

The Role of Technology in the Transformation of Sexuality

PSTS Master Thesis, July 2016

By
Savvas Kikidis

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Supervisor:

Dr. Johnny Hartz Søraker

Second Reader:

Dr. Michael Nagenborg

Student number:

s1468960

E-mail address:

s.kikidis@student.utwente.nl

savvaskikidis@yahoo.gr

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Η παρούσα διπλωματική εργασία αφιερώνεται στους γονείς μου, στον αδελφό μου και στην Τζωρτζίνα.

Savvas Kikidis,
Enschede, July 2016

Summary.

In the present master thesis I aim to describe how technology reshapes and transforms sexuality, but also to present a normative account of how the role of technology in the transformation of sexuality should be addressed as an issue of sexual education.

The starting point of my analysis is the split between sex and reproduction. I argue that contraception technologies, and to a lesser degree assisted reproductive technologies, freed sexuality from the needs of reproduction and played an important role in the emergence of plastic sexuality. Plastic sexuality is characterized by an increasing sexual equality, which is not only limited between heterosexual men and women but also expands to non-heteronormative forms of sexuality. Additionally, plastic sexuality is intrinsically connected with the notion of choice, since due to the emergence of plastic sexuality we do not interpret our sexuality as a natural condition of our lives but as an issue that we have to discover and reorder in relations to lifestyles.

I then describe and analyze the role of contraception technologies in our bodily and sensory involvement in a sexual intercourse. I argue that by concealing the possibility of pregnancy that a sexual intercourse entails, contraception technologies also revealed that a sexual intercourse can be performed in relation to different issues, such as the acquisition of pleasure and frequency, just to make a few. By focusing on contraception technologies and on the human-technology relations that they make possible, I argue that contraception technologies determine the very possibilities we have for interpreting our sexuality, by transforming our sensory and bodily involvement in a sexual intercourse.

My next step is to introduce the notion of modernity. I argue that in the conditions of modernity our sexual identities, as part of our self-identities, are reflexively organized in the light of new information and knowledge. The reflexive organization of our sexual-identities should be seen in the light of plastic sexuality and the reordering of sexuality in relations to lifestyles. Additionally, I use my analysis and argumentation around contraception technologies and the human-technology relations that they make possible in order to argue that the use of contraception technologies influence the reflexive organization of our sexual-identities by transforming the ways in which we interpret the human body in respect to sexual intercourse.

I then proceed in introducing pornography. I elaborate on pornification and the new cultural position and role of pornography, but also on the role of technology in the transformation of pornography, both in qualitative and quantitative terms. I argue that due to the emergence of plastic sexuality, due to the reflexive organization of our sexual-identities in the conditions of modernity and due to pornification pornography emerges as a source of information and knowledge about sex and sexuality.

By using this analysis I argue that the role of technology in the transformation of sexuality should be addressed as an issue of sexual education. Sexual education should be focused on providing the needed skills and competences to individuals, with extra emphasis on adolescents and young people, to deal with issues that arise from the emergence of plastic sexuality, the reflexive organization of our sexual identities in the conditions of modernity and pornification. And not just focusing on one of these issues and neglecting the others.

Table of Contents.

Acknowledgements.....	i
Summary.....	iii
Table of Contents.....	v
Introduction.....	vii
1 st Chapter: What is the Role of Technology in the Emergence of Plastic Sexuality?.....	1
1.1 Introduction.....	1
1.2 How did Technology transform Sexuality and Reproduction?.....	1
1.3 How did the Split between Sex and Reproduction affect the Gender Roles and Identities and increase Sexual Equality?.....	4
1.4 Plastic Sexuality and Technology.....	8
1.5 Conclusion.....	10
2 nd Chapter: How does Technology affect our Bodily and Sensory Involvement in a Sexual Act?.....	13
2.1 Introduction.....	13
2.2 Human-Technology Relations.....	14
2.3 Contraception Technologies and Technologically Mediated Intentionality.....	16
2.4 Embodiment Relations and the Use of Condoms.....	18
2.5 Cyborg Relations and Contraception Pills.....	19
2.6 Background Relations and Contraception Implants.....	21
2.7 How do Contraception Technologies form Intentionalities and influence the Sex Lives of their Users?.....	25
2.8 Conclusion.....	28
3 rd Chapter: Under which Conditions is our Sexuality Shaped by New Information and Knowledge?.....	31
3.1 Introduction.....	31
3.2 The Dynamic Character of Modernity.....	32
3.3 Modernity, Self-Identity and the Human Body.....	35
3.4 Conclusion.....	39
4 th Chapter: Pornography, Technology and Sexuality.....	41
4.1 Introduction.....	41
4.2 The Definition of Pornography.....	43

4.3 Pornography and Popular Culture.....	46
4.4 Pornography, Self-Identity and Sexuality.....	49
4.5 Technology and Pornography.....	54
4.6 Pornography, Web 2.0 and Persuasive Technologies.....	58
4.7 Conclusion.....	61
5 th Chapter: The Technological Transformation of Sexuality and the Role of Sexual Education.....	63
5.1 Introduction.....	63
5.2 Why Sexuality Education is Important?.....	64
5.3 Sexuality and Education.....	66
5.4 How should Sexual Education be informed by the Role of Technology in the Transformation of Sexuality?.....	72
5.5 Conclusion.....	74
5.6 Limitations of the Present Research.....	75
5.7 Future Research.....	76
References.....	79
List of Abbreviations.....	84
List of Tables.....	84

Introduction.

Human sexuality is a trait of our personalities that is intrinsically connected with our selves and self-identities (Giddens, 1992), but also with the quality of our lives (World Association for Sexual Health, 2014; World Health Organization, 2006). Different scientific disciplines such as sexologists, psychologists, philosophers, social and cultural scientists and policy makers, just to name a few, often reach certain conclusions and try to provide answers to important and pressing questions about human sexuality. What is the role of sexuality in our daily lives? Do we live in a society that is more sexually permissive than the society our parents lived in? Under what conditions can pornography negatively affect our sexual lives? How can sexual education help individuals, with extra emphasis on adolescent and young people, to shape their sexual preferences and identities? And what are the main issues that sexual education should address?

With these issues in mind the present thesis aims to present and analyze the role of technology in the transformation of human sexuality, or in another phrasing the technological dimension of human sexuality. In that way the above questions can change to the following: What role does technology play in the transformation of human sexuality and in the ways in which we understand sexuality as a parameter of our daily lives? Does the technological transformation of sexuality lead to sexual permissiveness? How can technology positively or negatively affect our sex lives? How does technology affect pornography and what risks arise from this issue?

By taking these questions into consideration, the central research question of the present master thesis can be stated as follows:

What is the role of technology in the transformation of human sexuality, when and under which conditions is our sexuality shaped by new information and knowledge, and in which ways can pornography and sexual education influence this process?

This central research question can be divided into five more specific research questions, which correspond to the five main chapters of the present master thesis.

[1] What is the role of technology in the emergence of plastic sexuality?

In the 1st Chapter, I will present and analyze the role of technology in the split between sex and reproduction. I will argue that this split led to some subsequent results on the gender roles and identities, which results are closely connected and intertwined with sexual equality as a constitutive characteristic of plastic sexuality. Additionally, the split between sex and reproduction transformed reproduction from an issue of fate to an issue in which plurality of choice prevails. Human sexuality was also transformed from a natural condition of our lives to an issue that we have to discover and reorder in relations to lifestyles. As a result, in addition to sexual equality, the notion of choice emerges as another constitutive characteristic of plastic sexuality. These two constitutive characteristics of plastic sexuality had subsequent results not only for heterosexual men and women, but also for people with non-heteronormative sexuality.

[2] How does technology affect our bodily and sensory involvement in a sexual act?

In the 2nd Chapter, I will focus on the human-technology relations that are formed between individuals during a sexual intercourse. I will do so by presenting some concrete technological applications that affect our bodily and sensory involvement in a sexual intercourse and by examining certain contraception technologies in the light of the human-technology relations that they make possible. I will argue that by playing an important role in our bodily and sensory involvement during a sexual intercourse, the examined technologies determine the ways in which we interpret and understand our sexuality. By concealing the possibility of pregnancy that a sexual intercourse entails, contraception technologies revealed that a sexual intercourse can be performed in relation to different issues such as the acquisition of pleasure and frequency, just to name two of them. In that sense, contraception technologies are not neutral technologies that they just reduce the possibility of pregnancy. Contraception technologies transformed human sexuality by determining the very possibilities individuals have for interpreting their sexuality, due to the changes that they cause in the sensory and bodily involvement of their users in a sexual intercourse.

- [3] Under which conditions is our sexuality shaped by new information and knowledge?

In the 3rd Chapter, I will focus on the notion of self-identity and its reflexive organization in the conditions of modernity. I will present and analyze the three characteristics of modernity that shape its dynamic character and differentiate modernity from pre-modern eras. After that I will present the connection between modernity and self-identity and I will put emphasis on the role of the human body in the reflexive organization of our self-identities in the conditions of modernity. The conclusions drawn in the 1st and 2nd Chapters will be used in order to delineate the conditions and possibilities in which our sexual identities, as part of our self-identities, are reflexively organized in the light of new information and knowledge. This reflexive organization of our sexual-identities in the light of new information and knowledge will be emphasized as a constitutive, and not incidental, characteristic of human sexuality in the conditions of modernity; but also as a characteristic that strives from the technological transformation of human sexuality. I will argue that my analysis about the role that contraception technologies played in the emergence of plastic sexuality (1st Chapter), about the ways that our bodies are engaged in a sexual intercourse (2nd Chapter) and how these issues are connected with self-identity formation demonstrate that human sexuality is shaped and transformed by technology.

- [4] How can pornography be defined as a source of information and knowledge about human sexuality?

The focus of the 4th Chapter is pornography. I will present the notion of Internet sexuality. I will then focus on pornography. Pornography is understood here as a dimension of Internet sexuality, this means that even though pornography has already been established outside Internet we have to keep in mind that the Internet offers new possibilities for pornography's development. I will give a working definition of pornography. I will present the legal, technological and cultural issues that gave pornography its contemporary cultural role and position. In the light of the new cultural role and position of pornography in our contemporary culture, I will then use some empirical data in order to define pornography as a source of information and knowledge that help us shape our sexual identities. After that I will focus on the technological dimension of pornography and I will present and analyze how technology created certain possibilities for pornography's development. I will argue that

pornography should be analyzed and evaluated in connection with the emergence of plastic sexuality and the reflexive organization of our sexual-identities in the conditions of modernity. In that sense, and without reducing the function of pornography as the source of sexual excitement, pornography should also be understood as one possible lifestyle option in terms of sexuality, among many others, and also as a source of information and knowledge about sex and sexuality.

[5] How should the Technological Transformation of Sexuality be addressed as an issue of Sexual Education?

In the 5th Chapter I will use my conclusions and argumentation in the previous Chapters in order to put emphasis on the role of sexual education. I will present some empirical data that demonstrate that sexual education is an important issue that has certain positive results when it is based on research- and evidence- based efforts. I will then present Bloom's Revised Taxonomy, and how this approach should be used in issues that have to do with sexual education. In order to do so, I will present and analyze Blooms' revised Taxonomy in connection with some of my arguments and conclusions in the previous Chapters. I will also present certain form of competences and skills that individuals should acquire in order to deal with the technological transformation of sexuality. After this step, I will present how Bloom's Revised Taxonomy should be informed by my analysis in terms of the role of technology in the emergence of plastic sexuality, the role of technology in our bodily and sensory involvement in the "experience of" having sex, the reflexive organization of our sexual-identities in the conditions of modernity and pornification. After presenting my conclusions, I will elaborate on the limitations of the present analysis, but also on future areas of research.

In that sense, the aim of the present thesis is to present and analyze certain issues that affect and transform human sexuality. On the one hand, I will examine contraception technologies, which are perceptually transparent technologies and transform sexuality and reproduction. On the other hand, I will examine pornography and the role of technology in the development of pornography. Due to pornification, which is based on technological, legal and cultural developments, pornography acquired a new cultural role and position, and the boundaries between pornography and the mainstream became fuzzy. In that sense, pornography became a pervasive element of popular culture, with which we come in touch in our daily lives and affects our interpretation of what is defined as "good" sex.

As a result, due to pornification pornography should not be understood as a mere representation of sex and sexuality; but also as a parameter that in some cases produces certain forms of sex and sexuality. In order to understand how pornography can actually produce these forms of sex and sexuality, it is important to describe under which conditions and how human sexuality can be actually affected by pornography. Plastic sexuality, which is based on the split between sex and reproduction, is one parameter that should be included in the analysis around the role of pornography in the production of sexuality. Modernity and the reflexive organization of our sexual-identities in the light of new information and knowledge is another parameter of importance.

In that sense, pornography receives its meaning and importance due to the fact that it can arouse and excite its viewers sexually. However, its contemporary role is not restricted in this basic function. Pornography also receives its meaning and importance as a lifestyle option, in

connection with plastic sexuality, and as a source of information and knowledge, in connection with modernity and the reflexive organization of our sexual identities. As a result, sexual education emerges as an important parameter that can help individuals to navigate themselves through the new possibilities that were made possible due to plastic sexuality, due to the role of technology in our bodily and sensory involvement in the “experience of” having sex, due to the reflexive organization of our sexual identities and due to pornification and the role of pornography as a source of information and knowledge about sex and sexuality.

1st Chapter: What is the Role of Technology in the Emergence of Plastic Sexuality?

1.1 Introduction.

The aim of the present Chapter is to elaborate on issues that have to do with the emergence of plastic sexuality (Giddens, 1992) and examine the role of technology in this process. Before presenting and analyzing what plastic sexuality is and what it means for human beings, we need to describe and analyze how certain technological developments transformed reproduction and human sexuality by creating conditions of sexual equality, by transforming reproduction to a matter of choice and by reordering sexuality in relation to lifestyles (Giddens, 1991, 1992). The split between sex and reproduction is an important parameter in order to do so (Böhme, 2012; Giddens, 1991, 1992) and due to this fact it will be analyzed and described in more detail. Additionally, by providing the means by which reproduction and sex were separated, the examined technologies played an intrinsic role in the transformations of gender roles and identities, which transformations are part of the present form of human sexuality.

The present Chapter consists of three main Sections. Section 1.2 aims to present and analyze the connection between technology, sexuality and reproduction.

In the Section 1.3 I will present the ways in which the split between sex and reproduction is connected with the transformations on the gender roles and identities and the increasing sexual equality, which is a constitutive characteristic of plastic sexuality. The technologies and technological procedures that are connected with the split between sex and reproduction are understood here as a network of modern technologies, which network constitutes a specific part of the technostructure of society, as this term was coined by Gernot Böhme (Böhme, 2012). Additionally, I will elaborate on the role of technology in what is considered as the normative practice in respect to sexuality and reproduction.

Lastly, in Section 1.4 I will argue that the split between sex and reproduction; and the subsequent changes in the gender roles and identities are important parameters that are intrinsically connected with the emergence of plastic sexuality. In this Section I will also present the basic characteristics of plastic sexuality, the impact of plastic sexuality on heterosexuality and non-heteronormative forms of sexuality, and what plastic sexuality means for human beings.

1.2 How did Technology transform Sexuality and Reproduction?

The aim of the present Section is to present and examine the connection between technology, sexuality and reproduction. According to Anthony Giddens “the body, plainly enough, is in some sense – yet to be determined – the domain of sexuality” (Giddens, 1992, p. 31). The body is the mean through which a sexual act is performed. And as such it is a parameter of importance for the analysis around human sexuality.

The biological features of our bodies, the chromosomes and hormones that are part and parcel of our biological functions, our sex organs and other anatomical features of our bodies

differentiate the human females from the human males in biological terms¹. In other words, our biological features denote the sex distinction between males and females. On the other hand, social factors denote the gender distinction between men and women. In that sense, while sex is connected with human biology, gender is connected with social factors that have to do with the role and position of men and women and with how men and women form their identities in a particular social context.

Even if we focus mainly on human biology we can understand that a sexual act between a female and a male partner will have different implications for each of them. One implication has to do with the possibility of pregnancy, which is only ascribed to the female “half” of the sexual act, due to the biological features of her body. In that way, reproduction, which is interconnected with the act of having sex², falls on the shoulders of the female “half” of the sexual act.

In this point some clarifications are needed. In the previous paragraphs I mentioned the following: reproduction, which is interconnected with the act of having sex, falls on the shoulders of the female “half” of the sexual act. Or, in a better phrasing, reproduction falls on the shoulders of the female “half” of the sexual act in the cases that things happen according to nature, at least in biological terms, without any influence from technology and social institutions. This phrasing complicates things more; however it helps us move one step closer to the discussion around nature, society and technology; and the connection of this discussion with issues that have to do with human sexuality.

For the present analysis I will focus on some concrete technological applications that have to do with sex and reproduction in order to move away from the generality that the terms nature, society and technology imply. Firstly, the term nature can be connected with the interrelation between sex and reproduction that strives from the biological features of the human body. However, the question arises whether or not nature is something static and independent from society and technology. In our case, if the role of the human body in sex and reproduction is independent and isolated from any social and technological change.

Secondly, the term technology can be connected with some concrete technological applications that affect our lives by creating the split between sex and reproduction. There is a plethora of different technologies that have to do with sex and reproduction, i.e. condoms, contraception pills for women, contraception pills for men (a technological development that is in its happening), the morning-after pill (which is usually defined as emergency contraception), contraceptive implants for birth control. To the previous list abortion can be added, on the grounds that abortion can be used in order to avoid an unwanted pregnancy.

Condoms can protect us from venereal diseases, sexually transmitted diseases and infections and reduce the possibility of an unwanted pregnancy after the completion of a sexual act. The contraception pills can also reduce the possibility of an unwanted pregnancy; mostly from the women’s perspective, since the contraception pill for men is a recent technological development (Hamlin, 2015). The same holds for the contraceptive implants for birth control. Additionally,

¹ However, I would like to mention that there are certain occasions in which the distinction between human males and females, even in strictly biological terms, is not an uncontested issue (Fausto-Sterling, 1993).

² My aim here is to put emphasis on the split between sex and reproduction, and its subsequent results on human sexuality and reproduction. As a result, I will only focus on sexual acts between heterosexual couples. Issues that have to do with the subsequent results of the split between sex and reproduction and the emergence of plastic sexuality for non-heteronormative forms of sexuality will be addressed in the Section 1.4.

while the morning-after pill can terminate a pregnancy in its very early stage; the procedure of abortion can help a woman, or a couple, to end an unwanted pregnancy, which is not in a very early stage, as it is the case with emergency contraception.

These technologies and technological procedure are not used as instruments that can help their users to accomplish certain goals, in the examined case the avoidance of an unwanted pregnancy or to termination of it. Such an approach does not inform us about the real potentialities of these technological developments and procedure. These technological developments and procedure do also shape how individuals interpret and experience their sexuality.

The examined technological applications created the split between sex and procreation³ (Böhme, 2012; Giddens, 1991, 1992). In the case of contraception technologies⁴, not only the people that use them choose to reduce the possibility of pregnancy that the sexual act between them includes, they also choose to participate in a sexual act that is different from the one that does not include these technologies. According to Giddens:

“Reproduction clearly was never solely a matter of external determinism: in all pre-modern cultures various kinds of contraceptive methods, for example, have been used. Nonetheless, for the most part the sphere of reproduction belonged irremediably to the arena of fate. With the advent of more or less fail-safe methods of contraception, reflexive control over sexual practices and the introduction of reproductive technologies of various kinds, *reproduction is now a field where plurality of choice prevails*” (Giddens, 1991, p. 219[emphasis added]).

This means that contraception technologies reshaped our attitudes towards the process of “biological” reproduction⁵, on the grounds that we now possess the needed technologies to redefine this process from an issue of “fate” to an issue in which we can actually make a choice.

The technological transformation of the process of “biological” reproduction had an impact on sexuality. Giddens continues his analysis by stating that: “The fact that sexuality no longer need have anything to do with reproduction – or vice versa – serves to *reorder sexuality in relations to lifestyles*” (Giddens, 1991, p. 220[emphasis added]). This means that the examined technologies created a free space for new forms of sexual expression and sexual realization. In that way, the act of having sex differs between the social settings in which reproduction is more-or-less an issue of fate and social settings in which reproduction is a matter of choice.

Apart from anything that was mentioned until now, the complex relation among sexuality, reproduction and technology has also another dimension. Until now the main focus of my

³ The term “procreation” is used by Gernot Böhme, while Anthony Giddens uses the term “reproduction”. For the present thesis these two terms will be used interchangeably and they are considered to have the same meaning.

⁴ The term “contraception technologies” will be used from now and on as an umbrella term, which includes condoms, contraception pills for women and contraceptive implants for birth control. A more detailed analysis of the examined technologies and how they differentiate from each other will follow in the 2nd Chapter.

⁵ The term “biological” reproduction is emphasized here due to the remark that is made by Giddens. In his analysis he states that: “The term ‘reproduction’ can be used to refer both to social continuity and to the biological continuance of the species. The terminological connection is not accidental: ‘biological’ reproduction is by now wholly social” (Giddens, 1991, p. 219). The relations between social and biological reproduction will be analyzed further in the Section 1.3 of present Chapter.

analysis was the role of technology in the “separation” between sex and procreation, in the sense that whoever was using the examined technologies was doing so in order to take part in a sexual act without worrying about an unwanted pregnancy, or even to terminate one.

The role of technology in the split between sexuality and reproduction has also another dimension, which is the use of assisted reproductive technologies (ARTs). The umbrella term assisted reproductive technologies includes procedures such as (Eunice Kennedy Shriver National Institute of Child Health and Human Development, 2016):

- Fertility medication, which includes the prescription of medicine in order to enhance reproductive fertility both for men and women.
- Intrauterine insemination, which achieves pregnancy through in vivo fertilization, namely the introduction of sperm into a female’s uterus without the need for sexual intercourse⁶.
- In vitro fertilization, that is the procedure through which pregnancy is achieved by fertilizing an egg by sperm outside of the female body.

The above description can lead us to some observations. In comparison with what was said before, viz. technologies that are used in order to perform a sexual act without worrying about an unwanted pregnancy, the ARTs are used in order to achieve a pregnancy, which could not be achieved without the use of technology, or even achieve a pregnancy without a sexual act, in the cases of intrauterine insemination and in vitro fertilization.

By going back to Giddens remark that “sexuality no longer need have anything to do with reproduction” (Giddens, 1991, p. 220), it can be said that due to the intrauterine insemination and in vitro fertilization “reproduction no longer need have anything to do with sexuality”, even though these two technological procedures are not used at the same extent and are not available for public use in the way that contraception technologies and abortion are.

