherlands, one ultrasound screening in the first trimester had also become a routine part of pregnancy by that time (ibid.: 109). It is only since the beginning of 2007 that the second-trimester scan (anomaly scan) became a routine part of pregnancy as well, in an effort by the Dutch government to reduce infant death, which was (and still is) relatively high in comparison to other Western countries (European Perinatal Health Report 2008). An estimated 25 to 30 percent of perinatal mortality (death of the fetus/baby between the twenty-second week of pregnancy until four weeks after the birth) in the Netherlands was attributed to innate anomalies that could have been detected by a 20 weeks scan⁴. The most recent numbers show that the perinatal mortality decreased fourteen percent in the Netherlands⁵, which still makes perinatal death in the Netherlands relatively high.

Conclusion

I started this chapter with a description of Simone's dating scan to give the reader a better understanding of what happens during such a scan. I will come back to this description in the other chapters because it contains many interesting moments that require further analysis. As I have argued, ultrasound plays an important part in the experience of pregnancy and it is considered to be a milestone by my respondents. The women knew they were pregnant but the ultrasound functioned as stronger evidence of this. For the men, it is a chance to experience the pregnancy of their partners more closely, as it changes their epistemological standpoints as knowers of the fetus. Pregnancy is no longer something that belongs exclusively to the woman because her partner and medical specialists get to take a look in her body through ultrasonography. As pregnancy progresses, however, ultrasound became less important, as it became possible to feel the fetus move. The meaning that expectant parents give to ultrasound scans emanates from its history. When the ultrasound scan was first used as a reproductive technology, gynaecologists promoted it as a family ritual to familiarize people with it. They, however, soon came to realize that the hospital was not the right place for family rituals. The midwives took over the scanning in low-risk pregnancy, while the sonographers provided the expectant parents with a nice photograph of their unborn. In theory, this neat division of labor might work, but in practice, it is much more complicated, as I will show in the following chapters.

³ For more information on different policies in European countries, see Levi (1998)

⁴ Source: <http://vorige.nrc.nl/article1594935.ece>

⁵ Source: <http://www.volkskrant.nl/vk/nl/2686/Binnenland/article/detail/3447774/2013/05/27/Babysterfte-in-Nederland-daalt-maar-is-nog-steeds-hoog.dhtml>

Chapter 2

Medical Versus Nonmedical Meanings

It is impossible to view fetal ultrasound imaging as a purely medical practice because medical and nonmedical meanings converge. When I asked the expectant mothers and fathers why a sonogram is made, they all answered that it is primarily done for medical reasons, to see whether the fetus is healthy. Wouter mentioned that to a lesser extent it is to reassure the future parents. It was especially midwife and sonographer Eve Hannant that kept emphasizing the medical aspect of the sonogram. For example, she said:

“We are here to guide the pregnancy as best as possible, not to do all kinds of fun stuff. That is what the ultrasound-for-fun clinics are for, I think that this is a completely different kind of thing. We are here to see if the pregnancy is going well and not to see if we can nicely show five little fingers on the screen.”

Although I acknowledge that the primary reason to make a sonogram is to check the growth and health of the fetus, there are many other meanings attached to it that are inextricably linked with the medical meaning. Trying to demarcate the ultrasound scan as a purely medical event, as Hannant is trying to do, is impossible. This is because it is part of a life changing experience, which involves emotions and ethical issues that are inseparable from the medical event.

According to Draper (2002: 787), the sonographer sees the screening as a diagnostic event to collect data about the growth and viability of the fetus, whereas the expectant couple view the screening as a social event that gives them the chance to see (a representation of) their unborn. Draper argues that to a sonographer, the sonogram is a ‘public (medical) photograph with a fetal (patient) subject’ while to the expectant couple it is a ‘private

(parental) photograph with a baby (person) subject' (ibid.). In my opinion, this distinction is not as clear-cut because the sonographer actively helps to construct the fetus as the baby subject. Sonographers give mixed signals during ultrasound screenings, both trying to clearly demarcate it as a medical event, while simultaneously contributing to the social, emotional, and psychological aspects. We see this, for example, in my description of Simone's sonogram. The sonographer never talked about the fetus but always called it a baby and she said that he was waving, which inscribed intentional behavior to the supposedly male fetus, as if it was greeting its mother.

At the same time, through the setting of the sonogram, the medical meaning was reinforced. The screen on which the ultrasound scan was shown, was facing the sonographer, which made it hard for Simone to see the screen. This is in line with the idea that the ultrasound is made purely in order for the medical specialist to check the growth and viability of the fetus. If this would be the only meaning that an ultrasound has, there would be no need for the woman or couple to see the screen. Simone, however, very much wanted to see her unborn and kept sitting up to get a better view of the screen. The sonographer told her that she would make a photograph so that Simone would still be able to see her fetus, even if she could not see it properly during the whole screening. Giving expectant couples pictures of the fetal ultrasound image encourages the idea of the ultrasound screening as a photographic ritual that is an emotional event because it is their first time 'seeing the baby' (Mitchell 2001: 115). Fun-sonographer Elvin Papa pointed out that increasingly more medical sonographers work with more and bigger screens to meet the needs of expectant couples to see their unborn properly during a screening.

When Simone was admitted to the hospital after she got contractions too early, 26 weeks into her pregnancy, she noticed the significant difference between a medical ultrasound with an urgent medical indication and the other two routine medical ultrasounds that she had. In the week that she was admitted, Simone had five ultrasounds and they were purely for the sonographer to check the health of the fetus. The sonographer made no effort to bring the fetus "nicely" on screen, in contrast to the many occasions where this did happen during Simone's earlier two scans. Midwives that make ultrasound scans see it as part of their job to give the ritual of the early ultrasound a personal feel, according to José van Dijck (2001: 51). When the ultrasound screenings completely lacked this personal feel, Simone noticed how much of an effort the other sonographers actually made to give her a nice picture of her fetus and involve her in the screening during the routine scans. Hannant indicated that she gives her patients a picture after she made a screening, which shows that she does make an effort to get

a good picture. This is something that is not needed in order to check the health or growth of the baby and could therefore be considered as something “fun”, which contradicts Hannant’s earlier statement. Sonographers help to establish a mix of medical, psychological, and emotional meanings.