Additionally, while the fertility medication is limited only for heterosexual couples, the intrauterine insemination and the in vitro fertilization can help heterosexual couples, but these procedures can also help lesbian couples and single women to procreate. These observations have to be added on what was said until now about technologies that reshape our attitudes towards sexuality and reproduction.

The aim of this Section was to present and analyze the technologies that reshaped and transformed human sexuality and reproduction by creating the split between sex and reproduction. In the following Section I will present and analyze in more detail the subsequent results of this split on the gender roles and identities, and I will examine the role of this split to the increasing sexual equality, which is a constitutive characteristic of plastic sexuality.

1.3 How did the Split between Sex and Reproduction affect the Gender Roles and Identities and increase Sexual Equality?

The aim of this Section is to connect the presented technological transformations of sexuality and reproduction with issues that have to do with gender roles and identities and sexual equality. In order to do so I am going to analyze how contraception technologies, and in a lesser extent

⁶ The terms “sexual act” and “sexual intercourse” are used interchangeably in the present thesis, and they are considered to have the same meaning.

ARTs, affected the role of women and men in society, with extra emphasis on what is defined as the Western/developed world⁷. The underlying theme of this Section is that “sex... is a foundational human relationship, one transcribed by our social order, and built on constructed meanings of what it means to be male/female” (Coleman & Held, 2014, pp. xiv-xv). This means that sexuality is intrinsically connected with what it means to be a man or a woman. As a result, we need to understand how the split between sexuality and reproduction affected what it means to be a man or a woman, in order to understand how sexuality is affected by this split. Lastly, in this Section I will elaborate on the role of technology in what is understood as normative practice in regards to sex and reproduction.

According to Debra Satz issues that have to do with sex, reproduction and the family institution have all to be defined and understood under the lens of politics, and as a result they all have to be connected with some normative political ideals, such as justice, equality and freedom. One reason that is presented in support to this claim is that the division of labor in traditional families is a source of inequality between men and women; not only inside the family settings but also in terms of the opportunities and freedoms that men and women enjoy in the wider society (Satz, 2013).

According to Satz, in recent years the traditional family passed through certain changes and transformations. These changes and transformations led to the contemporary situation, which is mainly limited in the developed world, and in which women are free to choose their family situations. This means that women can choose when and under which conditions they want to have children and how many children they are going to give birth to. This issue is also connected with the freedoms and opportunities that women enjoy in the wider society (Satz, 2012). In that sense, women are able to acquire skills and competences that can help them acquire economic autonomy and a different role in the public sphere. Technology has a central point in Satz’s argumentation, but it is also connected with changes in the social and economic level. In more detail, Satz mentions the following:

“Economic, technological, and social factors have together made the full-time stay-at-home housewife and mother with a working husband a statistical minority... Of course, many of these changes have been contested, and there remain serious constrains on a woman’s reproductive choices... But it is nevertheless true that the family has increasingly evolved from a hierarchical institution based on fixed-status assignments to a set of relationships among individuals based on their own consent” (Satz, 2012, p. 359[emphasis added]).

This means that women started to acquire a certain form of freedom, both in the negative and positive sense. In this part I use the terms negative and positive freedom in accordance with the definition that is given by Isaiah Berlin. Nowadays, women are “free from” (negative freedom) the form of suppression that strived from the hierarchical organization of the family institution. Additionally, they are “free to” (positive freedom) to determine the course of their lives and set their own goals in respect to reproduction and in more general terms in their day-to-day lives. In that sense, not only the limits and constrains that were imposed on women started to diminish, but also women became free to set and pursue their own goals and be the masters of their own lives (Berlin, 1996).

⁷ The terms developed and Western world are considered to have the same meaning for the purpose of the present thesis, and they are going to be used interchangeably.

I do not here imply that the developed world, even in the most modern, industrial and liberal states, reached a point of satisfactory equality between women and men. My point is that steps of improvement towards such equality started to be obvious in the public sphere and in the division of labor. According to the “Report on Equality between Women and Men 2014” of the European Commission (European Commission, 2014) in Europe the female graduates reached the 59% of the total graduates in 2012 and the representation of women in the European Parliament reached the 37% for the same year (and is constantly increasing since 1979). Even though the aforementioned data demonstrate the improvement of women’s position in European Union, it has to be noted that these data only represent the situation of women in the 28 member states of the European Union, and since they refer to the average situation if we examine each state separately then we will come across with certain fluctuations. In addition, it remains to be seen if these conditions will improve in the near future for the better. However, the presented data demonstrate an ongoing process in the European Union, in which process the contraception technologies, and to a lesser degree ARTs, played an important role towards some changes that promote equality between women and men.

Where such technologies are not the case, for example in countries in the developing world, women did not acquire this new role in the public sphere, nor did the division of labor changed in order to integrate them in the production process, or at least not in the same degree that these processes happened in the developed world (Giddens, 1992; Satz, 2012). The same can be said in connection with what was previously defined as developed world. No matter how modern, industrial and liberal a state may be there will also be cases of women that do not use the aforementioned technologies due to their economic and social status or moral beliefs, and in that way they have different life possibilities from those that do.

As already mentioned, the division of labor in traditional families is a source of inequality between men and women. And this inequality is not only expressed inside the family settings, but it is also evident in the opportunities and freedoms that men and women enjoy in the wider society. In order to understand what this inequality means for men and women, we need to understand how it affects their daily lives. A comparison can be made here in connection with the hours that women and men consume in activities inside and outside their house settings. In the “World Development Report 2012”, which is published by the World Bank and is focused on “Gender Equality and Development” (The World Bank, 2012), empirical data are presented about the hours that women and men spend in market activities, housework and child care. In all cases, which include Pakistan, Cambodia, South Africa, Bulgaria, Sweden and Italy, men spent more hours in market activities and women more hours in housework and child care. However, in Sweden and Italy the situation is better than the rest of the presented countries. This fact is attributed both to cultural issues and to the total fertility rates of each country (The World Bank, 2012, 2016).

In that way, contraception technologies⁸ should be understood as technologies that belong to the same “network” of modern technologies. Not as means towards certain ends; but as life transforming technologies that create the split between sexual intercourse and procreation (Böhme, 2012; Giddens, 1991, 1992), and transform the gender roles and identities, both for men and women (Giddens, 1992, Satz, 2012), by directly affecting their day-to-day lives. Moreover,

⁸ I chose to limit my analysis here to contraception technologies, and not to include ARTs, since the contraception technologies are directly connected with total fertility rates, while ARTs are not in the same extent.

the people who do not to use this network of technologies, with extra emphasis on women, have different life possibilities than those who do.

As a result, the technologies that changed the relation between sexual intercourse and procreation, mainly by reducing the possibilities of pregnancy during sex and by transforming reproduction to an issue of choice; represent one important dimension of what Böhme defines as “the technostructure of society” (Böhme, 2012). According to his analysis:

“The various technical systems of material means, especially in the developed industrial world, have come to make up a massive social superstructure – the third of this collective creations of society which, once in existence, seem to stand strangely over and against human beings and operate according to a peculiar logic of their own. The first two of these structures are *the state* and *the free market economy*, which are being joined in today’s world by the *technostructure of society* as a third major element of social being” (Böhme, 2012, p. 111[emphasis in the original]).

This means that someone’s integration in the technostructure of society is an important issue for his/her life possibilities. Women or couples that are not part of the technostructure of society, as this technostructure is manifested in the developed world, will not have the same life possibilities with women and couples that are part of this technostructure.

For example, a woman that does not use contraception technologies may get pregnant in an early age, and as a result she may not be able to get the needed education in order to get a job that will provide her with enough resources and help her acquire her economic and social autonomy. Or she may end up having a big family, which may mean that she has to quit her job and be focused entirely to housework and child care. In the case that she does use these technologies, she may acquire the needed education, choose the number of kids she wants to give birth to and the timing of her pregnancies, and as a result continue with her work, career and family planning. In that way, every individual is placed in a certain relation towards the technostructure of society, and this relation is important for his/her life possibilities. In Böhme’s words, “technostructures work equally to integrate, isolate *and* liberate people from the main body of society” (Böhme, 2012, p. 34[emphasis in the original]).

Additionally, the use of contraception technologies has also normative consequences. This means that contraception technologies not only provide new options in relation to sex and reproduction that individuals “can” use; they do also emergence as the norm that individuals “should” use in relation to sex and reproduction. According to Don Ihde:

“What contemporary person engages in sexual relations without *some* decisional relation to birth-control technologies? The simple awareness that there are such techniques involving technologies has changed the context of sexual practice. The “decision” *not* to use such devices is taken in the light of their own existence; and in fact in most cases it is precisely the failure to use rather than the now-assumed use that draws social disapproval. At a demographic level, the small size of families in most industrial societies demonstrates what the normative practice is” (Ihde, 1990, p. 2[emphasis in the original]).

This means that not only the technostructure of society does “integrate, isolate and liberate” certain people from the main body of society. Additionally, the technostructure of society shapes

what is accepted as the norm in terms of reproduction. This process of defining what the norm is in terms of reproduction is also a process of defining what the norm is in terms of sexuality. By expanding Ihde's remark, it can be said that in the developed world the normative practice is that people have sex for a plethora of different reasons, with reproduction being one among many. Since having sex for reproduction is a special condition of people's lives, which they plan and connect with some of their lives parameters, such as having a job and earning sufficient money.

Ihde's approach in this matter comes close to the conclusion made by Giddens. His analysis can be seen as a demonstration of the validity of Giddens' remark that "biological' reproduction is by now wholly social" (Giddens, 1991, p. 219), since even in the cases that people decide to reproduce and do not use contraception technologies, they do so in the light of the existence of contraception technologies and their decision is intertwined with the social conditions that they find themselves in. Lastly, an additional connection can be made with Ihde's quotation that I presented above and Satz's remark that "economic, technological, and social factors have together made the full-time stay-at-home housewife and mother with a working husband a statistical minority" (Satz, 2012, p. 359).

In that sense, the normative practice in the developed world is that couples and women decide whether or not to procreate, under which conditions and when they are going to do so in the light of their life circumstances and their decision is affected by the fact that they can use contraception technologies and can have sex for reasons other than reproduction.

In Section 1.3 I argued that the technologies that contributed to the transformations of reproduction, sexuality and gender roles and identities must not be seen independently from each other. They must be understood as part of what was defined by Böhme as technostructure of society. The question whether or not a couple or a woman is integrated in this technostructure is also a question that has to do with the life possibilities that they enjoy in terms of integration and isolation from the public sphere and the production process. In addition to that, the examined dimension of the technostructure of society shapes what is considered as normative practice, both in terms of reproduction and in terms of human sexuality.

In the following Section I will connect my argumentation and conclusions so far with the notion of plastic sexuality (Giddens, 1992). I will argue that the technological transformation of reproduction and sexuality and the changes in gender roles and identities that followed are important parameters that shape plastic sexuality. In addition to these issues, I will present the basic characteristics of plastic sexuality, and what these characteristics mean for human beings.

1.4 Plastic Sexuality and Technology.

The aim of this Section is to present and analyze the role that the technological transformation of sexuality and reproduction and the subsequent changes in gender roles and identities played in the emergence of plastic sexuality.

In order to clarify the characteristics of plastic sexuality it is important to understand how plastic sexuality is connected with certain social norms. In the Section 1.2 I introduced the split between sex and reproduction in order to analyze the role that technology played in the transformation of reproduction and sexuality. I mentioned that due to this split, reproduction was transformed to an issue of choice and sexuality was reordered in relations to lifestyles (Giddens, 1991). In the Section 1.3, I used the notion of technostructure of society in order to present and analyze the subsequent results of this split on gender roles and identities, but also on what is considered as normative practice in terms of sexuality and reproduction. These subsequent

results contributed to the increasing sexuality equality, at least in the developed world, which sexual equality is constitutive characteristic of plastic sexuality. In other words, plastic sexuality emerges in the conditions in which sexuality is freed from reproduction, the notion of choice plays an important role both in terms of sexuality and reproduction, and certain forms of inequalities against women start to diminish due to the changes in gender roles and identities.

Apart from these inequalities against women, which arise from the division of labor in traditional families, the domination of men over the public sphere and the exclusion of women from the division of labor (as these issues were presented in Section 1.3); the emergence of plastic sexuality is closely connected with the diminishment of certain forms of prejudices against women (Giddens, 1992). One form of prejudice is the double standard, according to which men and women were treated differently in respect to their sexual lives even if they were doing more-or-less the same thing. For example, a man with multiple sexual partners did not receive the same kind of social disapproval in comparison with a woman with multiple sexual partners. Another form of prejudice against women has to do with the “associates schism of women into pure (marriageable) and impure (prostitutes, harlots, concubines, witches)” (Giddens, 1992, p. 111).

Plastic sexuality takes its form and its distinguishing characteristics when this kind of prejudices and inequalities start to diminish; but also the degree and extent in which these prejudices and inequalities diminish shape plastic sexuality. In that sense, plastic sexuality takes its shape and distinguishing characteristics from the social norms that hold sway in a given society and influence human sexuality, but also shapes these social norms (Giddens, 1992).

The split between sex and reproduction led to subsequent social changes and to a state of affairs that is characterized by “increasing sexual equality – even if such equality is far from complete”, in which state of affairs “both sexes are called upon to make fundamental changes in their outlooks on, and behaviour towards, one another” (Giddens, 1992, p. 7). This means that plastic sexuality is intrinsically connected with sexual equality, while sexual equality means that both men and women are liberated from the constraints of the traditional gender roles and identities. Due to sexual equality women became more autonomous in respect to the expression of their sexuality, and the acquisition of this sexual autonomy also affected men.

However, the issue of sexual equality and autonomy is not limited only to heterosexual individuals. An important element of plastic sexuality is the acquisition of sexual equality and autonomy for individuals with non-heteronormative sexuality. Due to the split between sex and reproduction and the subsequent results of this split “the ‘biological justification’ for heterosexuality as ‘normal’... has fallen apart” (Giddens, 1992, p. 178-179) and heterosexuality “is simply one type of life-style *choice* among others” (Giddens, 1992, p. 179[emphasis added]).

In that sense, the notion of choice is not only restricted between heterosexual individuals, and has not only to do with their choice to have sex in order to procreate or to have sex for a plethora of different reasons.

According to Anthony Giddens:

“‘Sexuality’ today has been discovered, opened up and made accessible to the development of varying life-styles. It is something each of us ‘has’, or cultivates, no longer a *natural condition* which an individual accepts as preordained state of affairs” (Giddens, 1992, p. 15[emphasis added]).

This means that due to plastic sexuality the notion of choice is not restricted only between heterosexual individuals and their decision on whether to have sex in order to procreate or have sex for other reasons; but the notion of choice expands to non-heteronormative forms of sexuality.

The emergence of plastic sexuality means that tradition or any other form of established habits lost some of their importance. Even though the notion of choice in regards to human sexuality did exist before the emergence of plastic sexuality, due to the emergence of plastic sexuality the notion of choice became a fundamental parameter that individuals have to deal with in respect to their sexuality. In Giddens words, “we have no choice but to chose” (Giddens, 1991, p. 81) a certain option among a plurality of possible options. In that sense, human sexuality is formed through certain choices that the individual has to take during his or her life. However, the fact that we examine our sexuality in terms of the possible options among which we have to chose does not only mean that we examine and analyze our sexuality; furthermore it means that we construct and reconstruct our sexuality in respect to these options and in the basis of our day-to-day lives.

In that sense the split between sex and reproduction not only played an important role in the transformation of heterosexuality, as this transformation was presented in the present Chapter. The split between sex and reproduction also transformed non-heteronormative forms of sexuality. As argued above, contraception technologies played an important role in the emancipation of women, due to the changes on the gender roles and identities and due to their role in the diminishment of certain form of inequalities and prejudices against them. In addition to that, contraception technologies also played an important role in the emancipation of individuals with non-heteronormative forms of sexuality, since human sexuality is not understood as a natural condition, but is a parameter of our lives that has been “discovered, opened up and made accessible to the development of varying life-styles” (Giddens, 1992, p. 15).

1.5 Conclusion.

The aim of this Chapter was to present and analyze the role that technology played in the emergence of plastic sexuality. In Section 1.2, it was argued that due to the use of contraception technologies, and at a lesser extent ARTs, the split between sex and reproduction was created. This split transformed reproduction to a special aspect of our lives, in which plurality of choice prevails, and also played an irreducible role to the reordering of human sexuality in relations to lifestyles.

In Section 1.3 I was focused on the ways in which the split between sex and reproduction had an impact on gender roles and identities. I argued that contraception technologies played an important role in the diminishment of certain form of inequalities against women, which inequalities are not only restricted inside the family settings but are also evident in the opportunities and freedoms that women enjoy in the wider society. I then introduced the term technostructure of society. I argued that contraception technologies, due to the influence that the split between sex and reproduction had on the lives of individuals, should be understood as one dimension of the technostructure of society. Lastly, I argued that contraception technologies also shaped what is considered to be the normative practice in relation to reproduction, but also in relation to sexuality.

The emergence of plastic sexuality can only be understood in connection with these changes in reproduction, sexuality and the gender roles and identities. Even though, the development of

plastic sexuality is depended upon these issues; the emergence of plastic sexuality will also have certain impacts on them. In addition to the issues that have to do with the inequalities against women, plastic sexuality takes its form and shape when certain form of prejudices against women start to diminish. Another issue of importance in respect to plastic sexuality is the emancipation of individuals with non-heteronormative forms of sexuality. These issues are closely connected with the split between sex and reproduction and the fact that human sexuality is no longer understood as a natural condition of our lives, but as an aspect of our lives that is reordered in relations to lifestyles.

In the 3rd Chapter I will focus on self-identity, and how the notion of self-identity, which is closely related with the human body and the social norms in which we live (Giddens, 1991), is reflexively organized in the conditions of modernity.

However, before doing so in the 2nd Chapter I will analyze the use of contraception technologies by using the approaches of Don Ihde and Peter-Paul Verbeek towards philosophy of technology (Ihde, 1990; Verbeek, 2005, 2008). The reasons why I chose to do so before introducing and analyzing the notions of self-identity and modernity are the following.

In the 2nd Chapter I will analyze and describe how the examined contraception technologies change our bodily and sensory involvement in a sexual act. This change is interconnected with the fact that the contraception technologies are part and parcel of the human-technology relations that are formed between individuals and their sexual partners, in the cases that they use these technologies. In that sense, I will also examine how the split between sexuality and reproduction changed the experience of sexual intercourse for the individuals in terms of their bodily involvement in this experience. This analysis will be connected with how the human body is transformed due to the use of contraception technologies and how it is involved in the formation of our self-identities in the conditions of modernity due to this transformation, which issue will be addressed in the 3rd Chapter.

Additionally, I will also put emphasis on the ways that the notion of choice, which in this Chapter was presented as a constitutive characteristic of plastic sexuality, is intrinsically connected with our sensory and bodily involvement in the experience of sexual intercourse, in the cases that this experience includes the use of contraception technologies.

2nd Chapter: How does Technology affect our Bodily and Sensory Involvement in a Sexual Act?

2.1 Introduction.

In the 1st Chapter I presented and analyzed the technologies that created the split between sex and reproduction, in order to introduce some of the subsequent results of this split and their role in the emergence of plastic sexuality. However, the set of technologies that were mentioned were not investigated in detail, which is the aim of the present Chapter. In what follows I will primarily use Don Ihde's approach towards technology (Ihde, 1990), as the framework that will help us understand the role of technology in the ways in which we experience and interpret our sexual relations with our sexual partners. I will try to give an answer to the following question: what is the role of technology in our bodily and sensory involvement in the experience of sexual intercourse? The reasons why I chose Ihde's approach are the following.

Firstly, Ihde's analysis towards technology does not interpret technological artifacts as objects, but it is focused on the human-technology relations that the examined technological artifacts make possible. This means that technological artifacts are not understood as neutral instruments, in Ihde's phrasing as "things-in-themselves" or "isolated objects" (Ihde, 1990, p. 26); but they are considered to be part of the human-technology relations with the world, and as such they co-shape and transform human action and perception.

Secondly, by emphasizing on human-technology relations, Ihde's approach is not focused on Technology (with a capital T), but on concrete technological artifacts and applications that have different meanings and uses for different people in different cultural and social settings. This means that his analysis rejects the position which "ultimately *reifies* technologies into Technology... which is so general as not to be able to differentiate between particular human-technology relations and is thus prone to overly metaphysical claims" (Ihde, 1990, p. 26[emphasis in the original]).

Thirdly, according to Ihde's analysis the technological artifacts have to be understood and analyzed in the multiple contexts in which they are used. According to Ihde "there is no "thing-in-itself"... [t]here are only things in contexts, and contexts are multiple" (Ihde, 1990, p. 69). This means that since technological artifacts has to be understood in terms of the human-technology relations that they make possible, we have to keep in mind that culture is important in their use, without reducing their technological properties.

Lastly, according to his approach we have to make a distinction between two kinds of perception. On the one hand, microperception, which refers to "what is immediate and focused bodily in actual seeing, hearing, etc." (Ihde, 1990, p. 29), and on the other hand macroperception, which is the "cultural, or hermeneutic, perception" (Ihde, 1990, p. 29). I will come back to these four remarks about Ihde's approach and I will explain them in more detail and in connection with the examined technologies in the paragraphs to follow.

The present Chapter is divided into six main Sections. In the Section 2.2, I put emphasis on some of the starting points of Ihde's approach, in order to present and analyze the main characteristics of the metaphorical model of the relations between individuals and their surrounding world, as this metaphorical model was introduced by Ihde.

In the Section 2.3, I will present the four kinds of human-technology relations, which were defined by Ihde. I will also use Peter-Paul Verbeek's proposals for the augmentation of Ihde's

approach (Verbeek, 2005, 2008), since Verbeek's analysis takes into account contemporary technological applications, and can provide the framework that can help me analyze certain forms of contraception technologies. In addition to these issues, in this Section the focus of my analysis will be the notion of technologically mediated intentionality. I will use Ihde's approach towards technologically mediated intentionality in connection with the use of contraception technologies in order to argue that contraception technologies are not neutral instruments that we use in order to avoid an unwanted pregnancy, but they are technologies that form certain intentionalities and inclinations.

In the Sections 2.4, 2.5 and 2.6, I will present the characteristics of certain forms of contraception technologies. The aim of these Sections is to analyze certain contraception technologies under the lens of Ihde's and Verbeek's approaches and define these technologies as part of the human-technology relations with the world that they make possible.

In Section 2.7 I will present some empirical data that demonstrate that contraception technologies affect the experience of sexual intercourse between by affecting the bodily and sensory involvement of their users in that kind of experience.

2.2 Human-Technology Relations.

Before mentioning the notions that were defined by Don Ihde and are considered to be useful for my analysis, it is important to analyze and present some of the starting points of his approach, some of which are borrowed from the phenomenological tradition.

To begin with, according to Don Ihde the notion of experience is "referential", namely "all experience is experience of something" (Ihde, 1990, p. 22). This referential character of human experience serves as the base of the relations between human beings and the world around them. Even though the aforementioned relations imply a subject of experience, namely the human beings, and an object of experience, namely their surrounding world; it is important to keep in mind that these notions are intertwined in such a way that they cannot be separated from each other. In that sense, the term "experience of" cannot be fully understood by using "a purely "subjective" analysis" (Ihde, 1990, p. 21), but the "objective" part of that relation should also be emphasized⁹.

As a result, this set of "possible" relations between the subjects and the objects of experience serve as the base of what is defined by Ihde as "relativistic ontology of human existence" (Ihde, 1990, p. 23). The term relativistic is not used in the same way that it is used in epistemic relativism, which states that "the 'truths' of scientific theories are determined in whole or in part by social forces" (Ladyman, 2002, p. 116). The term relativistic here is used to describe an ontology that is based on the relations between the subjects and objects that the notion "experience of" includes, and moreover to emphasize the role of these relations in the ways in which we perceive and understand the world around us.

According to Ihde:

⁹ From now and on I am going to use the term "experience of" having sex, instead of using the terms "having sex" or "performing a sexual act". I chose this term in order to emphasize the referential character of the "experience of" having sex. As I will argue in the present Chapter, the "experience of" having sex is shaped not only by the people involved in this form of experience, but also by the contraception technologies they use.

“A phenomenological account... always takes as its primitive the relationality of the human experiencer to the field of experience. In this sense, it is *rigorously* relativistic. The relationality of human-world relationships is claimed by phenomenologists to be an ontological feature of all knowledge, all experience” (Ihde, 1990, p. 25[emphasis in the original]).

This means that whenever we have the experience of something, such as the experience of “seeing a landscape”, “listening to a sound”, “touching a surface”; the relationality between the experiencer and the experienced shapes the notion of “experience of”. If the subject or/and object that are included in a particular experience changes the experience that follows that change is different from the one that preceded that change. The “experience of” driving a car is different from the “experience of” riding a bike and the experience I had when I watched a documentary in the cinema is different from the experience that I will have when I will watch the same documentary in my home setting.

The next step is to understand these changes on the notion of “experience of”, and what lies behind them. In order to do so, Ihde introduces the role of technology in the ways in which we experience and interpret the world. According to Ihde, the “metaphorical model” that can help us understand the set of relations that we have with the world around us is the following (Ihde, 1990, p. 23):

I --- relation --- World

This kind of metaphor applies to all the relations that we have with the world around us. In the cases in which technology is part of our “experience of” the world; we have to take technology into account whenever we are examining the relativistic ontology of human existence, as it was introduced and defined in the previous paragraphs. In that way, our relations to the world can be unmediated or mediated by technology; and as a result we can speak of unmediated and mediated perception (Ihde, 1990):

- Unmediated Perception: I – World
- Mediated Perception: I – Technology – World

The umbrella term “mediated perception” includes four kinds of human-technology relations the human beings can have with the world due to technology. However, before introducing these human-technology relations, some clarifications are needed in regards to the use of the term technology in my analysis from now and on.

The relativistic approach of Ihde, which is used in the present analysis, has certain advantages. As I mentioned in the introduction of this Chapter, Ihde’s approach does not reify “technologies into Technology” and as a result it does not “absorb technology into *technique*”, which “technique, in turn, becomes a certain way of practice and thought, which is so general as not to be able to differentiate between particular human-technology relations and is thus prone to overly metaphysical claims” (Ihde, 1990, p. 26[emphasis in the original]). This characteristic of the examined approach will leave me with certain degrees of freedom in the examination of the technologies that transform reproduction and sexuality by creating the split between them, as this issue was introduced in the 1st Chapter of the present thesis.

In this Section I presented and analyzed the starting points of Ihde's approach and the main characteristics of the relativistic ontology that he proposes. In the Section 2.3, I will present the four kinds of human-technology relations, according to Ihde. I will present and analyze the form of human-technology relations that Peter-Paul Verbeek proposes (Verbeek, 2008), as an augmentation of Ihde's approach. Additionally, I will elaborate on the issue of technological mediated intentionality in connection with the use of contraception technologies.

2.3 Contraception Technologies and Technologically Mediated Intentionality.

The aim of this Section is to present and analyze the four kinds of human-technology relations that Ihde proposes (Ihde, 1990). I will also present the propositions made by Peter-Paul Verbeek for the augmentation of Ihde's approach (Verbeek, 2008). Additionally, I will put emphasis on the notion of technological mediated intentionality, and I will connect this issue with the use of contraception technologies.

According to Ihde, there are four kinds of human-technology relations, which are the following (Ihde, 1990, p. 107):

- | | |
|--------------------------|--|
| [1] Embodiment Relation | (Human – Technology) → World |
| [2] Hermeneutic Relation | Human → (Technology – World) |
| [3] Alterity Relation | Human → Technology – (– World) |
| [4] Background Relation | Human (– Technology/World) ¹⁰ |

The aforementioned list of human-technology relations was augmented by Peter-Paul Verbeek (Verbeek, 2008). His approach is focused on new forms of technologies that are not addressed by Don Ihde. According to his analysis, there are certain technologies that cannot be fully understood by using Ihde's approach. Firstly, in the cases in which “the human and the technological are *merged* into a new entity, rather than interrelated, as in Ihde's human technology relations” (Verbeek, 2008, p. 390[emphasis in the original]). These forms of relations are defined by Verbeek as cyborg relations. Secondly, in the cases in which “not only human beings have intentionality, but also the technological artifacts they are using” (Verbeek, 2008, p. 390). These forms of relations are defined by Verbeek as composite relations. The schematization that Verbeek proposes is the following (Verbeek, 2008):

- | | |
|------------------------|------------------------------|
| [5] Cyborg Relation | (Human/Technology) → World |
| [6] Composite Relation | Human → (Technology → World) |

As it is obvious in the above schematization, cyborg relations are forms of human-technology relations in which the relations between the human and the technology cannot be adequately understood if defined as embodiment relations, since “the human and the technological are *merged* into a new entity, rather than interrelated” (Verbeek, 2008, p. 390[emphasis in the original]). Composite relations are also forms of human-technology relations, which cannot be

¹⁰ The presented schematization of background relation was adopted by Peter-Paul Verbeek's book “*What Things Do: Philosophical Reflections on Technology, Agency, and Design*” (Verbeek, 2005, p. 128).

adequately understood as hermeneutic relations, on the grounds that the technological artifacts that are used have intentionality, just like the human beings that are using them.

In order to describe how certain technologies affect human action and perception due to the human-technology relations that they make possible, we have to understand the notion of intentionality. As I already mentioned, Ihde states that the notion of experience that we have with the world is always referential, namely we always have the “experience of” something. In that way the subject and object of the “experience of” are closely intertwined in what Ihde defines as “relativistic ontology of human existence” (Ihde, 1990, p. 23). In this relativistic ontology, technologies “by providing a framework for action, do form *intentionalities* and *inclinations* within which use-patterns take dominant shape” (Ihde, 1990, p. 141[emphasis added]).

The example that Ihde gives has to do with the editing activity, the speed of composition and the effect of style, in the cases of using an old-fashioned dip pen, a typewriter and an electronic word processor (Ihde, 1990). Each of the aforementioned technologies creates a different framework for action. When someone is writing with an old-fashioned dip pen, he/she writes slowly, his/her thoughts are well ahead of his/her writing, while the editing activity could be very painful and time consuming. In the examples of typewriter and electronic word processor, the aforementioned characteristics of the writing process will not hold any more, since they provide a different framework of action and as a result the writing experience that they make possible differs from the experience of writing with an old-fashioned dip pen. Additionally, the writing process with an electronic word processor gives to the writer the option to move whole sentences and paragraphs around his/her text, while such an option is not available when he/she uses a typewriter.

Contraception technologies do also provide a framework for action, and due to this fact they do also form intentionalities. In order to describe how contraception technologies provide a framework for action and form intentionalities, we need to analyze what is the basic technological property of contraception technologies. Contraception technologies are used in order to reduce the possibility of pregnancy that the “experience of” having sex includes, this is the technological property that was ascribed to them by their designers. However, there are not used as instruments that can help individuals to have sex without worrying for an unwanted pregnancy. According to Ihde “*for every revealing transformation there is a simultaneously concealing transformation of the world, which is given through technological mediation...* [t]echnologies transform experience, however subtly, and that is one root of their *non-neutrality*” (Ihde, 1990, p. 49[emphasis in the original]).

By reversing Ihde’s quotation, it can be said that contraception technologies by “concealing” the fact that the “experience of” having sex can lead to an unwanted pregnancy, they also revealed that the “experience of” having sex can take place in respect to other issues. And due to this issue contraception technologies are not neutral parameters that the “experience of” having sex includes; contraception technologies transform and redefine this kind of experience by making certain form of human-technology relations possible.

According to Ihde, “technics is the symbiosis of artifact and user within human action” (Ihde, 1990, p. 73). This means that in the case that the two individuals choose to use contraception technologies in order to have the “experience of” having sex, they have a symbiotic relationship with these technologies in order to perform this kind of experience. According to the relativistic ontology of Ihde, contraception technologies become what they “are” through their use during the “experience of” having sex between these two individuals, and in the examined case they become what they “are” when they are used in order to minimize the possibility of pregnancy

that the “experience of” having sex between heterosexual couples includes, and in the case of condoms in order to avoid the dissemination of sexually transmitted diseases and infections. As a result, in order to adequately understand this kind of “experience of” having sex a subjective analysis is not enough and the objective part of this symbiotic relation must also be analyzed.

In addition to that, the “experience of” having sex also changes due to the fact that individuals that do not use contraception technologies during this experience take this decision in the light of their existence as technologies that transform sexuality and reproduction; with subsequent results not only on the “experience of” having sex but also on what is considered to be the normative practice in terms of sex and reproduction¹¹.

The aim of this Section was to present the four kind of human technology relations, which are proposed by Ihde, and also to introduce Verbeek’s augmentation to Ihde’s approach. I also introduced the notion of technologically mediated intentionality in connection with contraception technologies, in order to demonstrate that contraception technologies play an important role in the referential character of the “experience of” having sex and due to this fact they should be addressed in respect to the human-technology relations that they make possible. In the Sections 2.4, 2.5 and 2.6, I will present and analyze in more detail Ihde’s and Verbeek’s approaches, in connection with concrete technological applications, but also by making certain comparisons between them. This step is important, in order to examine contraception technologies in a more empirical light, which will be the aim of the Section 2.7.

2.4 Embodiment Relations and the Use of Condoms.

The aim of this Section is to define the use of condoms as a form of embodiment relations. The embodiment relations are the kind of human-technology relations in which the human beings and the technology they use have a symbiotic relation. This symbiotic relation is expressed with the use of the parenthesis that “relates” the human beings with the used technology.

In the embodiment relations the technologies that are used are part of the experience that the human beings acquire through their mediated relation with the world and as a result they alter the ways in which human beings interpret the world. In the embodiment relations the symbiotic relation between human beings and the technology is based upon the fact that the technology that is used has the “capacity... to become perceptually transparent” (Ihde, 1990, p. 86).

Looking through myopic glasses and hearing through hearing aids are examples of embodiment relations. In each case, whenever someone is using these technologies, the experience of seeing and hearing passes through these technologies; and these technologies have to possess a certain transparency. This means that the attention of their users is not focused on the technologies themselves, but to the aspects of the world that the use of these technologies make possible.

In the cases in which these technologies fail to be “perceptually transparent” the embodiment relation collapses. For example whenever a pair of myopic glasses has certain cracks in the surface of its lens, even if they continue to broaden its user’s vision in some sort of way, due to the fact that they become perceptually non-transparent the symbiotic relation between the user and the glasses collapses; and as a result the embodiment relation breaks down. The same can be said about the hearing aids in the cases in which they continue to augment their users’ ability to

¹¹ For a better analysis about the role of contraception technologies in what is considered as the normative practice in terms of sex and reproduction, check Section 1.3 of the 1st Chapter.

hear, but at the same time irritating noises, due to technological malfunctions, appear in the background of their hearing experience.

These ways in which the embodiment relation may break down, due to the collapse of the symbiosis between the technologies and their users, are defined by Ihde as enigmas. These enigmas are expressed with the use of the dash between the “Human” and “Technology”, and according to Ihde “enigmas... may occur regarding embodiment-use transparency thus may occur within the parenthesis of the embodiment relation” (Ihde, 1990, p. 86).

The use of condoms¹² is understood here as an example of embodiment relations. Here some clarifications are needed. Firstly, the question emerges on whether or not condoms are actually perceptually transparent. In order to form an embodiment relation, during the “experience of” having sex condoms must not call attention to themselves, but to the “experience of” having sex that their use makes possible. For example, a pair of glasses that has relatively big and opaque lenses cannot form embodiment relations, since they call attention to themselves and not to the aspects of the world that we see by using them. In that sense, condoms have to be “technically serviceable; that is, [their] physical characteristics must allow [them] to be embodied” (Verbeek, 2005, p. 126). This means that when we use condoms and we do not call any attention to them, but to the “experience of” having sex that they make possible, then condoms are embodied and their use can be categorized as embodiment relation. On the other hand, when the use of condoms calls for our attention, due to their characteristics, condoms cannot be embodied and as a result the embodiment relation breaks down¹³.

Secondly, the use of condoms is not only restricted to the male body and condoms do change the “experience of” having sex also for the female participant in this kind of experience.

Thirdly, the use of condoms begins from the moment that the sexual act starts, and is terminated when the sexual act is finished; which characteristic does not apply to the rest of the contraception technologies.

Fourthly, the use of condoms is a unique example of contraception technology due to the fact that its use is restricted on the “surface” of the human body, and this is not the case with the rest of the contraception technologies that I will analyze in the paragraphs to follow, such as contraception pills and contraceptive implants.

Lastly, its effectiveness is based upon its efficiency as a contraception technology, viz. the avoidance of pregnancy, and its ability to protect its user from sexually transmitted infections and diseases. If the use of condoms fails to fulfill one of the aforementioned purposes, then the embodiment relation breaks down.

The aim of this Section was to investigate the human-technology relations that condoms make possible in regards to the “experience of” having sex. I argued that the use of condoms during the “experience of” having sex is a form of embodiment relations. In the Sections 2.5 I will analyze and investigate the use of contraception pills, in order to place them in the spectrum of human-technology relations that Ihde and Verbeek propose.

2.5 Cyborg Relations and Contraception Pills.

¹² There are condoms for men and for women. My focus here is the condoms for men. I chose to limit my analysis in that way, since condoms for men are used in a bigger scale and are easily accessible in comparison to condoms for women.

¹³ I will return to this issue that has to do with condoms transparency in Section 2.7 of the present Chapter.

The aim of this Section is to define contraception pills as cyborg relations. Once again, the use of contraception pills in order to avoid pregnancy can be understood as a form of embodiment relations, since once again the symbiotic relation is between the technology and its user. However, this issue demands more elaboration, namely whether or not embodiment relations, as they were defined by Ihde, are enough to describe the use of the contraception pills.

Contraception pills are used by women¹⁴ and even though contraception pills can help its user to avoid a pregnancy, they do not protect their users from sexually transmitted infections and diseases.

The important characteristics of the contraception pills can be understood in comparison with the use of condoms. Contrary to condoms, the use of the contraception pills is not restricted from the start until the end of the “experience of” having sex. The women that use contraception pills have to take these pills by mouth every day. Contraception pills include a combination of substances, such as man-made estrogen and progestin hormones (WebMD, 2016a). As a result, contraception pills can be understood as what Ihde defines as edible technologies that penetrate the surface of female body and its function is based on chemical transformations (Ihde, 1990).

Additionally, the contraception pills do have a limited duration of effectiveness. The user has to take them daily, moreover it is suggested that the user has to take them at the same time every day. They are certain cases in which the use of contraception pills should be avoided, such as blood clots in the arms, legs or lungs, serious heart or liver disease, cancer of the breast or uterus, uncontrolled high blood pressure and migraines with aura. Apart from that the use of contraception pills may have certain implications to their users, such as nausea, weight gain, sore or swollen breasts, small amounts of blood, or spotting, between periods, lighter periods and mood changes (WebMD, 2016a). Condoms can also have some implications to their users, for example skin irritation. However, these implications do differ from those of the contraception pills; since the implications of the contraception pills affect the human body and are not restricted in one particular part of it.

Moreover, we have to examine how these issues are connected with the transparency of the use of the contraception pills. Firstly, their transparency is based upon their efficiency as a contraception technology, which is once again the avoidance of pregnancy. In addition to that, if contraception pills cause any of the aforementioned implications to their users, then once again the symbiosis between technology and its user becomes problematic. If contraception pills fail to fulfill their purpose or have one of the aforementioned implications, then the human-technology relation that they make possible breaks down. However, this break down is different from the examined break down of the embodiment relation that is based on the use of condoms. The enigma point in the case of the contraception pills can be understood either as “technological” or maybe even as “biological” malfunction, namely as the “inability” of the female body to cope with the prescription of contraceptive pills.

Due to the fact that contraception pills are edible technologies that are based on chemical transformations inside the female body (Ihde, 1990) I chose to define them as “human-technology relations in which the human and the technological actually *merge* rather than “merely” being embodied” (Verbeek, 2008, p. 391[emphasis in the original]). Due to these issues the mediated relations that the user of the contraception pills has with the world around her can be understood as cyborg relations. The dash between the “human” and the “technology”, which in Ihde’s analysis refers to an enigma point, is replaced with a forward slash; since we no longer

¹⁴ As I already mentioned in the Section 1.2 of the 1st Chapter, contraception pills for men is a new development, and as a result I chose to limit my analysis only to contraception pills for women.

talk about symbiosis of the user and the used technology, rather we are talking for their emergence into a new entity.

In this Section I argued that the use of the contraception pills is a form of cyborg relations. The aim of the following Section is to analyze the use of contraceptive implants for birth control and define their use as a form of background relations. Additionally, I will make certain comparisons between contraception pills and contraceptive implants and I will present certain reasons in support to my choice to define the use of contraception pills as cyborg relations.

2.6 Background Relations and Contraception Implants.

In this Section I aim to define the use of contraception implants as a form of background relations.

In order to continue with analysis I will focus on intrauterine devices (IUDs) for birth control, which are a category of contraceptive implants, and just like the contraception pills are focused on the female body. The IUDs¹⁵ is a small, thin plastic rod that is inserted under the skin to prevent pregnancy. The rod slowly releases etonogestrel into the body over a three year period. Etonogestrel is similar to a natural hormone made in the human body. It works mainly by preventing the release of an egg (ovulation) during the menstrual cycle. It also makes vaginal fluid thicker to prevent sperm from reaching an egg (fertilization) and changes the lining of the uterus (womb) to prevent the attachment of a fertilized egg (WebMD, 2016b). Once again, there are certain side effects and certain precautions that the user of this technology much have in mind. I will not present these side effects and precautions here; I will limit myself by saying that more or less those can be compared with the side effects and precautions that the use of contraception pills entail.

The distinctive characteristic of the contraception implant is the fact that this technology when it is used, namely when it is inserted under the skin of the user, it lasts more or less for three years. Due to this reason, in order to understand this technology I will use the fourth kind of human-technology relations, as it was defined by Ihde, namely the background relations.

The two forms of relations that were examined in the above paragraphs, namely embodiment relations and cyborg relations are defined by Ihde and Verbeek as “focal ones”. According to Ihde’s analysis:

“That is, each of the forms of action that occur through these relations have been marked by an *implicated self-awareness*. The engagements through, with, and to technologies stand within the very core of praxis” (Ihde, 1990, p. 108[emphasis added]).

¹⁵ The IUDs for birth control can be divided to hormonal IUDs and copper IUDs. In both cases a small, T-shaped plastic device is inserted into its user’s uterus by her doctor. In the case of copper IUD, this plastic device is wrapped in copper; while in the case of the hormonal IUD, this plastic device contains hormones (WebMD, 2016b). As it is obvious this contraception technology is once again focused on the female body. As far as it has to do with side effects and bodily changes for the user, duration of use, efficacy and safety of these technologies there are not any major differences between these two contraception implants. Due to these reasons I consider that the different forms of IUDs can be analyzed and understood under the categorization of contraception implants; and that the following analysis can also apply to any form of contraception implants.

In the aforementioned quotation, Ihde is mentioning the three forms of human-technology relations that he proposes, viz. embodiment, hermeneutic and alterity relations, when he mentions “engagements through, with, and to technologies” respectively. Until now, I only used the embodiment relations, in which the experience of the world around us is taking place “through” a technology.

Another point that demands clarification is whether or not the cyborg relations are “focal ones”, just like the embodiment relations. The emergence into a new entity, which is a distinctive characteristic of cyborg relations, may be understood against my choice to define cyborg relations as focal ones. However, I chose to define the cyborg relations, exemplified in this case in the use of contraception pills, as focal ones because their use demands the self-awareness of their users; the same can be said about the use of antidepressants¹⁶ that Verbeek uses in his article (Verbeek, 2008). In both cases, the users have to be self-aware that they have to take those pills, in a certain time and also under certain conditions. The fact that the user of the contraception pills takes these pills daily, and furthermore it is suggested that the pills should be taken also around the same time on each day, suggests that the use of this technology demands the focal attention of its users.

Contrary to embodiment and cyborg relations, in the background relations the technology does not demand our focal attention and becomes “a kind of near-technological environment itself” (Ihde, 1990, p. 108). The most characteristic examples that Ihde is using are placed in the home environment, such as the lighting, heating and cooling systems that are included in our home equipments. In each case, the technology, for example the heating system, remains in the background while we follow our daily routines.

However the use of contraceptive implants is aiming to our “inner selves” and not to our external environment, even though the efficacy of the technology itself is based on its background role.

Ihde himself defines the use of contraception pills as an example of background relations. He emphasizes the fact that contraception pills are what he defines as “edible technologies”, which are technologies that “arise from chemical transformations” (Ihde, 1990, p. 113). According to his analysis:

“Early users of the pill reported two results: they did experience bodily changes... and sometimes there were other side effects... But as with the previously noted fascination with the amplifying transformations of all new technologies, most such side effects were repressed in favor of the exultation over worry-free ability to engage in *close-to-“natural”* or *pregnancy-free sexual relations*...The pill, once taken, functioned as a kind of *internal background relation* of the most *extreme fringe type*. As with all edible technologies, the *“I am what I eat”* phenomenon placed most effects at a distance or were delayed” (Ihde, 1990, p. 113[emphasis added]).