Expectant parents do not simply enjoy an ultrasound screening because they get to see their unborn, but they inscribe the sonogram with many more meanings. Andreas described the feeling that came with having an ultrasound scan:

“The sonogram itself, I mean, the technical procedure was less important than the feeling that came with it, than my relationship with Esmé. A family starts to appear without the sonogram, uh, being in the center, so it is more facilitating, but when I look back on it, it is especially a moment for Esmé and me.”

Andreas’s description shows how much more meaningful a sonogram is than simply a medical event or a chance to see the fetus. It can be a realization that the social roles of the woman and man are changing and that they are soon going to be mother and father. Besides this, much of the pleasure derived from ultrasound screenings comes from learning that the fetus is healthy, which intertwines the medical meaning of the sonogram with the psychological and emotional meanings. In contrast to this, not all of my interviewees seemed aware of the medical meaning of the sonogram. Michael mentioned in our interview that he had thought about it, but before Simone, him and I were going to their anomaly scan at 20 weeks, he did not seem to realize that possible anomalies could be discovered. When I asked Michael how he was feeling, he said that he was excited for it and curious to find out the sex. Simone, who was nervous, reminded him that there could be something wrong, but Michael said that he was not worried at all.

Separating Medical Ultrasound and Ultrasound-for-fun

Because medical and nonmedical meanings converge in ultrasonography, it is difficult, if not impossible, to make a clear distinction between the meanings of a medical ultrasound and an ultrasound-for-fun. Earlier I described how, in theory, the professions of gynaecologists, midwives, sonographers, and fun-sonographers are neatly divided. My observation at Papa’s clinic made me realize that this distinction is not so clear-cut in practice. Papa literally said that he would do the 20 weeks scan again, which is a medical ultrasound scan. He talked extensively about the fetal body parts and used many medical terms for this. Although

officially Papa cannot make any diagnoses, he made many measurements during the screening and drew conclusions about the fetal growth from these measurements. Midwife and sonographer Hannant, however, pointed out that one of the main differences between a medical sonographer and a fun-sonographer is that the fun-sonographer might measure the growth of the fetus, but that he or she will not make any statements about whether, for example, the fetus is smaller than the average fetus. My observations at Papa's clinic show otherwise. This made the ultrasounds-for-fun more of an extended double-check of the earlier medical ultrasound screening than simply having a look at the fetus for fun. Although the initial purpose of making an ultrasound-for-fun might be different from the purpose of a medical ultrasound, they are not so easily classifiable.

The word "fun" in ultrasound-for-fun can be deceiving because ultrasound screenings are a diagnostic tool which makes simply looking at a fetus for fun impossible. Although fun-sonographers do not have the qualifications to interpret an ultrasound medically, this does not mean that they cannot detect anomalies (Van Dijck 2001: 49). Iris described how her pregnant friend had an ultrasound-for-fun where the fun-sonographer concluded that the fetus was underdeveloped after measuring the fetus. This caused Iris's friend much stress and she had to go through many medical tests. After two weeks, it turned out that there was nothing wrong. Iris's friend expected to have a fun ultrasound that gave her a chance to see her fetus again, but instead, it caused much anxiety. However, there are anomalies found during the ultrasound-for-fun that the medical sonographer truly missed, as Papa told me. When he finds anomalies, he contacts the midwife of the pregnant woman, who could choose to make a referral to a gynaecologist. According to José Van Dijck (ibid.), midwives are generally not pleased with this course of events. Both of the midwives that I interviewed, however, said that they do not have any trouble with it because they would rather be safe than sorry.

Medical and nonmedical meanings of an ultrasound-for-fun are also hard to distinguish because fun-sonographers neither see themselves simply as photographers nor do they promote themselves in this way (Van Dijck 2005: 112). They promote their clinics as semi-medical centers and make it seem as if the ultrasound-for-fun screening is an extra check-up, supporting the work of midwives and gynaecologists (ibid.). This is exactly the case with Papa. On the website of the clinic of Papa, which is called *Echo Centrum Amsterdam*, Papa's medical degree is emphasized in the description of his background⁶. In addition, there are many statements by medical professionals (e.g., gynaecologists, general

⁶ See: <http://www.echocentrumamsterdam.nl/index.php?id=3>

practitioners, and midwives) on his website that express their contentment with the ultrasound-for-fun they had made at Papa's clinic. Also, the name Doctor Papa, which is how his customers call him, promotes him as a medical specialist. In addition, Papa has the newest technology; he said that he can offer "great quality, in 3D, in 4D, which is much greater than what a medical ultrasound scan can offer". The technological improvements that each innovation introduces upsets the orderly division of labor between medical specialists and fun-sonographers (ibid.: 113). Technology is crucial in the practice of ultrasound seeing as newer technology enables the sonographer to work more precisely and read more on a scan. Having the most advanced technology enables Papa to be a specialist and gives him power and expertise because he is able to provide a more realistic image that looks like a living baby. I will elaborate on this fetal image in the following chapter.

According to Papa, the most important difference between a sonographer making medical scans and his profession is that he is an entrepreneur who serves customers instead of patients. At the same time, he emphasizes his medical status because he has to achieve credibility in order to get customers and make money. He also tries to achieve credibility by putting testimonies of Dutch celebrities on his website. For example:

"Today we saw our already fantastic daughter in 3 & 4D. A magical moment because now we truly have a clear image of her sweet, pretty face and active small body. That which I felt has now come together with that which we saw of her. An amazing experience! Thanks a lot dr. Papa, also for the clear, guiding explanation!"

This quote is from Renée Vervoorn, a former model and television host on Dutch national television. On a specific page of the website of Papa's clinic⁷, the testimonies of other famous television hosts, singers, comedians, and models alternate with the testimonies of medical professionals and testimonies from people all over the world, like India, France, the United States, China, and Venezuela. "When you have celebrities in your clinic, other celebrities are also going to find it interesting, as well as "normal" people. It has a huge pull effect", Papa described. This strategy clearly shows how Papa does not only emphasize his medical status, but also tries to gain status and achieve credibility through another discourse.

Using celebrities as a way to endorse products and services is a popular marketing strategy. In marketing communications, this specific way of gaining status is called celebrity

⁷ See: <http://www.echocentrumamsterdam.nl/index.php?id=13>

endorsement (Erdogan 1999; Ding, et al 2011). Ding, Molchanov & Stork (2011: 148) point out several positive effects of celebrity endorsement. Celebrities make advertisement believable and recognizable, they create a distinct personality for the brand, as well as a positive attitude towards it. On the webpage where Papa describes himself⁸, he first describes his medical background and right underneath it, there is a video of the Dutch celebrity Bridget Maasland visiting his clinic. This video is a fragment from her television show *Hoe word ik mama in Amsterdam-Zuid* (How to become a mom in the neighborhood Amsterdam-South). It starts out with another pregnant Dutch celebrity telling Maasland; “the first thing that everybody said to me when I told them that I was pregnant, was that I have to go to Doctor Papa”. By putting this on his website, Papa gains status because of a celebrity promoting his services. Thus, as a fun-sonographer, he emphasizes both his medical status but also tries gaining status in a different way, namely through celebrity endorsement. This is a commercial strategy that distinguishes Papa’s ultrasound-for-fun from medical ultrasound, as it would never be a strategy medical centers would use because of their pledge of secrecy and the importance of looking “objective” (i.e., not having a commercial interest). I will elaborate on this in chapter four.

Conclusion

In this chapter, it has become clear that medical and nonmedical meanings of ultrasound are difficult to distinguish and that therefore the ultrasound-for-fun cannot so easily be put into a different category from the medical ultrasound. Both the sonographers and the expectant parents inscribe fetal ultrasound imaging with various meanings and construct these through their interactions. The ultrasound-for-fun is promoted as an extended double-check of the medical ultrasound and it becomes more than just looking at the fetus because anomalies could come up. Papa emphasizes his medical status, but also tries to gain status through celebrity endorsement, which is a commercial strategy. The meaning of fetal ultrasound imaging is not clear-cut and it takes up a complex role in the experience of pregnancy. This is enhanced by the role given to the fetus by ultrasonography, which I will elaborate on in the next chapter.

⁸ <http://www.echocentrumamsterdam.nl/index.php?id=3>

Chapter 3

Seeing the Baby

It is widely assumed that fetal ultrasound imaging technologies reveal the inside of the womb in a realistic, photographic manner (Van Dijck 2001: 6). In this lies the danger of an uncritical belief in technological progress, when in reality there are many complicated, multidirectional processes regarding the technology of fetal ultrasound imaging (Balsamo 1996: 114). Every new ultrasound imaging apparatus provides us with more knowledge, but also affects our view of the maternal and fetal body. This is why looking into a body is not an innocent activity without consequences (Van Dijck 2001: 7). Ian Hacking (1995: 192) argues that “seeing is intervening” and that looking into a body means transforming it. Andreas explained this quite well when he discussed how Esmé and him had to make a decision about having amniocentesis done (a medical test to detect chromosomal abnormalities in the fetus):

“Before you have amniocentesis done that could show that the child has Down syndrome, you have to decide whether you keep the child. That is actually the decision you make before doing such a test, it is not like, okay we’ll just have a look because then you don’t have to do it. You have to realize that that is the decision. The same goes for the 20 weeks scan, which is not necessarily about abortion but always about ethical issues. It gives you more possibilities to make decisions that you can’t really make.”

Ultrasound imaging technologies and other diagnostic tests do not enable people to make rational, informed decisions but rather confront them with haunting dilemmas and ambiguous information (Van Dijck 2001: 8). This is not simply a consequence of fetal ultrasound

imaging but it is intrinsic to its development and implementation (ibid.). We have to be aware that while ultrasonography is meant to eliminate insecurity, it also creates it.

The Construction of Fetal Personhood

The consequence of “externalizing the internal” (Foucault 1973) is that the fetus is perceived as being detached from the mother and that it is treated as a separate patient. The ultrasound image becomes culturally meaningful as a baby (Mitchell 2001: 124). Putting still images together to create a real-time video of the fetus brings the fetal image “to life” (Petchesky 1997: 135). The fetus becomes an ‘autonomous, free-floating fetus, disconnected, solitary individual’ (ibid.: 137). In this way, ‘the point of viability is “pushed back” *indefinitely* and the autonomous “child” exists from the start of the pregnancy (ibid.:139). The fetus requires an identity of its own by being disembodied (Braidotti 2011: 197-198). Medical practitioners ‘no longer look to the maternal host for diagnostic data and a therapeutic medium; they look through her to the fetal organism and regard it as a distinct patient in its own right’ (Mattingly 1992: 13). Before the routinization of ultrasonography, the “maternal-fetal dyad” was conceptualized as one complex patient, in which the fetus was an integral part of the pregnant woman (ibid.). Being seen as two separate individuals, the pregnant woman and the fetus are put in adversary positions because the woman presents a “hostile environment” to the development of the fetus (Petchesky 1997: 138).

Fetal personhood is further constructed through the interaction between the pregnant women, their partners, and the sonographers (Mitchell 2001: 175). At both the medical ultrasound and the ultrasound-for-fun screenings I observed, the sonographers talked about the fetus as if it was already a child, and in this way, they personified the fetus. The fetus is called baby or child, as if it is already born. By describing how the fetus is jumping, waving, waking up, or that it is very active, the fetus is portrayed as if it is intentionally acting in a particular way. Waving, for example, is something that people do with the intention of saying hello or goodbye, or to draw someone’s attention. By saying that a fetus is waving, a sonographer inscribes personhood onto the fetus and the movements of the fetus are considered intentional. At this stage, however, they are simply reflexes. It creates the idea that ultrasonography is a way to communicate with the fetus or to establish contact.

Not only the sonographers, but also the expectant parents actively construct the fetal personhood during the ultrasound screenings. At the 20 weeks scan, Michael called the fetus “flexible” (*lenig*) and Simone called it a “crazy baby”. As you read in the description of Simone’s first ultrasound, she greets the fetus (“*Oh whoa! He is waving, hello!*”). Also by

using “he” instead of “it”, personhood is ascribed to the fetus. During the 20 weeks scan of Simone en Michael, the sonographer spoke to the fetus directly on several occasions as if it was already a baby. “Please move those legs now, sweetie, or else I can’t see anything”, the sonographer said to the screen, and when the fetus moved after a while, she said: “thank you, sweetie”. None of my respondents, neither the expectant parents nor the professionals, spoke about the fetus, but rather spoke about the baby or child. Midwife Liselotte Kweekel did mention that she calls it the fetus when she discusses it with her colleagues. Papa said: “I don’t think calling it a fetus is appropriate. I just think it’s the child of these people and I often speak about it as their son or daughter, as if it is already an individual because that is what it is, in my eyes”.