As I already made clear, I do not interpret the function of the contraception pills as a kind of “internal background relations”, as Ihde does, due to the fact that the use of contraception pills does demand the focal attention of the user, at least once a day. However, I do understand

¹⁶ I would like to mention here that I do not imply any form of comparison between contraception pills and antidepressants, since they are different forms of technologies. My remark here is only limited in the issue that both of them demand the focal attention of their users.

contraception implants to function as a kind of “internal background relation” with the world, since once a contraception implant is placed in its users body it is going to fulfill its function for three years, and for this three years it does not demand the focal attention of the user; except from the case of malfunctions of course.

Ihde use the terms close-to-“natural” and pregnancy-free sexual relations. What is defined as “close-to-“natural” sexual relations” cannot be compared with what is defined as “pregnancy-free sexual relations”. In the cases when a sexual relation moves closer to being “natural” (viz. a sexual relation that does not include contraception technologies), the possibility that this sexual relation will end up to pregnancy increases. On the other hand, whenever we are talking about “pregnancy-free sexual relations”, the term itself implies that such form of sexual relations cannot be natural, since they include the use of contraception technologies. I think that the use of the quotation marks on the word natural, are used by Ihde in order to emphasize such an antithesis between what is natural and what is pregnancy-free in terms of sexual relations.

How can this ambivalence be understood? Ihde himself states that “with the biological technics, there is reached a new boundary between technology and life where the horizons of nature and artificiality are blurred” (Ihde, 1990, p. 114). By adding this remark to the above discussion about the use of the contraception implants, but also of the contraception pills¹⁷, the following can be said. The experience that a couple acquires when they participate in a “pregnancy-free” and at the same time “close-to-“natural” sexual relation” could not have been possible without the mediating role of technology. These issues suggest that the definition of cyborg intentionality, as this was examined before, can be incorporated in the background relations, since this type of intentionality comes in accordance with what Ihde labels as an “extreme fringe type” of human-technology relations.

Apart from that, the comparison between “close-to-“natural”” and “pregnancy-free sexual relations” can trigger another discussion. This comparison demonstrates that what is defined as “close-to-“natural” sexual relation” is not defined as such in accordance with reproduction. This means that in a sexual act between heterosexual couples that use contraception technologies, even in the case of condoms but with a bigger emphasis on the rest of the examined contraception technologies, not only the man and the woman that are engaged in this sexual act have a certain form of intentionality, but also the contraception technologies that they use. These technologies provide “a framework of action” and “do form intentionalities and inclinations within which use-patterns take dominant shape” (Ihde, 1990, p. 141).

It can be said for example, that this “use-pattern” includes the maximization of sexual pleasure during a sexual act, namely the moving closer to naturalness in terms of pleasure, and the minimization of the possibility of pregnancy, namely the moving away from naturalness in terms of reproduction. This is a form of technologically mediated intentionality, which reshapes and transforms the notions of sexual intercourse and reproduction. According to Ihde, “if one projects such inclination across many users, the result is closer to predictable at the large-scale social level” (Ihde, 1990, p. 142). In the examined case this means that people mainly have sex for a variety of other reasons (I mention sexual pleasure as one reason that should be placed

¹⁷ I do not mention condoms here, since condoms do not provide a close-to-“natural” sexual experience to their users. The reasons why I choose to do so will be more evident in the paragraphs to follow, especially in the Section 2.7, in which I introduce empirical data about the use of contraception technologies.

among many others) instead of doing so in order to reproduce, at least in the social and cultural contexts in which contraception technologies are used by the biggest part of society¹⁸.

The aim of the Sections 2.4, 2.5 and 2.6 was to place the use of condoms, contraception pills and contraception implants under the rubric of human-technology relations, as those were defined by Ihde and Verbeek. The aim of this analysis was to emphasize the role of these technologies in the transformation of the “experience of” having sex between heterosexual couples. The main characteristics of Ihde’s approach towards philosophy of technology, which were mentioned in Section 2.1, are also evident in the analysis that took place in the aforementioned Sections.

Firstly, the analyzed contraception technologies should not be understood as isolated objects that are used as means towards the end of having the “experience of” close-to-“natural” and pregnancy-free sexual relations. These technologies construct what it means to have the “experience of” close-to-“natural” and pregnancy-free sexual relations, and as such they should be understood as constitutive parameters of this kind of experience.

Secondly, the contraception technologies do change the microperception of their users, which is the sensory perception of their users that is “immediate and focused bodily” (Ihde, 1990, p. 29) in the actual “experience of” having sex. In the same way, these technologies do change the cultural perception of their users in terms of the “experience of” having sex, which is defined by Ihde as macroperception, since microperception and macroperception are closely linked and intertwined with each other (Ihde, 1990, p. 29).

Thirdly, the examined contraception technologies form different kinds of human-technology relations, since their technological properties do differ, and as such they cannot be reified into Technology, which reification is “prone to overly metaphysical claims” (Ihde, 1990, p. 26).

Lastly, whenever we examine these technologies we have to keep in mind that the context in which they are used is important in order to understand the ways in which they are used, without reducing their technological properties.

In this Section I defined the use of contraceptive implants as a form of background relations and I also made some remarks in support to my choice to define the use of contraception pills as cyborg relations. In addition to these issues, I also connected my analysis in this Section with the strong points of Ihde’s approach.

The aim of the following Section is to analyze the examined contraception technologies in the light of empirical data. It has to be mentioned here that one of the basic premises of the Section 2.7 is that technological artifacts have a certain form of multistability. This multistability arises from the nature of human-technology relations and from the “complexities of the technology-culture” (Ihde, 1990, p. 146) in which these human-technology relations take their shape. In that sense, the following Section does not aim at describing a situation that will hold sway in any context in which these technologies are used. The aim of the following Section is to describe one possible way that these technologies were actually embedded inside a cultural and social setting. In that sense, I will present certain empirical data in order to emphasize the fact that contraception technologies play an important role in the formation of technological mediated intentionalities and they can be used for different purposes, and not only in order to help their users to avoid and unwanted pregnancy. Additionally, the aim of the following Section is to understand how the use of contraception technologies shape the sex lives of their users, not only

¹⁸ This conclusion can be connected with my argumentation and conclusion in Section 1.3 of the 1st Chapter, in which I presented how contraception technologies shaped normative practice in respect to sex and reproduction.

in regards to the connection between the “experience of” having sex and reproduction, but also by focusing on their bodily and sensory involvement in the “experience of” having sex itself.

2.7 How do Contraception Technologies form Intentionalities and influence the Sex Lives of their Users?

The aim of this Section is to connect my analysis and argumentation so far with some empirical data. In that way, I aim to present how the examined technologies changed the bodily and sensory involvement of the individuals that use them in respect to the “experience of” having sex.

Contraception technologies were designed in order to help their users to avoid an unwanted pregnancy. This was the “intentionality” that was ascribed to these technologies by their designers. In this Section my focus will be on the notion of technological mediated intentionality, namely the form of intentionality that is not “exclusively human” (Verbeek, 2008, p. 388), since it is generated by the human-technology relations that certain technologies make possible.

There is a lot of research that is done in respect to the use of contraception technologies. For example, there is scientific research that is focused on the pattern use of contraception technologies and tries to describe this use pattern in connection with social and cultural differences between different countries (Skouby, 2004). There is scientific research that tries to investigate the physical and emotional changes that contraception technologies have on their users (Apter et al., 2003; Goldzieher & Zamah, 1995). There is scientific research that tries to present and analyze the factors that shape women’s attitudes towards contraception technologies (Oddens et al., 1993; Tonkelaar & Oddens, 1999). Lastly, there is scientific research that tries to investigate and analyze the psychological (Oddens, 1997) and demographic factors (Oddens & Lehert, 1997) that have to do with the use of contraception technologies.

However, the aforementioned articles do not focus on the effects of contraception technologies on the sex lives of their users, as these effects are perceived by the users themselves. Björn J. Oddens tries to fill that gap by presenting and analyzing the effects of contraception technologies on their users’ sex lives, which approach can “shed further light on personal experiences that are highly relevant to the users but often remain unknown to prescribers and unreported in medical literature” (Oddens, 1999, 277). His approach is relevant for the present analysis, since it can help us understand how contraception technologies “fall[s] into the background of a multiplicity of *uses*” (Ihde, 1990, p. 69[emphasis in the original]) and how they do form technologically mediated intentionalities.

In order to connect my argumentation with the “personal experience” of the women that use contraception technologies I am going to use the survey of Oddens, who investigates the physical and psychological effects of oral contraceptives¹⁹, IUDs, condoms, the technique of natural family planning²⁰ and sterilization²¹ among 1466 women in West Germany (Oddens, 1999). Due to this reason, the empirical data that Oddens presents are socially and culturally specific.

¹⁹ What is defined by Oddens as oral contraceptives comes in accordance with what I defined as contraception pills. These two terms will be used interchangeably, since they are understood to have the same meaning.

²⁰ In the examined survey the term natural family planning includes the processes of symptothermal method, the calendar method and other periodic abstinence techniques. Natural family planning will not be analyzed in more detail since the 29.4% of the women that ever followed this technique had an

As I mentioned before, I do not aim to generalize Oddens' findings. I only use his findings in order to emphasize the fact that contraception technologies play an important role in the formation of technologically mediated intentionalities and they can be used for different purposes in accordance with what Ihde defines as multiplicity of uses (Ihde, 1990).

In the examined survey, a lot of issues that have to do with contraception technologies are addressed (Oddens, 1999). These issues have to do with concerns about an unwanted pregnancy, concerns about health risks that the use of contraception technologies may entail, but also with the impact of contraception technologies on their users' psychology. Even though these are important issues, my focus here will be on the impact of these technologies on the "experience of" having sex, so I chose to limit my analysis on the effects that these technologies have on women's sex lives, since issues that have to do with physical and psychological effects far exceed the scope of my analysis. The data that address this issue are presented in the Table 1.

Table 1 Effects on sexuality reported by current users of oral contraceptives, condoms, IUDs and natural family planning (percentages)²².

	Oral Contraceptives	Condoms	IUDs	Natural Family Planning
Intercourse Frequency				
Higher	23.3	9.0	17.6	7.6
Lower	9.0	18.4	1.7	31.6
Spontaneity				
More	38.8	11.4	36.1	11.4
Less	4.0	26.7	1.7	39.2
Pleasurable				
More	25.0	9.8	22.7	27.8
Less	5.4	21.2	1.7	3.8
Libido/Sex Drive				
Increased	8.4	4.7	9.2	21.5
Decreased	10.1	10.6	3.4	3.8
Overall Influence on Sex Life				
Positive	53.7	21.5	54.6	43.4
None	41.8	58.0	42.9	46.1
Negative	4.6	20.4	2.5	10.5

unwanted pregnancy (Oddens, 1999). In that sense, natural family planning does not have the same effect in the split between sex and reproduction, always in comparison with condoms, oral contraceptives and IUDs.

²¹ I do not analyze sterilization in the present analysis since sterilization has certain demographic characteristics, namely young women that belong to the age groups of 20-24, 25-29 and 30-34 primarily do not chose this procedure. This procedure mostly applies for women above the age of 35 years old (Oddens, 1999).

²² In the cases that the presented percentages do not add up to 100%, the remaining percentage of women indicated that they experienced "no change" due to the use of the examined contraception technologies.

In accordance with the presented data in the Table 1, I invite the reader to think the following thought experiment, in which a woman visits her personal doctor and asks him/her what she can do in order to improve her sex life. The doctor asks her what kind of contraception technology she uses, and she replies that she uses condoms. After examining her and finding that she is in good physical and psychological health, the doctor takes into account the data of the Table 1 and proposes her to use one of the examined contraception technologies. In that sense, and always in connection with the presented data, the doctor can propose to his/her client to use IUDs if she wants to improve her overall sex life and if she wants to increase her libido/sex drive. In the same spirit, he/she can propose his/her client to use contraception pills if she wants to acquire more pleasure during sex, if she wants to have more spontaneous sex, but also if she wants to have more sex in terms of frequency²³.

The above thought experiment demonstrates the fact that in this particular cases, contraception technologies can be used in order to change the “experience of” having sex in certain ways, and not only by reducing the possibility of an unwanted pregnancy, even though this issue should not be undermined in any way on the grounds that this would undermine the potentialities of contraception technologies.

As I already mentioned, in the introduction of the examined survey it is mentioned that the focus of the survey was “on effects attributed by current users... [in order] to shed further light on personal experiences that are highly relevant to the user but often remain unknown to prescribers and unreported in the medical literature” (Oddens, 1999, p. 277). In that sense, what I described so far was the “experience of” having sex according to the users of these technologies. As I mentioned before, the notion of experience is referential, namely every experience is “experience of” something. The presented analysis demonstrates that the “experience of” having sex changes due to technological means, since contraception technologies when they are used are constitutive parameters in the formation of this kind of experience.

In addition to that, the use of contraception technologies not only changes the “experience of” having sex for their users but also for those that do not use them. A comparison that demonstrates this issue can be made between, on the one hand, contraception pills and IUDs, and on the other hand natural family planning. The inclination of women that currently use contraception pills and IUDs, in comparison with women that currently follow a natural family planning, is towards higher frequency of and more spontaneous attitude towards the “experience of” having sex. However, the fact that they enjoy sex more (in terms of frequency) and more spontaneously is accompanied with the fact that they have decreased libido/sex drive in comparison with those that follow a natural family planning²⁴. Condoms differentiate from contraception pills and IUDs, since in terms of intercourse frequency, spontaneity, pleasure and libido/sex drive the percentage of users that experience a negative impact on those issues is bigger than those that experience a positive impact. In addition to that, the use of condoms do also differentiate from contraception pills and IUDs in respect to the overall impact on sex life, since the percentage of the users that experience a positive impact is very close with the percentage of the users that experience a negative impact. To conclude, the above data

²³ In this comparison I do not include the technique of natural family planning, since as I already mentioned this technique is not as sufficient as the rest of the examined contraception technologies in order to acquire the “experience of” having sex that is both “close-to-”natural” and pregnancy-free”.

²⁴ I do not address the issue of pleasure here, since there are not major differences in the percentages of the users that acquire more pleasure during the “experience of” having sex due to the use of contraception pills, IUDs and natural family planning.

demonstrate that pregnancy-free sexual relations that are not close-to-“natural”, viz. sexual relations that include the use of condoms, do not have the same impact on the sex lives of their users as the close-to-“natural” sexual relations do, viz. sexual relations that include the use of contraception pills and IUDs²⁵.

In that sense, there was a transformation of women’s sex lives due to the fact that women now can have “close-to-“natural” and pregnancy-free sexual relations” at the same time. Additionally, in the context that I described so far, the examined technologies not only redefined the “experience of” having sex in respect to reproduction, they also redefined this experience in respect to intercourse frequency, spontaneity, pleasure, libido/sex drive and in the end in respect to overall impact on the sex lives of their users. In that sense, the “experience of” having sex is co-shaped by these technologies.

The aim of this section was to use certain empirical data in order to describe the ways in which contraception technologies are technologies that reshape and transform the “experience of” having sex, not only in connection with the split between sex and reproduction, but also as technologies that reshape and transform the “experience of” having sex in respect to issues that have to do with spontaneity, pleasure, et cetera. The empirical data that I used are focused on women. However, in terms of acquisition of pleasure during the “experience of” having sex with the use of condoms, contraception pills and contraception implants the same situation applies also to men (Randolph et al., 2007). My point here is that contraception technologies form human-technology relations that affect both men and women. As a result, they also have an effect on how men experience close-to-“natural” and pregnancy-free sexual relations.

2.8 Conclusion.

The sexual intercourse between heterosexual couples that includes contraception technologies is something different from a sexual intercourse that does not. Contraception technologies, as technologies that make possible certain human-technology relations between human beings and their surrounding world, not only redefined sexuality in terms of reproduction; they also redefined sexuality in terms with frequency of sexual intercourse, spontaneity, libido/sex drive, the acquisition of pleasure during the “experience of” having sex, and lastly in regards to the overall influence on the sex lives of their users. This means that in connection with the fact that heterosexual couples have the option to use contraception technologies in order to avoid an unwanted pregnancy, we have to keep in mind that they can also use these technologies in order to improve their sexual lives.

The examined data demonstrate the fact that in terms of the human-technology relations that the contraception technologies made possible, the examined technologies, just like the human beings that used them, did form intentionalities and inclinations; which “were not explicitly delegated to them by their designers or users” (Verbeek, 2008b, p. 14). In our case, contraception technologies led to the redefinition of the “experience of” having sex; and its results were not

²⁵ This issue should be seen in connection with what was said about the use of condoms as embodiment relations and their ability to become perceptually transparent, in Section 2.4. Even though I do not imply that the use of condoms call attention to themselves, and not to the “experience of” having sex that their use makes possible, it is evident that due to their characteristics they do not provide close-to-“natural” sexual relations, in comparison with contraception pills and implants.

limited only in birth control; since they had an impact on intercourse frequency, spontaneity, et cetera.

The sensory perception, which is “immediate and focused bodily” (Ihde, 1990, p. 29) in the actual “experience of” having sex changed due to the mediating role that contraception technologies play in the “experience of” having sex. For the purpose of the present analysis, the contraception technologies “reveal” certain aspects of the “experience of” having sex, for example that the “experience of” having sex can happen regardless of reproduction, and in that sense the connection between the “experience of” having sex and reproduction is concealed. In addition to that, a technological artifact “*becomes* what it “*is*” through its uses” (Ihde, 1990, p. 70[emphasis in the original]), however it must be emphasized that the properties of this technological artifact should not be underestimated. In that sense, contraception technologies, without at any rate considering their impact on the split between sex and reproduction as irrelevant, can also “become” something different when they are used in order improve the sex lives of their users.

The construction of the term of “close-to-“natural” and pregnancy-free sexual relations” did not serve as an end in itself, but it resulted to the transformation of sexual relations. In that sense, there is a certain form of “multiplicity” implied in the term “close-to-“natural” and pregnancy-free sexual relations” itself. The terms “close-to-“natural” and pregnancy-free sexual relations” may receive different meaning in respect to the preferences of different individuals. For some individuals “close-to-“natural” and pregnancy-free sexual relations” may mean “close-to-“natural” and pregnancy-free sexual relations” in order to have more sex (in terms of frequency), for some other individuals it may mean “close-to-“natural” and pregnancy-free sexual relations” in order to acquire more pleasure during the “experience of” having sex. For other individuals however “close-to-“natural” and pregnancy-free sexual relations” may be rejected on the grounds that it can negatively influence their libido/sex drive. But even in this case, their decision to reject “close-to-“natural” and pregnancy-free sexual relations” takes place in the light of the existence of the technologies that construct this term and transform the “experience of” having sex.

The aim of this Chapter was to focus on and analyze contraception technologies under the light of the human-technology relations, in order to delineate the ways in which certain aspects of the “experience of” having sex were concealed, while others were revealed. In that sense, the redefinition of human sexuality is not only an issue that has to do with the split between sex and reproduction and the emergence of plastic sexuality, as my analysis in the 1st Chapter demonstrates. Contraception technologies play an important role in the transformation of human sexuality by creating “hermeneutical implications for the microperceptual level” (Verbeek, 2005, p. 131). According to Verbeek “artifacts help to shape interpretations of reality not only because they play a role in the interpretive frameworks, but also because of their role in sensory perception, which determines the very possibilities human beings have for interpreting reality” (Verbeek, 2005, p. 132). In the examined cases, contraception technologies played an important role in the sensory perception of individuals when they have the “experience of” having sex, and as a result they determined the “very possibilities human beings have for interpreting” their sexuality.

In the 1st Chapter I mentioned that the split between sex and reproduction led to the reordering of sexuality in relations to lifestyles. My argumentation in this Chapter demonstrates that, in addition to the split between sex and reproduction, contraception technologies can “determine the very possibilities human beings have for interpreting” their sexuality in relation

to intercourse frequency, spontaneity, libido/sex drive, et cetera. In that sense, the reordering of human sexuality in relations to lifestyles is intrinsically connected with contraception technologies, their role in the formation of technologically mediated intentionalities and the multiplicity of their use.

In this Chapter I investigated and analyzed how contraception technologies transform the “experience of” having sex for the individuals that use them in terms of their sensory and bodily involvement in this experience, but also for those that do not. In that sense, my analysis was focused on the “involvement” of the human body in the “experience of” having sex, and on the role of technology in the transformation of this experience in the level of microperception. In the following Chapter, I will introduce the notion of self-identity, and how our self-identities are shaped and reflexively organized in the conditions of modernity.

3rd Chapter: Under which Conditions is our Sexuality Shaped by New Information and Knowledge?

3.1 Introduction.

The aim of the 2nd Chapter was to investigate and analyze the ways in which contraception technologies created the background of a multiplicity of uses and did form intentionalities, which issues had impact on our bodily and sensory involvement in the “experience of” having sex, with subsequent changes on the notion of human sexuality. Moreover, in combination with the analysis that took place in the 1st Chapter, contraception technologies must be understood as part of the technostructure of society, which is a structure with its own dynamics and distinctive characteristics. Additionally, contraception technologies, and the technostructure to which they belong, were irreducible parameters of the process that led to changes on gender roles and identities and on the process of reproduction; which changes contributed to the emergence of plastic sexuality, as it was argued in the 1st Chapter.

The aim of the present Chapter is to investigate how all these issues can be connected with the ways that we as individuals interpret ourselves in connection with issues that have to do with our sexuality. In that way I want to incorporate the examined issues that have to do with the interpretation of human sexuality in the cultural and social level and issues that have to do with our sensory and bodily involvement in the “experience of” having sex with issues that have to do with the formation of our self-identities, in this case our sexual identities, in the context of our day-to-day lives. In that way, I want to present and analyze, in the light of my argumentation in the 1st and 2nd Chapters, how the examined contraception technologies can affect not only what we do and how we like to do it in regards to issues that have to do with our sexuality, but actually how they can affect who we are in regards to these issues.

I chose to do that by using Anthony Giddens’ approach towards modernity and self-identity. These two notions are closely intertwined on the grounds that self-identity, as it is defined by Giddens, can only be understood in the conditions of modernity; and also modernity can only take its shape in the conditions in which self-identity becomes a “reflexively organized endeavor” (Giddens, 1991, p. 5). The reasons why I chose Giddens’ approach towards modernity are the following.