The personified fetus is a strong agent in the abortion debate. Antiabortionists argue that fetal ultrasound imaging proves that life begins at conception because we can see that the fetus looks like a baby and that abortion would be the same as taking a human life (Franklin 1991: 191). An example of the way in which this powerful rhetoric is used is the documentary *The Silent Scream* (1984). In this documentary, a doctor shows how a twelve-week-old fetus is aborted, on an ultrasonography screen. He describes how the “baby” is trying to escape the suction machine by moving rapidly and how we see that it is trying to scream. In fact, camera tricks were used, like speeding up the film, to make it seem as if the fetus was resisting because the fetus cannot receive pain impulses at that stage, which makes fetal movement reflexive and without purpose (Petchesky 1997: 136). Additionally, through the use of language, for example, by saying that we are looking at an abortion from a “victim’s vantage point”, the doctor is manipulating the viewer’s perceptions of abortion. I will not elaborate on the abortion debate in this thesis but I think it is important to mention, albeit briefly. It demonstrates how fetal ultrasound images can become political tools, and that they are not objective or realistic, but that cultural meanings are projected on it.

The visualization of the fetus makes pregnancy no longer a condition, a state of being, but a relational happening between mother and fetus (Lagro-Janssen 1995: 46). According to Margarete Sandelowski (1994: 242), fetal ultrasonography minimizes pregnant women’s special relationship to the fetus because it promotes a certain distance and detachment since it makes ‘seeing and getting a picture of a fetus at least as significant as carrying the fetus’. At the same time, the pregnant woman’s responsibility for fetal health and well-being is maximized (ibid.: 231). Sandelowski even argues that ‘women are often depicted as if they were the only agents culpable for fetal morbidity and mortality’ (1994: 231). Risk and responsibility become individualized and the attention for social and structural causes of

discomfort, suffering, and risk during pregnancy is deflected (Mitchell 2001: 92). This has the consequence that many women feel responsible when something goes wrong during their pregnancy (ibid.). When speaking to a pregnant friend about telling others about your pregnancy before the first ultrasound, she said that she would never do that because she would be ashamed if she did have a miscarriage and had to tell everybody this. She would have the feeling that she failed and that the miscarriage was her fault, which is why she waited a few months before telling anybody, besides her partner, about her pregnancy.

Complexifying Fetal Personhood

Although my observations at the ultrasound screenings show how expectant parents and sonographers actively construct the fetus as a separate individual, the expectant parents simultaneously deconstruct this image. They seemed to experience pregnancy more as ‘a process of conditions, evaluations, and uncertainties, rather than a state of absolutes and definitives’ (Mitchell 2001: 194). The seemingly contradictory feelings towards the fetus as an autonomous individual became clear when I asked my respondents about naming their child. Esmé and Andreas already had names for their twins. Since the 20 weeks scan, in which they learned the sex of the fetuses, they started calling them by their names, though only when talking to each other or directly to the fetuses. To other people, they called them A and B, which was what the sonographer had called them since the first ultrasound scan. Iris and Wouter had not come up with a name at the time I interviewed them but they had a “working title” (*werktitel*) for their fetus, as they described it, which was *bolletje* (which means something like a small ball). Iris and Wouter had come up with some names but Iris said that she would only be sure about the name when the baby was actually born. “I feel like I have to see the child myself before the name will be final and I would find it weird to call him this when he is not here yet”, Iris described. All of the couples said that they would not share the name that they would finally choose, or the names that they had chosen in the case of Esmé and Andreas, with anyone before the child is born.

The fact that my respondents either did not come up with a name (yet) or that they did not share the name with others, contradicts the view of the fetus as an autonomous individual. Some of them did not know why they wanted to keep the name a secret because they had never really thought about the reason behind it. They just thought that it was “normal” and that everybody does it. However, others said that they did not want to hear the opinions of others about the name. For example, Simone said: “I don’t want anyone to say: what a stupid name. Once it’s your baby’s name, they can’t say that anymore”. This points to the opposite

of seeing the fetus as an autonomous individual because if the fetus would have the same status as an already born baby, revealing the name before the birth would not be a problem. The name would then be considered as something inextricably linked with the fetus and not something that could still be changed, which would be as odd as changing a baby's name. A name is an important part of an individual's identity and the way in which the name giving is handled shows that the fetus is not completely considered to be an individual. Iris's comment in particular, about how she wants to see the baby before giving it a name, shows that seeing the fetus on the ultrasound imaging screen is not enough to fully see the fetus as an individual.

The communication with the fetus also complexifies the concept of the fetus as an autonomous individual. Not all of my respondents were comfortable talking to their unborn, which shows that they do not completely see it as an individual yet. Andreas and Esmé did do it regularly. Andreas even spoke to their unborn twins in German because they want to raise their twins bilingually. In the beginning, they were hesitant to do this because their miscarriage restrained them from immediately trying to bond through talking to them. "And in the beginning, they were just cells of course", Esmé told me, "and I'm pretty down to earth when it comes to that". Andreas described that "there is not necessarily one moment at which it becomes a person, this happens gradually, with steps forward and backward because sometimes you think you feel something but then it turns out not be anything". Wouter found it quite difficult to talk to Iris's abdomen. "I sing and talk a little to her abdomen but not endless stories or anything", he described. According to him, it was easier for Iris because "she has all the adventures with the little one". Michael barely spoke to the fetus. He told me:

"For fun I sometimes say something to Simone's abdomen but not in a serious manner. And because it is one-way communication, it doesn't really feel like communicating. I am aware that its hearing is developed, for what it's worth, but those are just sounds, a baby [read: fetus] doesn't understand a thing."

This quote demonstrates how he calls the fetus "a baby" in the same sentence that shows that he does not see it is a baby, but as a not yet fully developed fetus.

These examples all show how complex the construction of the fetus as a person is and that it is not done simply through the ultrasound image. When seeing the fetal ultrasound image on its own, it is easy to let your eyes trick you into believing that you are looking at a person because it looks much like a baby. However, when someone is actually carrying the fetus and there are other senses to rely on, it becomes much more complex. Due to the whole

experience of being pregnant or having a pregnant partner, my respondents did not easily classify the fetus as a baby but had mixed feelings about the personhood of the fetus. The wide circulation of fetal ultrasound images in our visually oriented everyday culture, outside of the medical setting (Van Dijck 2001: 12), takes the fetus out of the context that nuances its personification. The visual image cannot show the complexity of fetal personhood and because the visual is powerful, there is a danger that people who do not have access to the whole experience of being pregnant or having a pregnant partner come to think that they know all there is to unborn life on the basis of this visual image.

The Limited Vision of the Visual

The visual is privileged in the postmodern Western world and the idea that truth and visibility work together is dominant (Jenks 1995; Fox Keller & Grontkowski 1983; Braidotti 2011). In Western thought, vision has traditionally been seen as a suitable model for knowledge (Fox Keller & Grontkowski 1983). Vision has a higher status than other senses because it is equated with objectivity (ibid.: 213). This equation is created because vision is historically seen as something disembodied. It promotes the illusion of detachment and it fits a model of truth better than what are considered to be the ‘more body bound, materially contingent senses’ (ibid.: 219). Vision is treated as autonomous, free, and pure (Jenks 1995: 1). It is also considered to be an unobtrusive sense, as if it does not affect the object that is looked at and neither the person looking (Fox Keller & Grontkowski 1983: 219). Its dependence on distance and its apparent atemporality makes the visual sense suitable for a model of truth based on distance between subject or knower and object or known (ibid.: 220).

The way in which we view fetal ultrasound images has an important link with the idea that truth and visibility work together. As I mentioned before, ultrasound images are part of our visually oriented culture (Braidotti 2011:201), for example, we can see them in a commercial for Plan Nederland⁹. Because of their wide circulation, we have become familiar with them. Due to this, ultrasound images have become what Rosi Braidotti calls ‘images without imaginations’ (2011: 201). The visual ultrasound image creates the illusion that a fetus is already a baby, but there is much more to a baby than its visual manifestation. A baby is also someone that you can hold, touch, smell, and hear, and without these other sensory impressions, there is no baby. However, vision is such a powerful sense that these other senses become secondary. The “origin of life” is visually represented through ultrasound

⁹ See: <https://www.plannederland.nl/plan-commercial-genomineerd-voor-gouden-loeki>

images, even though this is irrepresentable (Braidotti 1994: 49). By showing the invisible, the origin of life is reduced to a fetus that looks like a miniature baby, and the fact that there is much more to it than the visual image can show is denied (Braidotti 2011: 201). However, since we attach great value to the visual, we come to believe that the ultrasound image makes us knowledgeable of what happens before birth because it provides us with visual evidence of it. The visual image has become dominant in shaping our ideas about prenatality, but it can never adequately reflect women's and men's diverse experiences of pregnancy and fetal death (Mitchell 2001: 183), which I described before. As much as we cannot 'find the meaning of life by mapping the human genome' (Van Dijck 2005: 7), we cannot find the origin of life by mapping fetal development.

During my research, this was made explicit when Simone became emotional after seeing her unborn for the first time on the ultrasound screen and said: "I have seen it before on pictures but never this... well". She thought that she knew what an ultrasound image looked like but when it came to her own ultrasound image, she realized that there is much more to "see". Having seen a fetus on an ultrasound image before does not mean that one knows everything about the unborn, although this is suggested. Ultrasound images seem to leave nothing to the imagination because they show you what is inside the womb, which makes you believe that this is all there is to it and that you now know about prenatality. Simone's emotional reaction during her ultrasound shows that there is much more to it, and at that moment the ultrasound image became embedded in the greater experience of being pregnant. The image converged with many imaginations, for example, of her becoming a mother, of her partner and her becoming parents, and soon having the responsibility to raise a child that they created together. It is the whole ritual of the first ultrasound that speaks to the imagination because it is a milestone that confirms the existence of the fetus. Taking the fetal ultrasound image out of this context and having it circulate widely on its own gives it new meanings that are based on an incomplete picture of the unborn.

Conclusion

In this chapter, I have shown that looking into a pregnant woman's body is not an innocent activity with no further consequences. It not only presents expectant parents with impossible dilemmas, but also constructs the fetus as a separate patient. Pregnancy is no longer a state of being, but a relationship in which the expectant mother and the fetus are put in adversary positions. Pregnant women have come to be seen as the only ones responsible for the well-being of their fetus, whereas structural or social factors are obscured. However, I

complexified fetal personhood by describing the experiences of my respondents, which shows that they simultaneously construct and deconstruct fetal personhood. Fetal ultrasound images can never capture their complex experiences and therefore only have a limited view of the unborn. However, because in Western society great value is attached to vision, the illusion is created that fetal ultrasound images give an objective view of prenatality and that we know all there is to it. Through the wide circulation of the visual representation of the unborn, it is not only taken out of context, but the other senses that complicate fetal personhood are dismissed. Interestingly, as I will show in the next chapter, we rely on the visual, despite barely being able to see what is on an ultrasound image.

Chapter 4

Seeing What Is Shown

At first sight, the contours of the fetus are easily recognizable on an ultrasound scan. We are overexposed to ultrasound images due to our visually oriented culture in which we not only encounter ultrasound images in a medical setting, but also abundantly in everyday culture. We are tempted to believe that we understand the (medical) meanings of the medical images we see because we see them so often (Van Dijck 2001: 12). The pictures on which we see the contours of the fetal body are the kind of pictures one recognizes as a realistic display of the fetus (ibid.: 46). In fact, this is a “re-mediation” or a double translation, as Andreas called it in our interview: “you have the fetal body, which is translated in sound waves, which is then translated in an electrical code that is translated in a visual image, and that image needs to be translated into language”. In other words, technologically produced signs need to be translated or coded into meaningful statements (Haraway 1991: 146). Although the untrained eye might recognize a fetal body on the ultrasound image, one needs an expert to interpret and translate the image. Interpretation is more important than seeing because a sonographer needs to determine what the different shades of grey on the image mean (Van Dijck 2001: 46). Some things that the image shows are not necessarily relevant and the sonographer needs to translate the unusual elements into conclusions. These conclusions are difficult to draw because the sonographer can usually only give an indication of a possible anomaly or a percentage of cases in which it turned out to be a serious anomaly (ibid.).

Paradox of Seeing

Expectant parents attach great value to seeing their fetus on an ultrasonography scan, despite being, to a great extent, incapable of seeing it, even when looking at it. This is illustrated in my description of Simone’s first ultrasound when she thinks that a knee is a foot. Reading an

ultrasound scan made at 20 weeks is even harder because more fetal body parts have developed at this stage. During her 20 weeks scan, Simone repeatedly said that she had no idea what they were looking at. Even when the sonographer specifically pointed out where certain organs were, Simone told the sonographer that she could still not see it all. Andreas also pointed out that he definitely needed the sonographer to translate the sonogram at their 20 weeks scan. “For example, you see three black dots and you need the sonographer to explain that this means that it is a girl. If he wouldn’t explain it, you see nothing, you just see three dots but you don’t make a connection between them”, he described. Thus, the prospective parents believe their fetus is healthy once they have seen it, but in order to see it, they have to believe what the sonographer tells them that they are seeing.