Giddens’ approach can provide a framework that can help us understand how sexuality became a distinct part of our self-identities, and what are the main characteristics of the social and cultural settings in which such a development took place. Apart from that, Giddens’ approach towards modernity and self-identity has certain strong points.

Firstly, Giddens puts an emphasis on notion of the human body, as a parameter of importance when it comes to the issue of the formation of our self-identities. In that way, the analysis that took place in the 2nd Chapter about our sensory and bodily involvement in the “experience of” having sex, which includes the use of contraception technologies, can be connected with Giddens’ interpretation of the human body and its role in the formation of our self-identities.

Secondly, Giddens approach towards modernity is connected with the notion of expert systems. Expert systems are defined as systems of expert knowledge, which are not only restricted in issues that have to do with technical knowledge, but also with issues that have to do with the social relations between individuals and the “intimacies of the self” (Giddens, 1991, p. 18). In that way, Giddens approach can help us understand how sexuality was transformed to an

issue that in some cases demands the knowledge of experts; but furthermore what are the consequences for the notion of sexuality in the cases that we accept the role of expert systems in this special aspect of our day-to-day lives.

Thirdly, according to Giddens the formation of our self-identities is closely connected and intertwined with the “reflexive use of the broader social environment” (Giddens, 1991, p. 148) in which we live and interact with other individuals. One of the distinctive characteristics of the social environment in which someone lives in the conditions of modernity is the loss of the “prior supports” in which the formation of the self-identity was based. When it comes to sexuality, this loss of “prior supports” can be seen under the analysis that took place in the 1st Chapter, in which I argued that sexuality is not understood as a natural condition of our lives, but as an issue that we have to discover and reorder in relations to lifestyles.

This loss of “prior supports”, which is also connected with the intrusive character of the expert systems in our day-to-day lives, should not be understood as a process that has only negative consequences for the formation of our self-identities. On the contrary, Giddens states that this loss of “prior supports” does “allow the self (in principle) to achieve much greater mastery over the social relations and social contexts reflexively incorporated into the forging of self-identity than was previously possible” (Giddens, 1991, p. 149). This means that the conditions that modernity made possible should be understood as conditions in which individuals can have new life possibilities and in which they have to face certain new opportunities and challenges in the formation of their sexual-identities and of their sexuality. I will come back to these three points during my analysis in this chapter.

In what follows, I am going to use Giddens’ approach towards modernity, always in connection with issues that have to do with human sexuality; but also in the light of my argumentation in the 1st and 2nd Chapters of this thesis.

In order to do so I divided the present chapter into two Sections. In Section 3.2 I will present and analyze the three characteristics of modernity that shape its dynamic character; but also differentiate modernity from pre-modern eras. In order to do so I am going to present and analyze the separation of time and space, the disembedding mechanisms, with extra emphasis on expert systems, and the institutional reflexivity of modernity. The issues that will be addressed in Section 3.2 can be understood as an introduction that will help me introduce the connections between modernity, self-identity and the human body, which will be the aim of Section 3.3.

3.2 The Dynamic Character of Modernity.

The aim the present Section is to present and analyze the three characteristics that give modernity its dynamism; and also separate modernity from pre-modern eras. Between these characteristics of modernity there is a dialectical relation, namely the one characteristic shapes but also is shaped by the others. For the aim of the present master thesis, such an analysis is needed on the grounds that these characteristics that give modernity its dynamism are closely connected and intertwined with the formation of the self-identities of individuals.

According to Anthony Giddens “one of the most obvious characteristics separating the modern era from any other period preceding it is modernity’s extreme dynamism” (Giddens, 1991, p. 16). This dynamism is generated due to three processes, which are the separation of time and space, the disembedding mechanisms and the institutional reflexivity of modernity (Giddens, 1990, 1991).

The separation of time and space is the subsequent result of the “emptying of time” and “emptying of space” (Giddens, 1990, p. 18). In pre-modern societies, the notions of time and place were always interconnected, at least for the majority of the population. Even though the use of some sort of calculation of time, with the most evident and general example the use of calendar, was also the case for pre-modern societies; the notion of time was always linked with the notion of place. In Giddens phrasing, ““when” was almost universally either connected with “where” or identified by regular natural occurrences” (Giddens, 1990, p. 17) such as the harvest or the advent of a particular season of the year. The invention of the mechanical clock and the proliferation of its use changed this situation. The advent of the mechanical clock led to what is defined by Giddens as “empty time”, namely the situation in which there is a uniform dimension of time that virtually everyone follows.

This process of “emptying of time” is connected by what is defined as the “emptying of space”. The process of “emptying of space” is based upon the separation between place and space. These two notions may be understood as having the same meaning; however Giddens makes a clear distinction. Place “is best conceptualized by means of the idea of locale, which refers to the physical setting of social activity as situated geographically” (Giddens, 1990, p. 18). In the pre-modern era, the above definition of place coincided with the definition of space. However, “the advent of modernity increasingly tears space away from place by fostering relations between “absent” others, locationally distant from any given situation of face-to-face interaction” (Giddens, 1990, p. 18).

This means that in the conditions of modernity, individuals have to organize and coordinate their actions, not only in accordance with their face-to-face interactions, but also due to social influences that are distant from them, both in terms of space and time.

The disembedding mechanisms have to be understood in connection with the emptying of time and space, since the definition that Giddens gives is closely interconnected with this process. According to Giddens’ analysis, disembedding is defined as “the “lifting out” of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space” (Giddens, 1990, p. 21). The advent of disembedding mechanisms should be understood as one of the main processes upon which the dynamic character of modernity is based.

According to Anthony Giddens there are two types of disembedding mechanisms, which are the symbolic tokens and the expert systems (Giddens, 1990, 1991). As symbolic tokens are defined “the media of exchange which have standard value, and thus are interchangeable across a plurality of contexts” (Giddens, 1991, p. 18), while the expert systems are “systems of technical accomplishment or professional expertise that organize large areas of the material and social environments in which we live today” (Giddens, 1990, p. 27). The most evident example of symbolic tokens is money. Even though the use of money is not restricted only in the era of modernity, in this era the separation of time and space transformed the notion of money. Money “lifts ” the transactions that are made between two exchanging parts “out” of their face-to-face interactions, since money serves as the mean that can make transactions between exchanging parts that are separated in space possible.

The notion of expert systems is of importance for my analysis and will be emphasized in the paragraphs to follow; especially in cases that have to do with human sexuality. According to Anthony Giddens:

“Expert systems bracket time and space through deploying modes of technical knowledge which have validity independent of the practitioners and clients who make use of them. Such

systems penetrate virtually all aspects of social life in conditions of modernity – in respect of the food we eat, the medicines we take, the buildings we inhabit, the forms of transport we use and a multiplicity of other phenomena. Expert systems are not confined to areas of technological expertise. *They extend to social relations themselves and to the intimacies of the self*” (Giddens, 1991, p. 18[emphasis added]).

This means that whenever someone chooses to use an airplane as a mode of transportation, he/she chooses a mode of transportation that he/she has limited or no knowledge about. The organization and operation of the civil aviation system is based on technical knowledge that is delegated to experts such as aeronautical engineers, technicians, experts in the operation of security systems, et cetera. The passenger has little or no knowledge at all in respect to all the issues that a safe flight includes, however he/she chooses to use the civil aviation system, on the grounds that he/she trusts that this system works properly and he/she can use it in order to get to his/her destination. In this case, the user does not only trust the individuals that organize and operate the civil aviation system, namely the engineers, technicians and experts of any sort; the user trusts the expert systems that have to do with the civil aviation system, and the technical knowledge that is included in this system. The same description applies when an individual enters another expert system, for example a hospital.

The notion of “trust” plays a very important role in Giddens’ analysis. According to his analysis trust is defined as “the vesting of confidence in persons or in abstract systems, made on the basis of a ‘leap into faith’ which brackets ignorance or lack of information” (Giddens, 1991, p. 244). For example, in the case that the word “trust” is used in order to describe the relation between the user and the civil aviation system as a form of an expert system, the word “trust” is not synonymous with the word “confidence”. According to Giddens, the word “confidence” is used in order to describe the inductive knowledge that is based on past events. For example, my confidence that airplanes are safe means of transportation strives from my experience that airplane accidents happen more rarely than accidents with other means of transportation. This kind of confidence is not enough to describe the notion of “trust”, as it is defined by Giddens. According to his analysis, “trust presumes a leap of commitment, a quality of ‘faith’ which is irreducible” (Giddens, 1991, p. 19).

As I already mentioned expert systems are not limited to the areas of technical expertise, but they extend to social relations themselves and to the intimacies of the self. In that way, expert systems penetrate areas of everyday life, but also areas that have to do with the self and self-identity. Here a more detailed presentation of what is defined as self and self-identity by Giddens is needed, and this will be the aim of the Section 3.3. However, the following example can be used in order to complete my analysis about the role of expert systems on social relations and the intimacies of the self. The relationship’s counseling is the process of counseling two individuals that form a relationship (which can be members of a family, partners, a married couple, friends, et cetera) in order to help them manage their relationship’s problem. The professionals that are included in this process of relationship counseling represent an expert system, which contrary to the previous example of civil aviation system is focused on social relations and on the intimacies of the self.

Lastly, there is the notion of institutional reflexivity. Another characteristic of modernity is the split from tradition. The separation of time and space and the disembedding mechanisms create the social circumstances in which tradition loses its influence. However, the fact that tradition lost its prior influence does not mean that the social and natural scientific knowledge

that characterizes modernity is certain and could not be doubted. On the contrary, “modernity’s *reflexivity* refers to the susceptibility of most aspects of social activity, and material relations with nature, to chronic revision in the light of new information and knowledge” (Giddens, 1991, p. 20[emphasis added]).

These three processes are connected with issues that have to do with human sexuality. One example is psychotherapy, which is the treatment of mental and emotional illness by talking about problems rather than by using medicine or drugs. Sex therapy is a type of psychotherapy that aims to address issues and concerns that have to do with sexual functions, sexual feelings and intimacy. Sex therapy is usually provided by psychologists, social workers, physicians or licensed therapists who have special training in issues related to sex and relationships²⁶ (Mayo Clinic, 2016). In that sense the aforementioned scientific disciplines form an expert system that deploys a certain form knowledge that has to do with human sexuality. In addition to that, this form of knowledge is open “to chronic revision in the light of new information and knowledge” (Giddens, 1990, p. 20), since the scientific disciplines that take part in the formation of this kind of knowledge are also characterized by institutional reflexivity. Lastly, the formation of this expert system itself is based upon the separation of time and space, on the grounds that “expert systems bracket time and space through deploying modes of... knowledge which have validity independent of the practitioners and clients who make use of them” (Giddens, 1991, p. 18). In that sense, human sexuality becomes a product of scientific knowledge, which scientific knowledge is reflexively organized and goes beyond the limits of face-to-face interactions that we all have in our daily lives. Human sexuality becomes a reflexively organized project, and is “lifted out” from our social relations that are based upon our local “contexts of interaction” and is restructured across “indefinite spans of time-space” (Giddens, 1990, p. 21).

In this Section I introduced the three processes that give modernity its dynamism and also separate modernity from pre-modern eras. I did that in order to present how issues that have to do with human sexuality are affected by these three processes, and what this means for human sexuality. In the Section 3.3, I will introduce the notion of self-identity, and its basic characteristics in the conditions of modernity. The human body is closely connected and intertwined with the notion of self-identity, and due to this fact its role in the formation of self-identity will be emphasized; also in connection with my argumentation in the 1st and 2nd Chapters of the present thesis.

3.3 Modernity, Self-Identity and the Human Body.

The aim of this Section is to present and analyze the notions of the self and self-identity, and how these issues are affected by the three processes that generate modernity’s dynamism. The human body is a parameter of importance in terms of the formation of our self-identities, and due to this reason it will be emphasized.

The notion of self-identity that Giddens proposes is closely intertwined with the three processes that generate modernity’s dynamism. The entry point to the discussion around self-identity is modernity’s reflexivity, namely the process of continuous reexamination and revision

²⁶ The presented information about sex therapy was acquired through the official website of Mayo Clinic, this means that this information mainly describe the approach towards sex therapy in USA. However, for the aim of this chapter I consider that the given information can also describe the situation in the majority of the developed world states.

of social practices in the light of new information and knowledge. This reflexive constitution of the social life is not an incidental but a constitutive feature of modernity, with certain consequences for the notion of self-identity. According to Giddens:

“Everyone is in some sense aware of the reflexive constitution of modern social activity and the implication it has for her or his life... Each of us not only ‘has’, but *lives* a biography reflexively organized in terms of flows of social and psychological information about possible ways of life. Modernity is a post-traditional order, in which the question, ‘How shall I live?’ has to be answered in day-to-day decisions about how to behave, what to wear and what to eat – and many other things – as well as interpreted within the temporal unfolding of self-identity” (Giddens, 1991, p. 14[emphasis in the original]).

This means that due to the weakening of tradition as an important parameter of social life, everybody has to navigate himself/herself among different life possibilities, always in connection with the social and psychological information that are connected with each of these life possibilities. In that way, expert systems penetrate day-to-day activities and decisions, and as a result decisions that were made in accordance with tradition are transformed to decisions that need certain form of expertise, and this expertise can be acquired from the expert systems. In the case of human sexuality, we can say that issues that were considered to be more or less fixed in the life of individuals, now became issues that are reflexively organized with subsequent results on the notion of self-identity.

Apart from that, the expert systems that are focused on the social relations and the intimacies of the self, are part of the disembedding mechanisms, which lift out these issues from the local context of face-to-face interactions and restructure them in the light of knowledge and information that strive from “wide spans of time-space, up to and including global systems” (Giddens, 1991, p. 20). In other words, not only these issues turn to be under continuous revision and reexamination, this revision and reexamination happens through the trust of the individuals towards expert systems, which expert systems are not restricted to the locale in which the individuals live, but can turn to be so wide as to include global systems.

In that sense, self-identity is something that has to “be routinely created and sustained in the reflexive activities of the individual” (Giddens, 1991, p. 52)²⁷. This process is transformed due to the impact of expert systems in the reflexive project of the self and inside conditions that are not limited in the local environment of the individual.

Another parameter that demands further elaboration is the notion of the body. According to Giddens “the body is not just a physical entity which we ‘posses’, it is an action-system, a mode of praxis, and its practical immersion in the interactions of day-to-day life is an essential part of

²⁷ According to Giddens analysis, the “continuity of self-identity” is placed among the existential questions that concern basic parameters of human life, such as existence and being, finitude and human life and the experience of others. These existential questions “concern basic parameters of human life, and are ‘answered’ by everyone who ‘goes on’ in the contexts of social activity” (Giddens, 1991, p. 55). The “answers” to these existential questions serve as a prerequisite for someone in order to be ontologically secure, which means that he/she has a “sense of continuity and order in events, including those not directly within the perceptual environment” (Giddens, 1991, p. 243) in which he/she lives. Even though, these four existential questions are important I will only focus on the continuity of the self, since an analysis that includes the three remaining existential questions far exceeds the purpose of this thesis.

sustaining of a coherent sense of self-identity” (Giddens, 1991, p. 99). In that sense, the human body is part of the process of self actualization. And since the human body is “plainly enough... the domain of sexuality” (Giddens, 1992, p. 31), it is also an issue of importance in the formation of our self-identities in terms of our sexuality.

Anthony Giddens mentions the following aspects of the human body that have special relevance to the formation of self-identity, and as such neither of them can be understood as given but only as part of the reflexive project of the self (Giddens, 1991, p. 99):

- Bodily appearance, namely “all those features of the surface of the body, including modes of dress and adornment, which are visible to the individual and to other agents, and which are ordinarily used as clues to interpret action”.
- Demeanor, which “determines how appearance is used by the individual within generic setting of day-to-day activities: it is how the body is mobilized in relation to constitutive conventions of daily life”.
- The sensuality of the body, which “refers to the dispositional handling of pleasure and pain”.
- The bodily regimes to which “bodies are subject”.

Bodily appearance always played a role in the formation of self-identity, and it was an important factor for self actualization also in pre-modern societies. However, due to the importance of tradition in pre-modern societies, bodily appearance, even though it was a mean of individualization, it was primarily connected with tradition and as a result it mostly designated the social and not the personal identity of the individual (Giddens, 1991).

The aspect of demeanor has two important parameters. On the one hand, an individual has to interact with others in the public sphere, which means that his/her demeanor has to be in accordance with what is accepted as a proper demeanor in the public sphere, but also in the different settings that constitute the public sphere. For example, the expected demeanor in a university class differs from the kind of demeanor that the individual is expected to follow in a friendly conversation in a cafeteria. On the other hand, apart from following the expected demeanor in accordance with the particularities of the public sphere in which the individual interacts with others, he/she also has to “be convinced of [his/hers] personal continuity across time and space” (Giddens, 1991, p. 100). Here the phrase “This is not me!” captures the importance of the aspect of demeanor in respect to the formation of self-identity. For example, whenever someone finds a new job when he/she is expected to be strict and hard on his/hers subordinates, and he/she disagrees with such a “constitutive convention” of being a supervisor, he/she may react with the phrase “This is not me!” In other words, he/she cannot follow this kind of “expected” demeanor in the workplace, since this way of interaction is not in accordance with his/her personal continuity across time and space.

The aspects of the sensuality of the body and bodily regimes are important for the present analysis. As already mentioned, the sensuality of the body refers to “the dispositional handling of pleasure and pain” (Giddens, 1991, p. 99). In respect to bodily regimes the following can be said. The human body is sexed, in the sense that there are biological traits that differentiate the male from the female. Moreover, the human body is also gendered, namely there are social and cultural conventions that are ascribed to males and females; and these factors differentiate the men from the women. In Giddens’ words “nothing is clearer than that gender is a matter of learning and continuous ‘work’, rather than a simple extension of biologically given sexual

difference” (Giddens, 1991, p. 63). Boys and girls, in an early phase of their lives are subject to certain modes of learning, through their relation with their caregiver, but also right afterwards in the social and cultural environment in which they interact with others. These modes of learning are defined by Giddens as bodily regimes. Regimes are socially and culturally organized. However, the role of the social and cultural environment has not a deterministic character; since regimes are “always partly a matter of individual influence and taste” (Giddens, 1991, p. 62). In that sense, even what it means to be a woman and a man is not strictly shaped by the social and cultural conditions in which an individual lives and develops, but his/her personal dispositions also play a role.

In the 2nd Chapter I examined and analyzed the ways in which the use of contraception technologies transformed the “experience of” having sex. I argued that when contraception technologies are used there are certain aspects of the “experience of” having sex that are concealed, namely the connection between the “experience of” having sex and reproduction, and there are also some other aspects that are revealed, namely the fact that someone can have the “experience of” having sex in connection with issues that have to do with pleasure, libido/sex drive, et cetera. As a result, I argued that there is a multiplicity implied in the term “close-to-”natural” and pregnancy-free sexual relations” that contraception technologies made possible, which means that someone can have “close-to-”natural” and pregnancy-free sexual relations” in order to improve his/her sex life in terms of frequency, spontaneity, pleasure, et cetera (Sections 2.7 and 2.8). The above argumentation, in connection with the given definitions of sensuality of the body and bodily regimes, means that the use of technology did change the sensuality of the human body and the bodily regimes that the human body is subject to. Individuals, with an extra emphasis on women, who can have “close-to-”natural” and pregnancy-free sexual relations” have a different “dispositional handling” of sexual pleasure from those who do not have this kind of sexual relations and they are subject to a different kind of bodily regime. In that sense, a human body that can have “close-to-”natural” and pregnancy-free sexual relations” is a different “action-system” and a different “mode of praxis”, not only in regards to the “experience of” having sex, but also in regards to the formation of self-identity.

Giddens’ approach towards the sensuality of the body and bodily regimes can be augmented by the work of Ihde and Verbeek in philosophy of technology. According to Giddens “bodily regimes, which also bear directly on patterns of sensuality, are the prime means whereby the institutional reflexivity of modern social life is focused on the cultivation – almost, one might say, the *creation* – of the body” (Giddens, 1991, p. 100[emphasis added]). In that sense, the use of contraception technologies can be understood as a parameter of importance in the formation of the bodily regimes to which we are subject to in respect to our sexuality. As a consequent result, the sensuality of our bodies is also affected by the use of technology. Taking part in a “close-to-”natural” and pregnancy-free sexual relation” in order to acquire sexual pleasure from this experience cannot be strictly distinguished from the technologies that are used. The acquisition of pleasure during the “experience of” having “close-to-”natural” and pregnancy-free” sex depends on and is shaped by the technologies that we use in order to have this kind of experience. These technologies are not just means that we use in order to acquire pleasure, but they also shape the experience itself. This means that contraception technologies closely affect the sensuality of our bodies and also are part and parcel of the bodily regimes to which we are subject to. As already mentioned bodily regimes are modes of learning. Contraception technologies play an important role in how we learn to acquire pleasure from the “experience of” having sex.

In addition to that, in the 1st Chapter I examined and analyzed the use of contraception technologies as part of the technostructure of society; and I also described their role in the transformation of gender roles and identities and in the process of reproduction, but also in the emergence of plastic sexuality. I argued that contraception technologies form a special aspect of the technostructure of society, which played an important role in the transformation of the gender roles and identities. These transformations led to an increasing sexual equality and to the reordering of sexuality in relations to lifestyles, which are constitutive characteristic of plastic sexuality. Additionally, I argued that plastic sexuality is connected by definition with the diminishment of certain kind of prejudices against women, but also against individuals with non-heteronormative sexuality. In that sense, I presented how other forms of sexual orientations are also included in the definition of plastic sexuality (Sections 1.4 and 1.5). The fact that sex and reproduction were split from each other, and as a subsequent result there is a different social and cultural interpretation of heterosexuality and non-heteronormative sexuality, at least in what is defined as Western world, means that due to these changes individuals are placed inside a different bodily regime in regards to their sexuality.

The bodily regimes and the sensuality of the body, which are two irreducible aspects in terms of the formation of the self and self-identity, are reshaped and transformed due to technological means and the institutional appropriation of these technological means. The use of technology is part and parcel of the formation of the self and self-identity, especially in the examined case of contraception technologies, since due to these technologies both the sensuality of the body and the bodily regimes were transformed in terms of sexuality and reproduction, both for women and men and for individuals with non-heteronormative sexuality.

The aim of my analysis in this Section was to introduce and analyze the notion of self-identity, and how self-identity is reflexively organized in the conditions of modernity. In the formation of self-identity, the human body plays an important role. By drawing from my argumentation in the 1st and 2nd Chapters, I presented and emphasized the role of technology in the transformation of the sensuality of the body and bodily regimes, and I argued that the use of contraception technologies is also an issue that has to do with the self and self-identity formation.