Barbara Duden calls this paradox of seeing, seeing *on command* (1993: 12). The expectant parents are told what to see; they ‘are told that these clouds and masses were recorded by a scanning ultramicroscope and that they represent a human being’ (ibid.; emphasis in original). The images must be explained by some authority in order to be “seen” (ibid.: 16). Seeing is then no longer believing (Anker & Franklin 2011: 117). The saying goes that you will believe it when you have seen it, but with ultrasonography it is reversed. You will see it when you believe it. Expectant parents ‘see in fetal images what they are told they ought to see’ (Petchesky 1987: 73). This means that ultrasound simultaneously obscures and reveals, and thus constructs a “veiled image” (Draper 2002: 784). There is a difference between what is ‘seen’ and what is ‘shown’ (Duden 1993). As the earlier of quote of Andreas demonstrates perfectly, the sonographer needs to *show* the expectant parents what, for example, female genitals look like on an ultrasound scan because otherwise they would only *see* three dots and not attach any meaning to them.

The photographs of Lennart Nilsson¹⁰ are a telling example of how we see what we are being shown. This Swedish photographer is famous for his photographs of fetuses. His work has been reproduced widely around the world after it first appeared in the American *Life Magazine* in 1965, through which Nilsson ‘combined the power of specialized medical photography with the mass reproduction of glossy magazine images’ (Anker & Franklin 2011: 106). I found one of his books, *Geboren worden* (Being Born) (1987) in my mother’s bookcase. In the book, there is an enlarged series of pictures that starts with an egg and then shows fetuses in several stages of pregnancy until at the end of the book a baby is born. The pictures, which show fetuses that seem to float in space because the pregnant woman is

¹⁰ For his work, see: http://www.lennartnilsson.com/child_is_born.html

completely absent, have been extremely critically received in feminist literature. Through “the art of staging” (Anker & Franklin 2011: 124) the pictures of the fetuses are enhanced to look more human, for example, through the use of light that makes the skin look pink instead of red. In fact, all of them were fetal postmortems. Only one depicts a live unborn fetus but this photograph was taken prior to an abortion (ibid.). Suzanne Anker and Sarah Franklin note how the fetuses are staged in a similar way as earlier fetal displays, like the fetuses in formaldehyde by Frederik Ruysch (1658-1731), presented to resemble living organisms (ibid.: 107). Thus, we are really looking at dead fetuses but they are shown to us as if they are living. We do not see what they really are because they are presented to us in a specific manner.

The book *Being Born* is presented as an educational book, directed towards children, telling them about their prenatal journey. In the introduction, it is described as a book that combines the knowledge of psychologists specialized in prenatality with the electronic registration of the fetus and echography (Nilsson & Kitzinger 1987: 5). It is presented as a realistic, scientific representation of in utero fetuses, but can rather be seen as art or entertainment. Discussions have centered around this same distinction when it comes to the work of Ruysch and Gunther von Hagens, who displayed specimen in his exhibition *Body Worlds*, that was exhibited in the Netherlands in 2012, as well as in several others countries in Asia and Europe¹¹. Ruysch was a respected anatomist but the manner in which he decorated and presented bodies and body parts called into question whether he was a scientist or an artist (Van de Roemer 2010: 169). For example, he dressed up fetuses or stillborn babies with scarves and hats or placed flowers and lace around the fetuses to embellish them (ibid.: 170). Von Hagens emphasizes that the bodies he displayed were “authentic” and “natural”, but in reality they were manipulated with chemicals and thus as much imitations of bodies as body models are (Van Dijck 2005: 47). It could therefore also be discussed whether Von Hagens is a scientist or an artist.

Just as José Van Dijck argues about Von Hagens, Nilsson does not perceive scientific accuracy and aesthetic or artistic embellishment as conflicting (ibid.: 50). He presents his photographs as if they are a pure representation of the fetus without the contamination of human intervention (ibid.: 56), which is in line with positivistic science and the idea of objective scientific truth. Through this, Nilsson reinforces the false dichotomy between science and art, and therefore implies that different ethical standards apply to each discipline (ibid.: 61). By presenting his photographs as realistic medical images, he escapes ethical

¹¹ For more information about Body Worlds, see: <http://www.bodyworlds.com/nl/amsterdam/goodbye.html>

judgments. Object versus representation, authentic versus inauthentic, and fake versus real are classifications that become obsolete (ibid.: 62).

This same argument can be applied to medical ultrasound and ultrasound-for-fun. The different meanings of both types of ultrasound and the way in which they can or cannot be separated represent the broader struggle to define the boundaries between medicine and the broader consumer culture in which it is located (Taylor 1997: 26). When medicine is presented as objective knowledge, it escapes ethical issues because it becomes the Truth and automatically “right”. However, we should also apply the critical view that we have towards art or culture to medicine and always be aware that looking at ultrasound images is not a neutral act independent from who is looking and who is looked at (Van Dijck 2001: 53). Feminists have widely critiqued the idea of an objective reality with pure, value-free, and universal knowledge (Brooks & Hesse-Biber 2007: 6-7). Knowledge building cannot be value-free because it cannot exist outside of the social world. Nonetheless, the idea that objective and universal knowledge exists is dominant because it has a ‘privileged location within a historical, material, and social set of patriarchal power relations’ (ibid.: 7). I will clarify this by discussing authoritative knowledge.

Authoritative Knowledge

Only taking the power of the visual as an explanation for the importance of ultrasound images is not enough. Authoritative knowledge is another crucial reason for why we cease to be critical about sonography. “I could explain everything but that is way too complicated, so you’ll just have to believe what I’m saying”, the sonographer told Simone at her 20 weeks scan. Believing in what the sonographer says and trusting her is an important condition in an ultrasound screening. This trust is embedded in authoritative knowledge, which plays a great part in the paradox of seeing. Authoritative knowledge is a term introduced by Brigitte Jordan (1980), the “mother” of the anthropology of birth. One kind of knowledge system frequently carries more weight than other knowledge systems that exist in a particular domain. This knowledge system gains legitimacy and becomes authoritative knowledge, while other knowledge systems are devalued or even dismissed (Jordan 1997:56).

Authoritative knowledge is constituted through an ongoing social process, which builds as well as reflects power relationships within a group of people who share a profession (ibid.). This leads to all participants coming to see this knowledge system, and the social order that comes with it, as natural, reasonable, and consensually constructed (ibid.:57). People that embrace alternative knowledge systems tend to be seen as backward or ignorant and their

ideas are considered irrelevant or unfounded (ibid.:56). Even though authoritative knowledge is the knowledge that counts, it does not necessarily mean that it is correct (ibid.:58). It functions as the 'publicly available set of practices and reasonings that is developed and warranted within a particular setting and that systematically informs the work and interaction of participants', which is needed in order for people to work together (ibid.).

The concept of authoritative knowledge is especially prevalent in medicine, where it is continually reinforced through social interactions. Jordan (ibid.: 61) discusses authoritative knowledge in relation to American hospital births, in which medical knowledge overrules and delegitimizes nonmedical knowledge, for example, the knowledge that a pregnant woman has on the state of her body. Nonmedical knowledge is devalued by the pregnant woman herself as well and is hardly ever actively resisted (ibid.). When this does happen, it could possibly lead to the legal enforcement of authoritative knowledge, for example, a court-ordered cesarean section (ibid.). Through hierarchical social interactions, such as clinical encounters, authoritative knowledge is continually and routinely reinforced and reproduced (Georges 1997: 92). This means that people do not simply accept authoritative knowledge but actively participate to reinforce it.

Fetal ultrasound screenings are performative social interactions with ritual overtones through which authoritative knowledge is re-affirmed. During my observations at the medical ultrasounds, this happened either through the use of medical terms by the sonographer, which the expectant mother and father were unfamiliar with, and/or not making the effort to share their knowledge by simply saying that everything is all right without elaborating on what this exactly meant. Mitchell (2001: 119) points this out as well by saying that sonographers sometimes do discuss the measurements they make or the fetus's anatomy but that little of their knowledge is actually made explicit during a routine ultrasound screening. Much of the knowledge of sonographers is hidden when ultrasound scans are translated into fetal facts (ibid.). This creates a hierarchical social relation between sonographer and patient in which trust is put into the sonographer by the expectant mother and father, thereby re-affirming the authoritative knowledge system. Not many questions were asked and the sonographer's findings were never questioned during the medical ultrasound screenings, which shows that the sonographer's knowledge is considered legitimate.

Authoritative knowledge is not simply re-enforced top-down, but women and men are actively involved in its construction. During the ultrasound scans at which I was present, the expectant parents relied heavily on the knowledge of the sonographer, seeing as they were incapable of fully reading the scan. Simone repeatedly mentioned during her anomaly scan

that she could not see or recognize what was on the fetal image, not even after the sonographer described it. “I can’t see it but I believe you,” she said to the sonographer. This comment shows how Simone puts trust in the sonographer and completely relies on her knowledge. Moreover, most of the women and men that I interviewed did not look up much information about fetal ultrasound imaging. Although the women in particular read a lot about pregnancy, relatively little of that was about ultrasound screenings.

Interestingly, when I asked my respondents if they had ever considered or read about the negative consequences ultrasound screenings could have, most of them interpreted this as if the question was about possible anomalies that could be discovered during ultrasound screenings, rather than about the possible negative consequences ultrasound technology can have for the fetus (e.g., the radiation)¹². There are studies that indicated possible side effects of ultrasound screening, such as dyslexia or lower birth weight (e.g., Kieler 1997). However, medical scientists still disagree on whether extended exposure to ultrasound is harmful (Van Dijk 2005: 109). Many of my respondents had never thought about this possibility or did not look up much information about it. This can be attributed to the fact that ultrasound screenings have become a routine practice in the Netherlands, thereby making them a taken for granted aspect of pregnancy. Being part of authoritative knowledge, fetal ultrasound imaging is hardly questioned but rather taken for granted. Brigitte Jordan points out that ‘the best way to avoid change is to make change unthinkable’ (1997: 57). When the authority of a knowledge system is perceived as natural and legitimate and not as socially constructed or relative, the power relations supporting it also become a fact of nature and therefore unchangeable.

The credibility or legitimacy of the authoritative knowledge system could be impaired and medical specialists try to prevent this. Midwife Kweekel told me that midwives often make an extra scan at thirty weeks in addition to the two standard scans at 12 and 20 weeks. According to her, this is done to make sure that they have enough proof that the fetus was growing accordingly to the norm at that time, in case something turns out to be wrong at the birth. Since the midwives have to deal with much competition and are under fire of the gynaecologists, according to Kweekel, they need the scan as proof of their integrity and professionalism and they use it as a safeguard. At Simone’s 20-weeks scan, the sonographer told me that I was not allowed to make any recordings with a voice recorder because if any

¹² This could possibly be attributed to how I asked the question (Have you ever thought about any possible negative consequences of the ultrasound?). After three respondents interpreted the question in another way than I intended it, I changed the way I posed the question.

anomalies show up at birth, the recordings could be used against her if they show that she made the wrong diagnosis or missed something at the ultrasound screening. It would allow the parents to hold her accountable for any anomalies and possibly take this to court. These examples show how there are ways in which medical specialists protect themselves from causing cracks in the armor of the authoritative knowledge system.

Since ultrasound-for-fun is not regulated, fun-sonographers cannot be held accountable for their actions and statements. They therefore do not have any problems with tape-recording the whole screening and giving the tape to the expectant parents, which is what Papa does. It is important for medical specialists like Hannant to keep ultrasound-for-fun outside of the medical realm by making a clear distinction between medical ultrasound and ultrasound-for-fun because fun-sonographers could put their credibility on the line. If they would acknowledge that an ultrasound-for-fun screening is practically the same as a medical ultrasound, they would jeopardize the high status of medicine because ultrasound-for-fun does not escape ethical judgments. Leveling them could project these judgments to medical ultrasound and this carries the risk that the authoritative knowledge would be questioned.