Up to this point I presented and analyzed how the use of contraception technologies transformed our bodily and sensory involvement in the “experience of” having sex (2nd Chapter), the social norms that have an impact on human sexuality such as the gender roles and identities (1st Chapter) and in the previous Section I examined the notion of the self-identity in the light of these transformations. These issues are important in order to understand the notion of plastic sexuality in more depth. The split between sex and reproduction and the subsequent social transformations led to plastic sexuality. And as already mentioned, sexuality turned to be something that “each of us ‘has’, or cultivates, no longer a natural condition which an individual accepts as a preordained state of affairs” (Giddens, 1992, p. 15). This issue has to be connected with modernity and the fact that in the conditions of modernity our sexual-identities, as part of our self-identities, are reflexively organized in the light of new information and knowledge (Giddens, 1990, 1991).

3.4 Conclusion.

Contraception technologies did change how a sexual act is experienced by the individuals that participate in it. Due to the emergence of plastic sexuality, sexuality is not defined and understood under the profound influence of tradition, even though the role of tradition is not

completely nullified. Additionally, the separation of time and space, the disembedding mechanisms and the institutional reflexivity of modernity do also play an important role in the definition and understanding of human sexuality. This means that our sexual identities are reflexively organized in the light of new information and knowledge (institutional reflexivity); expert systems play an important role in the formation of this kind of information and knowledge around sexuality (disembedding mechanisms) and the information and knowledge that we use in order to reflexively organize our sexual identities go beyond the limits of our face-to-face interactions (separation of time and space).

In order to understand human sexuality, we have to understand the human body and its role in our self actualization. Not only in terms of the “experience of” having sex, as it was emphasized in the 2nd Chapter, but also as an issue that affects the formation of our self-identities. The use of contraception technologies had an important impact on the sensuality of the body and the bodily regimes to which the human body is subject to. As a result, and due to the role of the human body in the formation of self-identify, the way that we interpret our bodies and our sexuality is not only an issue that has to do with the “experience of” having sex; but also an issue that has to do with who “we are”.

My argumentation until now can be summarized as follows. In the 1st Chapter I argued that the contraception technologies transformed human sexuality by creating the split between sex and reproduction, by transforming the gender roles and identities that are ascribed to men, women and people with non-heteronormative sexuality, and by playing an important role in the emergence of plastic sexuality, which is the form of sexuality that is reordered in relations of lifestyles. In the 2nd Chapter, I analyzed the role of contraception technologies in the creation of what was defined as close-to-“natural” and pregnancy-free sexual relations, and the role of technology in the bodily and sensory involvement of individuals in the “experience of” having sex. In the 3rd Chapter I connected these transformations and changes with issues that have to do with modernity and self-identity, in order to describe sexuality as something that is intrinsically connected with “who we are”. But also as a parameter of our self-identities that is reflexively organized in the light of new information and knowledge.

In the following Chapter, I will address Internet pornography as an important dimension of Internet sexuality, which should be examined in connection with the emergence of plastic sexuality and the fact that sexuality is reordered in relation to lifestyles, but also in connection with the fact that our sexual identities are reflexively organized in the light of new information and knowledge. In that sense, my aim is to delineate how Internet sexuality, with my focus on Internet pornography, can affect our sexuality and the formation of our sexual identities and preferences in the conditions in which these issues are by definition susceptible to change and they are also reflexively organized in the light of new information and knowledge.

4th Chapter: Pornography, Technology and Sexuality.

4.1 Introduction.

In the previous chapters I analyzed the role of technology in the split between sex and reproduction, in the transformation of reproduction to an issue in which plurality of choice prevails and in the reordering of sexuality in relations to lifestyles (Section 1.2). I then presented the ways in which these transformations are connected with transformations on the gender roles and identities that promote sexual equality (Section 1.3). I then argued that technology, as an important parameter of these changes, played an irreducible role in the emergence of plastic sexuality (Section 1.4).

I then proceeded in examining and analyzing the role that certain contraception technologies played in the formation of certain human-technology relations between human beings and their surrounding world (Sections 2.2-2.6), and how the role of technology transformed the “experience of” having sex. This transformation happened not only due to the split between sex and reproduction, but also due to the redefinition of sexuality in terms that have to do with frequency of sexual intercourse, spontaneity, libido/sex drive, the acquisition of pleasure during the “experience of” having sex, and lastly in regards to the overall influence on the sex lives of their users²⁸ (Section 2.7). In that way I put emphasis on the fact that the “experience of” having sex is referential and is shaped by contraception technologies. In the cases in which contraception technologies are used the “experience of” having sex is a product of technological mediation; not only because contraception technologies created the split between sex and reproduction and played an important role in the emergence of plastic sexuality, but also due to the fact that contraception technologies reshaped human sexuality in terms of our bodily and sensory involvement in the “experience of” having sex by creating the very possibilities we have for interpreting our sexuality.

My next step was to focus on modernity and the special characteristics of modernity that differentiate modernity from pre-modern eras (Section 3.2). In addition to these issues the connections between modernity, self-identity and the human body were presented and analyzed (Section 3.3). In the conditions of modernity the “most aspects of social activity” are susceptible “to chronic revision in the light of new information and knowledge” (Giddens, 1991, p. 20). This means that our sexual-identities, as part of our self-identities, are reflexively organized in the light of this new information and knowledge.

The aim of the present Chapter is to present and analyze how Internet pornography, as an important dimension of Internet sexuality, can affect the formation of our sexuality and the reflexive organization of our sexual identities in the conditions of plastic sexuality and modernity. Today Internet has a pervasive role in our lives in a plethora of different daily activities, with sexuality being one of them. According to Nicola M. Döring “sexually related online activities have become routine in recent years for large segments of the population in the

²⁸ I would like to remind the reader that the empirical findings of Oddens (Oddens, 1999) are not generalized for the purpose of the present master thesis. As I already mentioned, I only use his findings in order to emphasize the fact that these technologies play an important role in the formation of technologically mediated intentionalities and they can be used for different purposes, what Ihde defines as multiplicity of uses (Ihde, 1990), and not only in order to help their users to avoid an unwanted pregnancy. For more clarifications in this issues, please check Sections 2.7 and 2.8.

Western world” (Döring, 2009, p. 1089). Due to these issues, some scholars state that human sexuality has to be also placed and understood in “the new frontier of Internet” (Spink et al., 2004, p. 115). In that sense, sexuality acquired a new dimension, which dimension is created and expressed through the Internet.

According to Nicola M. Döring:

“The term “Internet sexuality”... refers to sexual-related content and activities observable on the Internet. It designates a variety of sexual phenomena (e.g., pornography, sexual education, sexual contacts) related to a wide spectrum of online services and applications (e.g., websites, online chat rooms, peer-to-peer networks)” (Döring, 2009, p. 1090).

This means that the Internet can provide new channels of communication between individuals and create new online environments. As a result, the users of Internet can search sexual-related content and participate in sexual-related activities due to the new possibilities that the Internet made possible.

Internet nowadays serves as a global system that interconnects people from different geographical locations, different cultural and social environments and also has the potentiality to do so in terms of anonymity. According to Sherry Turkle, not only the Internet but also the use of computers, demonstrate the fact that technology plays a role in the process of shaping individuals and communities; in Turkle’s phrasing “we construct our objects and our objects construct us” (Turkle, 1997, p. 72). In that sense, our personal computers and the Internet can be seen as technological artifacts that shape us as individuals and also shape the communities in which we participate. In the case of Internet sexuality, technology can affect our sexual identities. This issue becomes more pressing due to the fact that “it has been estimated that between 20% and 33% of Internet users engage in some form of online sexual activity” (Issacs & Fisher, 2008, p. 3).

An integrated analysis of Internet sexuality goes beyond the purpose of the present thesis, since the term Internet sexuality designates a plethora of sexual related activities such as pornography, sex shops, sex work, sex education, online sex, et cetera. The aim of the present chapter is to focus on pornography and try to describe how pornography can have certain impacts on human sexuality. In order to do so, my basic target is to connect the use of pornography with plastic sexuality and the fact that sexuality is reordered in relation to lifestyles, but also with the fact that in the conditions of modernity our sexual identities are reflexively organized in the light of new knowledge and information.

In order to do so I divided the present chapter into five Sections. In the Section 4.2 I will present what the definition of pornography should include; in order give a working definition of pornography for the purpose of this thesis. In the end of this Section I will argue that what is understood as pornographic and what is not changes through time, this argument will be used as an entry point to the following Section in which I will present how the cultural role and position of pornography changed through time and how such a change can be understood and analyzed.

In the Section 4.3 I continue my analysis by examining the role of pornography in the popular culture. I am going to introduce the notion of pornification in order to describe the pervasive role of pornography in the popular culture. Pornification as a process includes three different levels, firstly, the technological transformations in the production, distribution and consumption of pornography that had an impact on the “supply of” and the “demand for”

pornographic materials, secondly, the changes in the regulation that has to do with pornography, and lastly the changes in the cultural role and position of pornography.

The aim of the Section 4.4 is to describe how pornography can affect the reflexive project of the self. The human body plays an important role on the formation of our self-identities. In this Section I will analyze the role of pornography in the notions of bodily appearance, demeanour, sensuality of the body and bodily regimes. The scope of my analysis in this Section is not limited only to heterosexuality, but I also address the role of pornography in the formation of the self-identities for non-heteronormative forms of sexuality. In that sense I argue that pornography is an important parameter of our day-to-day lives, and should also be understood as a source of information and knowledge about sex and sexuality.

In the Section 4.5 I will focus on the transformations of pornography due to technology. In order to do so I will make a comparison between cinema, video and Internet pornography. Even though this comparison does not take into account the consumption and distribution of pornographic materials through text and images, it will help me present how technology transformed pornography both in quantitative and qualitative terms.

By taking into account my argumentation in the Section 4.5 I will move forward in the Section 4.6, in which I will describe how pornography is affected by the conditions of Web 2.0. I will argue that due to the new possibilities that Web 2.0 made possible, the production, consumption and distribution of pornographic materials is not focused on populations, but on individuals. This means that the users/consumers of pornography create a certain “flow” of information around the pornographic materials that are available through the Internet, which “flow” is used by pornographic production companies and pornographic video sharing websites in order to “persuade” their users/consumers to use the materials that they provide, but also to persuade them about the additional value of the services that they provide. The use of the term “persuade” here implies that pornographic production companies and pornographic video sharing websites do not only provide pornographic materials to their users/consumers; they do also provide the service of categorizing and connecting the pornographic materials that they distribute, and make recommendations to their users in regards of what they would like to see, through which recommendations they “persuade” their users/consumers that they can offer them the “content that is pertinent to their needs and contexts” (Fogg et al., 2007, p. 114).

4.2 The Definition of Pornography.

The aim of this Section is to give a working definition of pornography for the purpose of the present thesis.

According to Susana Paasonen, “the generic specificity of porn has been located in the images and texts themselves (what they depict), in authorial intentions (what they are intended to do and to be used for), in their effects (what they do), in audience interests (what is experienced as pornographic), and in combinations thereof” (Paasonen, 2011, p. 50).

This means that the definition of pornography is not a static procedure. The fact that we define a specific material as pornographic today does not mean that this material will be defined as pornographic in the future, for example when the parameter that has to be with what is experienced as pornographic by the audience will change. A characteristic example of this phenomenon has to do with the ways in which we now interpret the hardcore films of 1970s. The classic pornographic films of that era have been “elevated into classics, landmarks in the

American struggle for freedom of speech and experiment in a new kind of artful pornography” (Paasonen & Saarenmaa, 2007, p. 31).

Additionally, the different intentions behind the use of pornography should be analyzed. For example, an image which can be defined as pornographic may serve a different intention when it is presented in men’s lifestyle and entertainment magazines, and when it is presented in a daily newspaper in a specific article that criticizes the use of pornographic images in the media. The intentions do differ in these cases. In the men’s lifestyle and entertainment magazine the intention may be to cause sexual excitement to the reader. On the contrary, in the daily newspaper the intention may be to inform the reader about the proliferation of pornographic images in the media. Even though the intentions do differ, the result may be the same. In that sense, the reader of the daily newspaper may indeed feel a sexual excitement, no matter what the intention behind the examined depiction may be.

In addition, the given definition of pornography not only changes through time, but we also have to take into account geographical changes. The above argument can be described by the remark that “pornography is geography”, which describes the fact that the distribution of pornography has to take into account what people “want at the proper geographical locations” (Schaefer, 2004, p. 389).

However, there are certain approaches towards pornography that does not address pornography in terms of the examined specifications. For example, Susan G. Cole defines pornography as an institution, which institutionalizes sexual inequality, sexual hierarchies, sexism, the subordination and objectification of women, by erotizing these issues (Cole, 1995). Additionally, Susan J. Brison defines pornography as a form of hate speech (in the particular case the term “speech” includes words, pictures, videos, et cetera) that is based upon the expression and communication of ideas, or even of a certain ideology, according to which women should be degraded in regards to their sexuality (Brison, 2009, 2014). As a result, as we would not tolerate someone that tries to convince men to degrade women sexually, we should not tolerate pornography, since pornography does the same thing through the depiction of certain forms of sexual acts and attitudes of men against women.

For the purpose of the present thesis the working definition of pornography will be based upon Andrew Altman’s approach towards pornography, which approach is closely connected with the issue of sexual autonomy²⁹. Altman argues that adults’ right to use pornography in order to be sexually excited is in the end a right of sexual autonomy, just like the right to participate in homosexual sex or to use contraception technologies (Altman, 2004).

According to Altman “pornography is sexually explicit material, in words or images, which is intended by its creators to excite sexually those who are willing viewers of the material” (Altman, 2004, p. 224). In that sense, in terms of content the specificity of pornography strives from the fact that pornography is the depiction of sexually explicit material. The term sexually explicit material is used as an umbrella term that includes materials that depict naked bodies and sexual acts. In terms of intention, the specificity of pornography strives from the fact that the creators of the sexually explicit material intended to excite sexually the viewers of those material and they succeed in doing so.

Altman’s definition of pornography points towards an important issue that has to do with the role of the viewer/user of pornography in the definition of pornography. Altman uses the term “willing viewer” in order to describe the “person who voluntarily pays something – in time,

²⁹ Brison’s article ““The Price We Pay”?: Pornography and Harm” (Brison, 2014) is a response to Altman’s argumentation (Altman, 2004).

effort, or money – to view the material and who is willing to pay because he expects to become sexually aroused by viewing it” (Altman, 2004, p. 224). The use of the term “willing viewer”, and the definition that Altman gives to this term, suggests that watching pornography is some form of “practice” that includes a certain “interpretation” of what pornography is and what it can do, certain “expectations” in respect to pornography’s use and then the “action” of watching pornography. The willing viewer does interpret pornography as a source of sexual excitement, he/she does expect to be sexually excited by it, and then he/she does decide to watch pornography due to these issues. In that way, “interpretation”, “expectations” and “action” are interrelated and they are part of the “practice” of watching porn that is directed towards the end of acquiring “sexual excitement”.

Additionally, not only the user but also the creator/producer of pornography has to be included in the definition of pornography. According to Altman, “pornography is a commodity which represents a kind of *sexual meeting* of the minds between producer and consumer: the producer intends that the consumer be sexually aroused by the product and the consumer pays for the product in the expectation of becoming aroused by it” (Altman, 2004, p. 224[emphasis added]). A medical textbook that includes pictures of genitalia of women and men may arouse its readers sexually, but since this was not the intention of the author of this medical textbook this textbook cannot be categorized as pornographic.

For the purpose of the present thesis, the working definition of pornography is based on Altman’s approach, according to which:

“Pornography is sexually explicit material, in words or images³⁰, which is intended by its creators to excite sexually those who are willing viewers of the material... [while] a “willing viewer” [is] a person who voluntarily pays something – in time, effort, or money – to view the material and who is willing to pay because he/[she] *expects* to become sexually aroused by viewing it” (Altman, 2004, p. 224[emphasis added]).

This means that watching pornography should not be understood as an isolated action. Watching pornography should be understood not only as a practice that encloses a relation between pornography, viewers and producers of pornography; but also as a practice that shapes what is pornography and what is not.

The “sexually explicit materials” are transformed to “pornographic materials” when their users “interpret” them as materials that can help them be sexually excited, they “expect” to be sexually excited by these materials and then they “act” accordingly in order to be sexually excited by watching them and paying something in time, effort or money. The same holds from the perspective of the producers, the “sexually explicit materials” are transformed to “pornographic materials” when their produces “interpret” them as materials that can be used by them in order to sexually excite their consumers, they “expect” that this kind of materials will actually excite their consumers sexually and they “act” accordingly in order to make a profit.

Altman’s definition of pornography can be used in order to describe a big segment of the pornographic materials that are available for use and consumption, for example pornographic materials that are produced by pornographic production companies.

³⁰ In the definition of pornography that Altman gives, the depiction of sexually explicit material through video is not explicitly mentioned. He uses the term images as an umbrella term that also includes moving images.

However, there are some cases in which Altman's definition may be proved to be problematic, especially in respect with the sexual meeting of the minds between producer and consumer that is very important for Altman's approach. For example, in the movie "Blue is the Warmest Color" (Kechiche et al., 2013) there is a sex scene between the two protagonists. This particular movie is not understood here as pornographic, since this movie has an artistic value, aims at sensitizing the audience about homosexuality in the lives of adolescents and young people and not exclusively at exciting its audience sexually. But this sex scene is also presented in pornographic video sharing websites as pornography, and is experienced as such by its viewers³¹. This example does not aim to minimize the importance of the sexual meeting of the minds between the producer and the consumer of pornography. However, it demonstrates the fact that being included in the practice of watching pornography, and as such considered to be pornographic by some viewers/users, in some cases it is affected by issues that go beyond the sexual meeting that Altman suggests. This is an important issue in respect to the definition of pornography, which get more important due to the consumption and proliferation of pornographic materials through the Internet³². However, for the purpose of my analysis I consider Altman's definition sufficient in order to address the vast majority of the pornographic materials that are available for use and consumption in the Internet.

In this Section I presented the working definition of pornography upon which I will base my analysis. In order to do so I presented certain specifications of what an integrated definition of pornography should include (Paasonen, 2011). After that I elaborated on issues that have to do with the temporal and geographical dimensions of pornography. I then presented some definitions of pornography that are not based in the aforementioned specifications (Brison, 2009, 2014; Cole, 1995), which connect pornography by definition with issues that have to do with the subordination and objectification of women, sexual inequalities, sexual hierarchies and sexism. Finally, I presented and analyzed Andrew Altman's definition of pornography; which definition served as the working definition of pornography for the purpose of this thesis.

As I already mentioned, the definition of what is and what is not pornographic changes through time. In the following Section I will present and analyze the connection between pornography and public culture in order to provide a framework that can help us understand how the cultural role and position of pornography changes through time and what the role of technology is in regards to this change.

4.3 Pornography and Popular Culture.

The aim of this Section is to present and analyze the role of pornography in the public culture. Towards that direction I will argue that technology played an important and irreducible role in the proliferation of pornography and in the acquisition of its contemporary cultural role and position.

³¹ The examined scene is presented in the free pornographic video sharing website Pornhub, is categorized as pornographic and received nearly 1.2 million views. Retrieved June 1, 2016, from http://www.pornhub.com/view_video.php?viewkey=459971835.

³² I will come back to this issue in the Section 4.6, in which I address the role of pornography production companies and free pornographic video sharing websites in the conditions of Web 2.0 and by using the concept of persuasive technologies.

In 2001, Frank Rick from the New York Times wrote an article under the title "Naked Capitalists: There's No Business Like Porn Business". In this article he presents some data about the production of pornographic materials in the USA and he mentions that on 2000 the adult movies that were released were around 11.000, while the Hollywood only released 400 movies (Rich, 2001). Apart from that Frank Rick presents some details from the pornographic industry and some interviews in order to make his point stronger, which point is that since "the porn business is estimated to total between \$10 billion and \$14 billion annually in the United States", it can be said that "porn is no longer a sideshow to the mainstream like, say, the \$600 million Broadway theater industry – it is the mainstream" (Rich, 2001). Linda Williams uses some of the statistics that were presented by Frank Rick, which she defines as "eye-opening statistics", in order to describe the fact that "still and moving-image pornographies have become fully recognizable fixtures of popular culture" (Williams, 2004, p. 1).

In that way, the basic task now is to describe how pornography became "a fully recognizable fixture of popular culture", because such a transformation does change the cultural role and position of pornography, and as a result it also changes what we interpret as pornographic. It is important to mention here that in 2001 online pornography did not have its present character. In other words, it is not farfetched to say that the development of pornography from 2001 until 2016 makes the conclusion of Williams that "still and moving-image pornographies have become fully recognizable fixtures of popular culture" (Williams, 2004, p. 1) much stronger than it used to be.

One useful notion that delineates the ways in which pornography and popular culture are interconnected is the notion of pornification. Pornification is the term that describes the dissolution of the boundaries between what is defined as pornographic from what is not. In other words, pornification is the term that describes the fact that "pornographic styles, gestures and aesthetics – and to a degree pornography itself – have become stable features of popular media culture in Western societies" (Paasonen et al., 2007, p. 1). For example, when media audiences participate actively in online discussions around sex and in these discussions pornography has a central role (Nikunen, 2007), when music videos adopt some form of pornographic aesthetic (Railton & Watson, 2007), or when the aesthetics of pornography penetrate the urban space through out-of-home advertising (Rossi, 2007), it can be said that "the boundaries separating the pornographic from the non-pornographic have become increasingly porous and difficult to map" (Paasonen et al., 2007, p. 1).

Pornification was made possible due to developments and transformations in three different levels (Paasonen, 2014; Paasonen et al., 2007), which are closely interconnected but also maintain their own dynamism of change. The three levels of pornification include the following developments:

- [1] "Technological transformations in the production, distribution, and consumption of media [that] have affected an increase in and diversification of porn production, and facilitated its ubiquitous consumption" (Paasonen, 2014, p. 4).
- [2] "Developments in the jurisdiction and regulation concerning pornography, namely processes of liberation and deregulation [that] have contributed to porn's increasing accessibility" (Paasonen, 2014, p. 4).
- [3] "Shifts in the cultural role and position of pornography" (Paasonen, 2014, p. 5).