Conclusion

Although we attach great value to seeing, we are incapable of truly seeing what is on an ultrasound image, as we need to be shown by sonographers. Through the wide circulation of fetal ultrasound images, we think we know their (medical) meanings but there is much more than the eye can see. By discussing the work of Lennart Nilsson, Frederik Ruysch, and Gunther von Hagens, I have demonstrated that there is a difference between seeing and being shown, and that ethical judgments are deflected by presenting fetuses in a certain way. The discussion of whether their work is art or science creates a false dichotomy between art and science and creates the illusion that it is possible to define clear boundaries between medicine and the broader consumer culture in which it is located (Taylor 1997: 26). By presenting their work as science, they escape ethical judgments. Because medicine is authoritative knowledge, people cease to be critical about it, as it is perceived as natural. My respondents put great trust in the sonographers during the ultrasound screenings and sonographers actively protect themselves from causing cracks in the armor of the authoritative knowledge system. Ultrasound-for-fun could be putting the credibility of medical specialists on the line, which makes it important for medical specialists to make a clear distinction between medical ultrasound and ultrasound-for-fun.

Conclusion

In this thesis, I have analyzed and tried to unravel the complex meanings of fetal ultrasound imaging. Answering my research question, ‘What does the routinization of ultrasound fetal imaging do to the experience of pregnancy and the imagery of the fetus in Dutch society?’, has proved to be a difficult task. Fetal ultrasound imaging plays an important part in the experience of pregnancy. All of my respondents saw the ultrasound screenings as milestones in their pregnancy. To many of them, it was a visual confirmation that the woman was pregnant and that the fetus was healthy, at least as far as ultrasound can show. The routinization of fetal ultrasound imaging means that pregnancy no longer exclusively belongs to women because technology has ‘opened up the womb’ (Van Dijck 2005: 106). The boundaries of space and time are replaced and displaced by ultrasound imaging technology (Braidotti 2011: 197). Expectant parents are able to experience pregnancy from a new epistemological standpoint and the expectant fathers felt that they could share the pregnancy experience to a greater extent.

Medical specialists are in charge of the reproductive technologies and women rely heavily on them, instead of only on their bodily experiences. Because expectant parents are incapable of fully interpreting the ultrasound scan, they have to trust what the sonographers tell them. This trust is, to a great extent, based on medicine as an authoritative knowledge system. Medicine has a high status in Western society and nonmedical knowledge is dismissed (Jordan 1980; 1997). The danger with an authoritative knowledge system is that it is perceived as natural, which has the consequence that people cease to be critical about it. It escapes the ethical judgments that we do apply to other knowledge systems. A false dichotomy that separates medicine from the broader consumer culture exists and the boundaries between them are constantly reinforced. This happens as well through forcing a

distinct boundary between medical ultrasound and ultrasound-for-fun, which, in practice, is nearly impossible. Through the routinization of fetal ultrasound imaging, the authority of medicine is re-affirmed and has taken up a decisive role in reproduction. It becomes increasingly difficult to resist this authoritative knowledge system or to see any alternatives because it has become such an integrated part of our culture.

In Western society, the visual has a higher status than other senses, which explains why we attach great value to medical ultrasound images. Vision is considered to be objective, disembodied, detached, pure, and unobtrusive (Jenks 1995; Fox Keller & Grontkowski 1983). However, as I have argued, there is a difference between what is seen and what is shown, which demonstrates that vision is culturally determined and not objective at all. By looking at a fetal ultrasound image, you might think that you are looking at a miniature baby, an individual, but do not let your eyes trick you into believing that you now know all there is to it. Fetal ultrasound images personify the fetus and detach it from the maternal body, without which it could never exist. The imagery of the fetus has been determined by ultrasonography to a great extent. However, in the whole experience of pregnancy, expectant parents know how to nuance this imagery, by relying on other senses than vision. People who do not have access to this experience have only their eyes to base their ideas about prenatality on and therefore, the wide circulation of fetal ultrasound images, taken out of its context, can be dangerous.

Back to My Unexpected Encounter

In the introduction, I raised questions about the connection between the Little Indian in Formaldehyde that I encountered in the Museum of the Tropics and fetal ultrasound imaging. As I have argued in this thesis, medical ultrasound imaging escapes ethical judgments because of its status as medical, scientific, and therefore, realistic and objective. The Museum of the Tropics brings the fetus right back into these ethical discussions, and therefore, I see it as a being critical towards ultrasonography. By covering up the fetus in formaldehyde, the visitor's vision is taken away. The Museum of the Tropics does not show you the fetus in formaldehyde but allows you to use your imagination. The visitor is not confronted with a visual image that would undoubtedly be shocking and center the discussion on its display. Instead, visitors are able to form their own image with their imagination, which goes beyond the visual. By choosing to display the fetus in the wooden box, the Museum of the Tropics raises questions about the exploitation of human beings. Because of ultrasound imaging, a fetus is seen as an autonomous individual, separate from anyone or anything, pure and

innocent. However, a black fetus that is dressed up as an Indian puts the fetus right in the middle of a world in which human beings are exploited, in the past and in the present, and a world in which there are power relations and where there is inequality. By taking the visual aspect away, the visitor is challenged to look beyond what is *shown* and truly gets to *see* the ethical discussions that the piece raises. Looking beyond what is shown to you is necessary to form your own images and determine what there is to see.

The Museum of the Tropics wants to raise ethical issues with the Little Indian in Formaldehyde and challenges the visitor to think about questions like ‘What does the museum display and what not?’ and ‘Who is the rightful owner and who is entitled to make a decision about what happens with these collections?’ (Koninklijk Instituut voor de Tropen 2012). These same questions should be raised about human bodies. Ultrasound images circulate widely, but who is their rightful owner? Who has the authority to determine what happens with the ultrasound images? And what do we want to display? In this thesis, I have *shown* that ultrasonography cannot escape these ethical issues because it is imbued with cultural, emotional, social, and psychological meanings and that they are not simply realistic, scientific images, in the hope that everyone will come to *see* this.

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Wat zit er in het basispakket van de zorgverzekering?

<http://www.rijksoverheid.nl/onderwerpen/zorgverzekering/vraag-en-antwoord/wat-zit-er-in-het-basispakket-van-de-zorgverzekering.html>

Last viewed on 20 June 2013

Volkskrant (newspaper)

Maud Effting & Gijs Herderscheê

Babysterfte in Nederland daalt, maar is nog steeds hoog (27 May 2013)

<http://www.volkskrant.nl/vk/nl/2686/Binnenland/article/detail/3447774/2013/05/27/Babysterfte-in-Nederland-daalt-maar-is-nog-steeds-hoog.dhtml>

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