In regards to 1st level of pornification, which is explicitly referring to the notion of technology, as a starting point a simple analysis can be made in connection with the role of technology in the formation of both the “supply of” and the “demand for” pornographic materials. By adopting simple economic terms, demand can be defined as the quantity of a commodity (in the examined case of pornographic materials) which consumers are willing to buy. Supply is the quantity of the commodity that can be offered by the market (in the examined case by the producers of pornographic materials). In that sense both the “demand for” and the “supply of” pornographic materials change due to technology. A new form of technology in respect to the production, distribution and consumption of pornographic materials means that both the demand curve and the supply curve, once again in accordance to economic terms, will be transposed. Technology transforms in that way both the “demand for” and the “supply of” pornographic materials; and it not just the means by which the “demand for” and the “supply of” pornographic materials can be satisfied. However, the role of technology is not only limited in the “quantitative” transformations of pornography. As Paasonen mentions, technological transformations do also affect the diversification of pornographic materials that are produced, distributed and are available for use (Paasonen, 2014), as a result technology transformations lead also to “qualitative” transformations of pornography³³.

The 2nd level of pornification has to do with the legal status of pornography. The production and distribution of pornographic materials ceased to be an illegal action in the Western world. This change in the legal status of pornography was initiated in “Denmark [which] was the first European country to legalize pornography in 1969” (Paasonen et al., 2007, p. 7) and more-or-less was terminated in the USA, where the “governmental regulation [namely the US law on obscenity that was written mainly in 1973] diminished in the late 1980s” (Paasonen et al., 2007, p. 7). However, it has to be mentioned that the production and distribution of online pornography opened once again the discussion of possible regulations and technical solutions against some specific sexual acts and kinds of pornography. This kind of regulation differs from the previous forms that were described above, on the grounds that the complete ban of pornography is not on the table. One good example is the discussion around pornography that started in the United Kingdom. The aforementioned discussion has to do with specific sexual acts that are defined as life-endangering (Hooton, 2014) and aim to protect primarily young people.

The 3rd level of pornification is closely connected with the general sexualization of culture, with the western culture the most evident example. The sexualization of culture is a term that describes much more general cultural phenomena than the term pornification, and has to do with the “contemporary preoccupation with sexual values, practices and identities; the public shift to more permissive sexual attitudes; the proliferation of sexual texts; the emergence of new forms of sexual experience; the apparent breakdown of rules, categories and regulations designed to keep the obscene at bay; our fondness for scandals controversies and panics around sex” (Attwood, 2006, p. 78-79). While the term pornification is a more specific and, as the term itself implies, it was coined in order to describe the “increased visibility of hardcore and soft-core pornographies and the blurring of boundaries between the pornographic and the mainstream” (Paasonen et al., 2007). In the previous lines I mentioned the examples when pornography becomes visible, or in another phrasing penetrates the mainstream, such as online discussions around sex (Nikunen, 2007), music videos (Railton & Watson, 2007) and advertising (Rossi, 2007). An additional example of pornification has to do with the treatment of pornographic

³³ I will come back to this issue in the Sections 4.5 and 4.6 of the present Chapter, in which I present a more detailed description about the ways in which technology transformed pornography.

actors and actresses as mainstream celebrities and their subsequent exposure in the public media as such (Paasonen & Saarenmaa, 2007).

The three layers of pornification are closely connected with each other. If the legislation against pornography was still active and/or technological transformations in terms of production, distribution and consumption of pornographic materials did not make easy to have access to pornography, as is the case today through the use of Internet, then the cultural visibility of pornography would not have its contemporary form.

The aim of this Section was to introduce the notion of pornification in order to describe how pornography became a pervasive element of popular cultural, and how the role and position of pornography in the public scene changes due to certain technological, legal and cultural transformations. This analysis was needed in order to move forward to the next Section, in which I address the role of pornography in our day-to-day lives, and how pornography can affect our sexuality. Towards that direction, I am going to use Anthony Giddens approach towards the reflexive organization of the self and self-identity, as it was described in Section 3.3 of the 3rd Chapter.

4.4 Pornography, Self-Identity and Sexuality.

In the Section 4.2 I presented the working definition of pornography for the purpose of the present thesis. After that, in the Section 4.3 I presented how pornography acquired a new cultural role and position in the public scene; in order to do so I introduced and described the notion of pornification. In this Section I will focus on the ways that pornography can affect human sexuality. This connection between pornography and sexuality can be made by using Anthony Giddens approach towards modernity, the self and self-identity (Giddens, 1990, 1991). In the Section 3.3 of the 3rd Chapter I presented and analyzed the role of the human body in the process of self actualization and on the formation of our self-identities in the conditions of modernity. In connection with the analysis that took place so far in this chapter, the following remarks can be made.

Firstly, the 3rd level of pornification, which has to do with the cultural visibility of pornography, has effects on the notions of bodily appearance and demeanor. In terms of the 3rd level of pornification, the important issue here is that pornography was incorporated in mainstream cultural products. In order to understand what this “incorporation” means a connection with the notion of sexualization is needed. According to the American Psychological Association (APA), sexualization occurs when “a person’s value comes from his or her sexual appeal or behavior, to the exclusion of other characteristics; a person is held to a standard that equates physical attractiveness (narrowly defined) with being sexy...; and/or sexuality is inappropriately imposed upon a person” (American Psychological Association, 2007, p. 1). According to APA, evidence of sexualization can be found in media, television, music videos, music lyrics, movies, cartoons and animation, magazines, sports media, video/computer games, advertising and products like dolls, clothing and cosmetics; in which the reviewed evidence demonstrate “that women and girls are more likely than men and boys to be objectified and sexualized” (American Psychological Association, 2007, p. 14).

As the definition of sexualization according to APA demonstrates sexualization of culture refers to a variety of cultural phenomena and is obvious in a variety of different media. Pornification, as I already mentioned, is “a more specific term pointing to the increased visibility of hardcore and soft-core pornographies, and the blurring of boundaries between the

pornographic and the mainstream (Paasonen et al., 2007, p. 8). One example of this process can be found in the connection between pornography and music videos. In music videos “women’s bodies are sexualized and eroticized, that is to say, are explicitly positioned within an economy of sexual desire” (Railton & Watson, 2007, p. 115). This phenomenon can be addressed as a dimension of sexualization that was intensified and received new characteristics due to pornification. In music videos, both in terms of the lyrics of the examined songs and in terms of what is depicted in the video itself, there are a lot of elements that previously were only limited inside pornography (Railton and Watson, 2007). This means that in the cases in which sexuality is inappropriately imposed upon a person, due to pornification this “imposition” is closely influenced and affected by pornography, with subsequent results on the notions of bodily appearance and demeanor.

Additionally, the use of pornography has an impact on the sensuality of the body and bodily regimes. This issue should be understood in connection with the fact that in the conditions of modernity our sexual-identities are reflexively organized. The way that our sexual identities are formed, and in the conditions of modernity are also reflexively organized, is not only the result of our personal inclinations and dispositions; but also of the common interpretations of what is “good” or “bad” sex.

The consumption of pornographic materials, especially in the cases that such a consumption involves the redefinition of sexual habits, passed from the area of “bad” sex to the area of “good” sex; namely pornography turned to be used “as reference for various heterosexual³⁴ [sic] techniques as well as source material in sex ed [sic] programming” and in the end became “incorporated in the realm of good sex” (Paasonen et al., 2007, p. 14)

Kaarina Nikunen provides a thorough analysis of how pornography is part of the discussion around sex, in the sex forum of the Finnish edition of the *Cosmopolitan*³⁵ magazine (Nikunen, 2007). The *Cosmopolitan* magazine is a magazine that is labeled as “The Women’s Magazine for Fashion, Sex Advice, Dating Tips, and Celebrity News”³⁶. In the same line, the sex discussions that are analyzed by Nikunen, can be understood as the exchange of information about sexuality, namely sex advice, among its readers/users. And these discussions “involve the celebration of sexuality: users’ enthusiasm over exciting positions and the discovery of new techniques speak of joyful, diverse sex lives” (Nikunen, 2007, p. 77).

One characteristic issue that Nikunen identifies in these online discussions is that during sex women’s acquisition of sexual pleasure is intertwined with the acquisition of sexual pleasure by their partners. Additionally, pornography (despite the fact that in many cases is understood as creating false sexual expectations) is understood as a form of sexual education from which women can acquire information, or even the needed knowledge, to sexually please their partners. Towards that direction avoiding personal reluctance or even disgust is not considered to be as important as performing well in sex and giving pleasure to their sexual partners. Embarrassment

³⁴ Here Paasonen et al., make a clear connection between the incorporation of pornography in the realm of good sex and heterosexuality; however the subsequent results of pornification are not only limited in heterosexuality. In the end of this Section I will come back to this issue and I will make a connection between, on the one hand, pornification, and, on the other hand, non-heteronormative forms of sexuality.

³⁵ Another important issue in this case is the anonymity that is entailed in the process of asking and answering questions around sex and sexuality in the Internet, which is evident in the online forum of the *Cosmopolitan* magazine.

³⁶ This is how the *Cosmopolitan* magazine is described in its official website. Retrieved May 20, 2016, from <http://www.cosmopolitan.com/>.

is connected with cases in which women do not know about certain forms of sexual activities. And lastly being sexually active is considered to be the ideal condition in a woman's life (Nikunen, 2007).

Bodily appearance, demeanor, the sensuality of the body and the bodily regimes to which bodies are subject are not pre-given aspects of someone's self identity. In the same way that a woman constructs her self-identity by choosing what to wear (bodily appearance) and how to act in certain social settings (demeanor), she also constructs her self-identity in terms of how she is handling her sexuality in terms of pleasure (sensuality of the body). More importantly, she also constructs and reflexively organizes her self-identity when she uses pornography as a source of learning about sex and sexuality (bodily regimes).

Giddens states that:

“Regimes are *modes of self-discipline*, but are not solely constituted by the ordering of the convention in day-to-day life; they are personal habits, organized in some part according to social conventions, but also formed by personal inclinations and dispositions” (Giddens, 1991, p. 62[emphasis added]).

This means that the social conventions (in the examined case the conventions are that the ideal situation for a woman is to be sexually active, to please her sexual partner and to know about sexual techniques) and the “personal inclinations and dispositions” play an important role in the formation of the regime to which someone is subject to. As a result, pornography, even by taking into account the process of pornification, is not the only force that shapes and transforms women's sexual lives. However, the fact that in the examined case, some women interpret pornography as a mode of self-discipline, since they are ready to overcome their personal reluctance and disgust in order to please their sexual partners, demonstrates that pornography can be defined as part of the regimes in which women are subject to in terms of the formation of their sexual identities and the use of their bodies as a source of pleasure.

My analysis so far, just like the essay of Nikunen, is only focused on women. However, some empirical data demonstrate that it is also applicable to men. According to the Student Opinion Survey of the National Union of Students – NUS of the United Kingdom (National Union of Students, 2014):

- The 31% of the respondents use magazines to find out about sex and relationships, while the 29% use pornography in order to do so. Males are significantly more likely to have found out about sex and relationships from pornography than females, while females are significantly more likely to have found out about sex and relationships from magazines.
- The 85% of males and 45% of females admitted to having watched porn.
- In terms of watching pornography online, the following data are presented in the examined survey:
 - 73% agree that pornography provides unrealistic expectations.
 - 71% agree that pornography is a standard part of a young person's life now.
 - 60% says that watched pornography because they were curious and they wanted to find out more about sex.
 - 45% agree that watching pornography made them feel self-conscious about their potential/actual sexual performance.

- 42% agree that watching pornography made them feel self-conscious about their bodies.
- 40% agree that watching pornography made them understand more about sex.

The fact that males are significantly more likely to find out about sex and relationships from pornography than females demonstrates that men are more likely to be subject to what I defined above as regime, which regime is organized in terms of the formation of their sexual lives and the use of their bodies as a source of pleasure. Apart from that, due to the analysis of Nikunen's article, the use of magazines as a form of sex and relationships education, which is significantly more likely to occur among women, should not be understood apart from pornography³⁷.

To conclude, men and women do not only use pornography in order to be sexually aroused and acquire sexual pleasure from its use. Additionally to this, men and women watch pornography in order to acquire information about sex and sexuality, about their bodies and in the end to understand more about sex.

Due to the reflexive character of sexual identities in the conditions of modernity, sexual information is important for human beings as a fundamental mode of determining how they interpret their sexuality. Pornography is one source of information, which nowadays penetrates public discussions around sexuality, mainly due to pornification. These issues are important on the grounds that they can help us understand how the information that pornography provides to its users turns to knowledge. Through knowledge human beings formulate relations and ways of action with their environment; in that way knowledge transforms the things and states of affair that we encounter in our environment to things and states of affairs for us (Böhme, 2012). In that sense, knowledge is shaped, on the one hand by the reality that we encounter in our daily lives, and on the other hand by us, as persons, as human beings, as knowing subjects (Böhme, 2012). The information that we acquire through the use of pornography are symbolic representations of sex and human sexuality. In order to turn this kind of information into knowledge, this kind of information "needs to become the basis of a relation to reality established by a human subject, i.e. a person" (Böhme, 2012, p. 196).

In that sense, the definition of knowledge as "a *mode of engagement*, not just with scientifically defined things or states of affair, but with a broader web of social relations too" (Böhme, 2012, p. 196[emphasis in the original]) can provide some useful insights for the incorporation of pornography in our daily lives. The transformation of the "pornographic information" to "sexual knowledge" occurs "when a reference to reality – and that means both a

³⁷ The examined survey took place in the United Kingdom, while Nikunen's essay examined the Finnish website edition of Cosmopolitan. The reasons why I chose to make a connection between these two are the following. Firstly, both Finland and United Kingdom are modern states, namely the conditions of modernity, as they were defined by Giddens, are present in both of these countries. In that sense, it can be said that the analysis around the reflexive project of the self applies to both. Secondly, as I mentioned in the 1st Chapter, plastic sexuality is closely connected with issues that have to do with gender roles and gender identities and issues that have to do with sexual equality. In both of these countries, the total fertility rate for the ages 2011, 2012 and 2013 are 1.8 and 1.9 births per woman for Finland and United Kingdom respectively. In that way, we can say that in these countries we can find more or less the same conditions in terms of sexual equality, reproduction and gender roles and identities. As a result, the conditions in which plastic sexuality, and moreover the reflexive project of the self takes place, seem to have important similarities in these two countries. Social and cultural differentiations exist, however I consider that they cannot significantly alter my argumentation in this matter.

reference to human beings (to people) and a reference to object and states of affair in excess of the system of symbolic representation – is activated and reactivated” (Böhme, 2012, p. 196). The analysis of Nikunen’s article (Nikunen, 2007) and the empirical data of NUS (National Union of Students, 2014) under the light of the notion of bodily regimes (Giddens, 1991) demonstrate that the incorporation of pornography in the “realm of good sex” (Paasonen et al., 2007, p. 14) transforms pornography also to a source of knowledge, and not only of information, about human sexuality and sex.

I do not imply here that pornography should not be defined as sexually explicit material that is intended by its creators to excite sexually its viewers, nor do I imply that pornography is exclusively used as a source of information and knowledge about human sexuality and sex. My point here is that since it does so we should also understand it as a source of information and knowledge about human sexuality and sex, and address it as such. In other words, pornography turns to be not only about the representation of sex, but also about its production, or in the words of Lindsay Coleman and Jacob M. Held:

“Pornography is about more than just sex; it is about the production of sex, the production of media representations of sex and sexuality. So a discourse on pornography also affords us the ability to interrogate the effects that media have on our lives, in this case a specific aspect of our lives: sex and our sexual identities that form the basis of so many of our relationships and identities” (Coleman & Held, 2014, p. xv).

Until now I was focused on the role of pornography and pornification in respect to heterosexuality, since Nikunen’s article is focused on heterosexuality (Nikunen, 2007) and the empirical data of NUS was also focused primarily on heterosexuality (in the examined survey in respect to the question “which of the following best describes how you think about yourself?” the 58% of the respondents identified themselves as women, 41% as men and 1% gave the response “in another way”) (National Union of Students, 2014).

However, pornification has subsequent results for homosexuality, namely gay men and lesbian women, and bisexuality as well. In respect to gay men, Sharif Mowlabocus presents and analyzes the ways in which gay men in United Kingdom³⁸ describe and represent themselves in the profile-based dating website of Gaydar.co.uk (Mowlabocus, 2007). According to his analysis, mainstream gay pornography, namely this kind of gay pornography that has a “homogenizing gay aesthetic – a particular masculinity” (Mowlabocus, 2007, p. 67) as its specific characteristic, is an important parameter that influences the ways in which gay men create their profile in the particular website. Mainstream gay pornography created certain forms of categorization, which forms of categorization was then used by Gaydar.co.uk to integrate its users into a “specific mode of self-description” (Mowlabocus, 2007, p. 68). In that way, mainstream gay pornography and Gaydar.co.uk produced certain kind of gay identities, by producing the media representations of men’s homosexuality. Gaydar.co.uk does not only play a mediating role

³⁸ Due to his focus on Gaydar.co.uk, Mowlabocus defines his findings and conclusions as culturally specific. However, according to Mowlabocus “the culturally specific may be illustrative of wider trends found in gay cultures elsewhere” (Mowlabocus, 2007, p. 62). In my analysis I do not intend to make a general observation on how gay men use these websites, I only aim at describing how pornification can play an important role in the formation of self-identities for gay men, and how we can be informed by such a process.

between gay men that want to meet and interact with each other, it constructs what it means to be gay man by producing certain form of self descriptions, which are borrowed by mainstream gay pornography. In Mowlabocus phrasing, gay pornography “is securing the perimeters of gay identity, forming even more impenetrable boundaries and validating a set of identification and practices at the expense of all other” (Mowlabocus, 2007, p. 71).

In respect to lesbian women, Heather Butler presents a thorough analysis of the evolution of lesbian sex and lesbian sexuality inside the barriers of pornography. According to her analysis the social and cultural position of lesbian women changed between 1968-2000 (which is the era on which Butler is focused) and these changes were also expressed in the ways in which lesbian sexuality was represented in pornographic movies. In addition to this issue Butler argues that the representation of lesbian sexuality in pornography reinforced “the very legitimacy of lesbian sexuality in and of itself” (Butler, 2004, p. 167).

Additionally, pornification has certain results on bisexuality. In pornography, women’s sexuality is presented as fluid, namely “the object of female desire is not defined but contingent” (Kangasvuo, 2007, p. 149). This means that women are expected to be open to have sex with women and men. On the other hand, men’s sexuality is static, this means that “the object of male desire... must be defined” (Kangasvuo, 2007, p. 149). In pornography, “male bisexuality and homosexuality lie frighteningly close to each other” (Kangasvuo, 2007, p. 149); while women are presented as hypersexualized, inherently interested in having sex with other women. As a result, “since all women in porn are ready to have sex with other women, bisexuality loses its commonsensical meaning” (Kangasvuo, 2007, p. 146). Making it more simple, women in pornography are understood as bisexual by definition and as a result bisexuality loses its meaning, while men in pornography are understood as heterosexual by definition³⁹.

The aim of this Section 4.3 was to describe pornification and how pornography acquired its new cultural role and position. In the light of the analysis that took place in the Section 4.3, the aim of the Section 4.4 was to analyze how the proliferation of pornography and its pervasive role in contemporary culture can affect human sexuality by affecting the reflexive organization of our self-identities in issues that have to do with sex and sexuality. In that sense, I tried to present to the reader why examining and analyzing pornography is an important issue, which gets more important in the era of pornification and the new character that pornography receives as a source of information and knowledge about sex and sexuality.

In the following Section I will focus on the ways in which pornography was transformed due to technology, in order to describe the technological dimension of pornography. In that sense, the following Section will contribute to my analysis on pornography by delineating the ways in which pornography is produced, consumed and distributed through different technologies. In the Section 4.6 I will continue this analysis by incorporating important issues that have to do with pornography’s consumption in the era of Web 2.0.

4.5 Technology and Pornography.

³⁹ The article of Kangasvuo that I use for my analysis around bisexuality has as its focus the representation of bisexuality in pornographic magazines in Finland. However, in this issue a generalization can be made, since the same situation holds sway on the websites of the main pornographic production companies.

The aim of this Section is to describe the transformation of pornography due to technology. I will present some important transformations that technology had to pornography and to the “experience of” watching pornography, which transformations does not have only quantitative character, which means that more pornographic materials are available due to technological developments in the production, distribution and consumption of pornography; but also qualitative character, which means that we actually watch a different kind of pornography due to these technological developments.

Pornography is available to its users through a plethora of technological means, for example from printed pornography to image pornography and from audiovisual/video pornography to virtual reality pornography. These are different technologies through which pornography is produced, consumed and distributed. Even though the role of technology is different in each of the aforementioned examples, it is evident that technology is part and parcel⁴⁰ of each of these possible forms of pornography.

According to Don Ihde⁴¹, the notion of human experience is referential, which means that “all experience is experience of something” (Ihde, 1990, p. 22). In that sense, the “experience of”⁴² watching pornography is also referential, and as such it is shaped by the subject of the experience, namely the user of pornography, and the object of the experience, namely pornography as it is constructed and is ready for use/consumption through the different technologies. As a result, the “experience of” watching printed pornography is different from the “experience of” watching video pornography, moreover the “experience of” watching a pornographic video on your video home system differs from the “experience of” watching the same pornographic video through your personal computer.

By focusing on video pornography we can say that there are three main ways through which video pornography was distributed to its users/consumers, through the cinema, through videotapes and through the Internet.

In the cinema pornography, the “experience of” watching a pornographic movie, and moreover the sexual acts and the nudity that this movie included, was following some kind of trajectory. The viewer had no control on the pornographic materials he/she was watching, except from stop watching them. In the case that he/she wanted to be sexually aroused from a pornographic movie, he/she could only go to certain cinemas, which meant that the consumption of pornographic materials was limited and as a subsequent result there were certain limitations also to the production of pornography based on the balance between demand and supply.

In the era of the videotapes, pornography was distributed through video tapes, which were used in the house settings of its users and as a result the “experience of” watching pornography had some sort of privacy, which could not be found in the case of cinema pornography. Apart from that the users of pornography could choose the videotape they wanted to use from a bigger

⁴⁰ Here I adopt Döring’s categorization in terms of Internet sexuality. Döring defines live sex shows as sex work, which sex shows can be broadcasted through the Internet and be categorized as online sex work (Döring, 2009). In that sense, it can be said that not only pornography is available due to technology, but also that pornography is possible due to technology.

⁴¹ The notions that I use in this Section were introduced and analyzed in more detail in the Section 2.2 of the 2nd Chapter of the present thesis.

⁴² As I did in the 2nd Chapter of the present thesis, I also choose to use the terms “experience of” watching pornography, instead of “watching” or “viewing pornography” in order to emphasize the referential character of this experience. In that sense, the “experience of” watching pornography is shaped not only by the people involved in this form of experience, but also by the technologies they use.

variety of pornographic materials in comparison with the era of cinema pornography. Due to the new technology, both the consumption and production of pornography increased, once again based on the balance between demand and supply⁴³. A distinctive characteristic of video tape pornography was also the fact that the viewer could surpass the trajectory that was set by the creators of the pornographic movie he/she was watching; in other words he/she could have some kind of control over his/her experience⁴⁴. By using the new options that technology made possible the viewer could skip forward, skip backwards, stop and pause the movie he/she was watching according to his/her own preferences. This option was not the case in cinema pornography, and in combination with the new form of privacy that the viewer enjoyed in the setting of his/hers house, represents an important transformation of pornography.

These changes came to be magnified by Internet. Nowadays due to the use of Internet and the proliferation of personal computers pornography is easily accessible, affordable and in conditions of anonymity (Cooper, 1998). In some cases the anonymity that someone enjoys in the Internet means that even the regulations that aim to prevent children and young individuals from watching pornography are inactive (i.e. age verification). To conclude, from the passing from cinema to videotape, and then from videotape to Internet pornography, the “demand for” and the “supply of” pornographic material increased accordingly. This process represents a quantitative change in pornography’s production and consumption.

However, the changes on pornography are not only quantitative. In order to understand the qualitative changes in pornography’s development, the notions of microperception and macroperception, as they were defined by Ihde (Ihde, 1990), are important. According to his analysis microperception is the sensory perception that “is immediate and focused bodily” (Ihde, 1990, p. 29) in the actual “experience of” watching pornography. Macroperception is the cultural perception, namely the perception that is shaped by the cultural conditions in which we live and interact with our surrounding world. These “two senses of perception” are closely connected with each other on the grounds that “there is not microperception (sensory-bodily) without its location within a field of macroperception and no macroperception without its microperceptual foci” (Ihde, 1990, p. 29).

This means that whenever we have the “experience of” watching pornography, this experience has two important dimensions. Firstly, the sensory perception that is “immediate and is focused bodily” (Ihde, 1990, p. 29). Secondly, the cultural dimension that has to do with what we as individual interpret as pornographic and what not, in which our sensory perception is located and receives its meaning. Technology, as an important parameter of pornification (Section 4.3), not only shaped what depictions we interpret as pornographic and what not on the level of macroperception, technology also played a role in the transformation of the “experience of” watching pornography on the level of microperception.

As already mentioned, in this issue Ihde’s approach is augmented by Peter-Paul Verbeek. Verbeek states that even though Ihde shows how the changes that the mediated role of

⁴³ As already mentioned in Section 4.3, by adopting simple economic terms, we can say that technology transforms both the demand and the supply for pornographic materials; and it not just the means by which the “demand for” and the “supply of” pornographic materials can be satisfied.

⁴⁴ The present analysis can be expanded to the “experience of” watching pornography through Compact Discs and Digital Versatile Discs, since both of them transformed pornography. However, I chose not to address these issues here because some of the characteristics that pornography had when it was consumed and distributed through Compact Discs and Digital Versatile Discs were based upon the use of personal computers, and as such move close to Internet pornography.

technology has on the level of microperception can lead to subsequent changes on the level of macroperception, he does not show how technological “artifacts help to shape human interpretations of reality not only because they play a role in interpretive frameworks, but also of their role in sensory perception, which determines the very possibilities human beings have for interpreting reality” (Verbeek, 2005, p. 131-132).

On the level of macroperception the following can be said. Due to process of pornification, in which technology plays an important role, our interpretation of what is pornographic and what is not changed. In that sense, a music video clip that would be interpreted as pornographic in the past, it is not interpreted as such in the present (Railton & Watson, 2007). Our macroperception is affected by this transformation, and since our microperception is located “within the field of macroperception” (Ihde, 1990, p. 29) the sensory-bodily dimension of the experience we have when we watch this particular music video clip also changes.

In respect to the level of microperception, the control that someone has over the “experience of” watching pornography due to technology, which was magnified in the era of Internet pornography in comparison to video tape pornography (i.e. skip forward, skip backwards, et cetera) and also received new discernible characteristics (i.e. moving to a particular moment of the pornographic video with the use of the computer mouse, having access to a vast amount pornographic material, searching particular kind of sexual acts, et cetera), shaped human interpretations of pornography both due to the role that this control played in the interpretive frameworks of pornography, but also due to the impact that the control over the “experience of” watching pornography had in sensory perception.

This means that whenever we have the “experience of” watching cinema, video and Internet pornography we have a different experience in respect to our bodily-sensory perception, due to the control over the pornographic materials we watch. As a result, technology shaped the ways in which we as individual perceive pornography in the level of microperception, namely as an experience in which we have control in order to acquire the sexual excitement that we need. This means that technology “produced” another possible way in which pornography can be interpreted. Not as an experience with a certain trajectory, as it was the case in cinema pornography, but as an experience in which the viewer/user has control over the pornographic materials he/she is using. Based on Ihde’s remark that “there is not... macroperception without its microperceptual foci” (Ihde, 1990, p. 29), these issues are closely connected and intertwined with the ways in which we interpret pornography in the level of macroperception.

The cultural conditions in which pornography is embedded continue to play an important role. In addition to those issues, there are certain possibilities that were made possible due to certain technologies. These possibilities opened new channels of development. Towards these new channels of development the users of pornography also played an important role; since how they interpret and how they experience pornography will also be part of this developmental process.

The fact that nowadays there are pornographic videos that are limited in certain kind of sexual acts (i.e. anal sex, oral sex, et cetera) can be understood as a new channel of pornography’s development. In other words, the new technological possibilities that the Internet offers, led to the split of pornographic materials in a plethora of different “subdivisions”.

The fact that the user of pornography has control over the pornographic material he/she is using contributed towards the aforementioned development. As it was already mentioned, in the case of videotape pornography such control existed. However, in the era of Internet pornography this notion of control was magnified. Nowadays, the user can move in the part of the

pornographic video he/she finds more exciting with a simple move of his/her computer mouse; while the options to skip forward, skip backwards, stop and pause remain the same. In other words, the users have the option to use the pornographic material according to their own preferences.

Furthermore, due to the expansion of the “demand for” and the “supply of” pornographic materials, the new search tools that the Internet provided and the fact that a big segment of the “supply of” pornographic materials is always present for the user, primarily through pornographic video sharing websites, lead to further categorizations of the pornographic materials. These categorizations are not only categorizations of the different sex acts, as those mentioned above. They are also categorizations based on a plethora of different parameters, such as the type of the sexual act, the age of the female participant in the sexual act, her ethnicity, the physical characteristics of the participants, the implied/fictional relations among the participants, the amount of the participants in the sexual act, the sexual orientation of the participants, et cetera.

The list of the above categorizations is far from complete. In the pornographic video sharing website of PornHub there are 84 categorizations of sexual acts⁴⁵. Examining the diversity of these categorizations goes beyond the scope of the present analysis. However, one point of importance is that the description of a sexual act that is performed between two heterosexual individuals without the use of any sexual paraphernalia or without characteristic sexual “techniques” is labeled as conventional/vanilla sex. Prior to Internet pornography, and also prior to video pornography, the term conventional/vanilla sex had a different meaning from the meaning it has today; since today it is placed among a variety of different categories. This change was also the product of the technological possibilities that Internet, and also the video home systems, made possible always in combination with how the users interpret pornography. This issue serves as another demonstration that technology is not an instrumental parameter in the production, consumption and distribution of pornography, since due to technology the pornographic materials are transformed and categorized in different ways. The pornographic materials that were produced before the Internet pornography are also transformed and categorized. In that way, sexual acts are labeled as conventional/vanilla sex and pornographic movies are labeled and categorized as vintage and receive a new meaning among the different categorizations of Internet pornography.

The aim of this Section was to present and analyze the role of technology in the transformations of pornography. In order to do so, I made a comparison between cinema, video and Internet pornography and I put emphasis on the new possibilities that Internet pornography made possible for the development of pornography. In the light of the conclusions that I reached in this Section, in the following Section I will move forward to my analysis by examining the form that Internet pornography takes in the conditions of Web 2.0.

4.6 Pornography, Web 2.0 and Persuasive Technologies.

In the previous Section I presented the ways in which the “experience of” watching pornography was transformed due to the role of technology. In that way, I put emphasis on the ways in which pornography was categorized in accordance with a variety of different issues, and the role of

⁴⁵ The presented categorization can be found in the official website of Pornhub. Retrieved May 4, 2016, from <http://www.pornhub.com/categories>.

technology in this process. The aim of this Section is to examine the conjunction between Web 2.0 and pornography, and how persuasive technologies emerge as an issue that we have to take into account whenever we try to address issues that have to do with pornography consumption on the Internet.

In the examples of pornography production, distribution and consumption that I analyzed in the previous Section, namely print, cinema and video pornography, the following can be said. The demand for and supply of pornographic materials can be understood in the “macro level”. The “pornographic market” was not addressing its commodities to individuals; but to populations. My point here is that the producers of pornography did not have any information why certain individuals chose to buy certain pornographic materials and not others; they mainly had the information that pornography sells in some cases while it does not in others.

The same can be said about the categorizations of pornographic materials. Nowadays, as I already mentioned in Section 4.5, the pornographic consumption does not only have to do with naked bodies and sexual acts. It is about a variety of different parameters. In that sense, we can analyze pornography consumption in the “micro” level, by splitting sex into different categories and analyze the market demand for each one of them.

This transition from the macro to the micro level has to do with the transition from a mainly homogenous pornographic product to a heterogeneous one, but also with the transition from the population of users/consumers to the user/consumer as a distinct and independent individual. Once again, this process was made possible due the Internet. Before the Internet, the user could rent a pornographic movie or buy a pornographic magazine, and in each case his/her action was sequestered from what pornographic material he/she bought/rent the previous day or will buy/rend the following one. I would like to mention once again that this action was not completely sequestered from any previous or future experience of watching pornography. But once again, in terms of the use of pornographic material, the connection among the past, present and future use was more or less ascribed only to the user/consumer; and not to the producers, since they did not have the means that they have today in respect to finding and collecting this information.

This fact changed in the era of Internet pornography. Both in the cases of free pornographic video sharing websites and the official websites of pornographic production companies, the use of pornographic material is not sequestered in the ways that were mentioned above. Additionally to the variety of different categorizations, in these websites there are indicators such as “Related Videos”, “Recommended Videos”, “Sponsored”, “Top Rated”, “Most Viewed” and “Favorite Lists”. Moreover, not only the pornographic videos are categorized as “Top Rated”, “Most Viewed”, “Most Popular” and “Most Recent”, but also the pornographic actors and actresses themselves fall into this categorization. In that way, the user of the pornographic materials that are consumed and distributed through the Internet has to take into account what is most “liked” and “viewed”, but also his/her choice will be followed by a recommendation.

These issues demonstrate that Internet pornography must be understood in terms of Web 2.0, but also in terms of persuasive technologies. In order to connect the notions of Internet pornography, Web 2.0 and persuasive technologies, a comparison can be made with the example of Amazon, and how Amazon took advantage of the new possibilities that Web 2.0 and persuasive technologies made available.

Firstly, one of the intrinsic advantages of Web 2.0 is that it allows the “consuming and remixing [of] data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an

“architecture of participation” (O’Reilly, 2007, p. 17). This “architecture of participation” means that Amazon managed to use the information that its consumers provided, for example what product someone searched for in the beginning and what product did he/she buy in the end. Furthermore, this information helped Amazon to create a pattern between different products, and use this pattern in order to make recommendations to its consumers; characteristic examples are the indications “Frequently Bought Together” and “Customers Who Bought This Item Also Bought”. Lastly, consumers can share their thoughts about an item that they bought, make a “Review”, but also participate in a more wider sense by commenting and rating the review’s of others. In the official website of Amazon it is mentioned that “Amazon calculates a product’s star ratings using a machine learned model instead of a raw data average. The machine learned model takes into account factors including: the age of a review, helpfulness votes by customers and whether the reviews are from verified purchases”. This approach emphasizes the role of the “architecture of participation in the promotion of the products of Amazon.

In more detail, Tim O’Reilly states the following:

“Amazon sells the same products as competitors..., and they receive the same product descriptions, cover images, and editorial content from their vendors. But Amazon has made a science of user engagement. They have an order of magnitude more user reviews, invitations to participate in varied ways on virtually every page — and even more importantly, they use user activity to produce *better search results*” (O’Reilly, 2007, p. 23[emphasis added]).

This meant that Amazon uses the possibilities of Web 2.0 in order to use the consumers’ participation as part of the services that Amazon provides, but also that Amazon uses the information that are generated from its consumers in order to provide to them better “search results”. According to Brian J. Fogg, Gregory Cuellar and David Danielson, “although the Amazon online experience may appear to be focused on providing mere information and seamless services, it is really about *persuasion* – buy things now and come back for more” (Fogg et al., 2007, p. 111[emphasis added]). This issue is very important for the form that pornography takes in the conditions of Web 2.0. In that sense, pornographic production companies and pornographic video sharing websites try to persuade their users to use pornographic materials through their websites, and this kind of persuasion is targeting not to populations of users, but to the users as individuals.

Additionally, the example of Amazon can be seen as an example in which computers are used as tools that provide tailored information. The fact that each item in the Amazon’s website is followed by the indications of “Frequently Bought Together”, “Customers Who Bought This Item Also Bought” and third party’s review, which are also connected with the profile and previous purchases of each user, means that Amazon tries to persuade its consumers to buy more by using information that is “pertinent to their needs and contexts” (Fogg et al., 2007, p. 114).

The same approach can be applied to free pornographic video sharing websites and the official websites of pornographic production companies. The indicators of “Related Videos” and “Recommended Videos” create a link between what is watched by the user now, and what he/she would like to watch next. Furthermore, the indications “Top Rated”, “Most Viewed” and “Favorite Lists” inform the user about the basic trends in pornography’s consumption. This also applies to the profile of porn actors and actresses, in which they are rated in terms of being “Most Popular”, “Most Followed”, in terms of the number of scenes in which they participate, in

terms of whether or not they are recent active, and in some cases in a climax between 0 and 10. To all these issues, we have to add the third party's reviews and remarks.

In that way, the free pornographic video sharing websites and the official websites of pornographic production companies do not only provide pornographic material as commodities for use. Due to the possibilities that Web 2.0 made available, they do also use computers as persuasive technologies that provide tailored information and are transformed due to this reason. They do not only provide pornographic material as commodities for use; they do also provide the service of categorizing and connecting the pornographic material that they distribute, providing better search results to its users/consumers and make recommendations to their users in regards of what they would like to see. In other words, these examples demonstrate that "computers act as tools when they tailor information, offering people content that is pertinent to their needs and contexts" (Fogg et al., 2007, p. 114). This means that not only the pornographic materials and the porn actors and actresses are categorized, but also their users in terms of this categorization. Furthermore, the categorization of the users is based upon the information "flow" around the pornographic material that they themselves create due to the consumption of those materials.

In Section 4.2 I mentioned the example of the sex scene between the two protagonists of the movie "Blue is the Warmest Color" (Kechiche et al., 2013). This sex scene is presented in pornographic video sharing websites as pornographic, and is experienced as such by its viewers. This example demonstrates that there is a dialectical relation between pornographic video sharing websites and the material that are shared through these websites. Even though the examined scene is sexually explicit, it has another meaning when it is viewed as part of the examined movie and another meaning when it is viewed from a free pornographic video sharing website. This remark does not aim to minimize the importance of the "sexual meeting of the minds between producer and consumer" (Altman, 2004, p. 224) of pornography that Altman suggest; since this "sexual meeting" is the case for the biggest segment of pornography. However, it demonstrates that free pornographic video sharing websites by providing the service of categorizing and organizing the pornographic material that they distribute, and by using the informational "flow" that their users create, can actually define what is pornographic and what is not, irrespectively of its creator's intentions. A further analysis of this issue goes beyond the purpose of this thesis. However this issue demonstrates how the new possibilities that Web 2.0 made possible have the potentiality to influence what is experienced as pornographic.

4.7 Conclusion.

For the purpose of this Chapter pornography was defined a sexually explicit materials that are intended by its creators to sexually excite its users, who voluntarily pay in money, effort or time to view these materials with the expectation to be sexually aroused by them.

However, any attempt that tries to address the issue of pornography has to take into consideration the notion of pornification. By focusing in the Western world the following can be said. Pornography is easily accessible to its users, primarily due to the Internet, which accessibility results to profound changes in the production, consumption and distribution of pornography. It is legal to produce, consume and distribute pornographic material. And lastly, pornography infiltrated the mainstream media, penetrated the public discussion around sex and as a result the cultural role and position of pornography was transformed. In that way, the pornification of culture, just like the sexualization of culture, should be understood as a process

that changes the cultural conditions in which individuals live and affects how they interpret their sexuality.

This shift in the cultural role and position of pornography in combination with the special conditions of modernity and the emergence of plastic sexuality, transforms pornography and human sexuality. The emergence of plastic sexuality means that human sexuality is reordered in terms of lifestyles. Additionally, in the conditions of modernity our sexual-identities are reflexively organized in the light of new information and knowledge. Due to pornification and the new cultural role and position of pornography, pornography is intertwined with the reflexive organization of the self. This means that, apart from being the source of sexual excitement, pornography is also a source of information and knowledge about sexuality and sex. This role is not restricted in heterosexuality and sex between heterosexual individuals, but also affects non-heteronormative forms of sexuality.

Due to the significance that pornography receives in the conditions of modernity, of plastic sexuality and also due to pornification the “experience of” watching pornography has to be analyzed and addressed in regards to the technologies through which pornography is produced, consumed and distributed to its users. Through the passing from the cinema to video and for the video to the Internet pornography, pornography passed through some changes that led to quantitative and qualitative transformations. Technology affected the privacy that someone enjoys during his/her “experience of” watching pornography, but also the control over the “experience of” watching pornography, and led to certain categorizations that transformed pornography.

In addition to these quantitative and qualitative transformations, the conjunction of pornography with the Web 2.0 led to some further changes. Due to the “architecture of participation” upon which the Web 2.0 is based, the users of pornographic materials on the Internet create a “flow” of information, which flow is used in order to categorize pornographic material as “Most Popular”, “Related Videos”, “Recommended Videos”, et cetera. Due to these categorizations the pornographic video sharing websites and pornographic production companies should be understood, not only as providers of pornographic materials for use, but also as service providers that categorize and connect the pornographic materials they have in their availability in regards to the individual user. In that sense, they use computers as persuasive tools that help them to provide tailored information to their users. This issue should be seen in connection with the categorizations of pornographic materials, on the grounds that more categorizations mean more information, which in the conditions of Web 2.0 are used in order to offer to the users/consumers of pornography content that is pertinent to their needs and contexts.

In the next Chapter I will use my conclusions and argumentation in the 1st, 2nd, 3rd and 4th Chapters in order to present how we should deal with issues that arise from the technological transformation of sexuality. I will argue that issues that have to do with plastic sexuality and the reordering of sexuality in relations to lifestyles, the reflexive organization of our sexual-identities in the condition of modernity and the role of pornography as a source of information and knowledge about sex in the era of pornification should all be addressed under the lens of sexual education.

5th Chapter: The Technological Transformation of Sexuality and the Role of Sexual Education.

5.1 Introduction.

In the 1st Chapter of the present thesis I presented the role that contraception technologies played in the split between sex and reproduction. I argued that the social transformations that followed this split led to the emergence of plastic sexuality. Plastic sexuality is characterized by an increasing sexual equality that affects heterosexual men and women, but also individuals with non-heteronormative sexuality. In addition to this issue, another constitutive characteristic of plastic sexuality has to do with the notion of choice. Due to the emergence of plastic sexuality, sexuality should not be understood as a natural condition of our lives; but as part of our lives that we have to discover in connection with varying lifestyles and make a choice in respect to these lifestyles.

In the 2nd Chapter I analyzed contraception technologies as part of the human-technology relations between individuals and their surrounding world. I defined the “experience of” having sex as a referential experience that is shaped both from the individuals that participate in this experience, but also by the contraception technologies they use. I placed emphasis on the fact that contraception technologies fall in the background of a multiplicity of uses, from which only the avoidance of an unwanted pregnancy was ascribed to them by their designers. Contraception technologies by concealing the connection between sex and reproduction, they also revealed that the “experience of” having sex can take place in connection with other issues that have to do with sexual pleasure, libido/sex drive, et cetera. As a result, contraception technologies transformed our bodily and sensory involvement in the “experience of” having sex. The emergence of plastic sexuality and the reordering of human sexuality in relations to lifestyles are intrinsically connected with contraception technologies, since the role of contraception technologies in the transformation of the “experience of” having sex determined the very possibilities we have for interpreting our sexuality.

In the 3rd Chapter I introduced modernity. In the conditions of modernity our self-identities are reflexively organized in the light of new information and knowledge. Tradition or any other form of established habits lose some of their importance. In that sense, the shaping of our sexuality and our sexual-identities, as part of our self-identities, becomes a reflexive project that is susceptible to revision in the light of new information and knowledge. The human body is a parameter of importance in the reflexive organization of our self-identities in the conditions of modernity. Due to the use of contraception technologies, the human body was transformed in relations to sexuality and as a result the reflexive organization of our sexual-identities takes place in different conditions from those of the past.

In the 4th Chapter I was focused on pornography. I presented and analyzed how pornography acquired a new cultural role and position due to certain technological, legal and cultural developments. I then presented some empirical data that demonstrate that human sexuality is affected by pornography. I argued that it is important to note that due to the new cultural role and position of pornography, plastic sexuality and the reflexive organization of our sexual-identities pornography should also be understood as a source of information and knowledge about sex and sexuality.

In the present Chapter I will connect my analysis and argumentation so far with issues that have to do with sexual education. In order to do so I divided the present Chapter in six main Sections.

In Section 5.2 I will argue that sexual education is an important parameter that we have to address in respect to sexuality due to the issues that arise from plastic sexuality, the reflexive organization of our sexual-identities in the conditions of modernity and pornification.

In Section 5.3 I will present and analyze Bloom's Revised Taxonomy (BRT) (Goldman, 2006; Krathwohl, 2002) and how this approach should be used in connection with sexual education. In order to do so I will use some of my arguments and conclusions in the previous Chapters. In the end of this Section I will present and analyze certain competences and skills that individuals should acquire in order to deal with the reflexive organization of their sexual-identities in the conditions of plastic sexuality and pornification. After this step, I will move to the following Section in which I will give an integrated account of how the issues that I raised in the previous Chapters should be addressed under the lens of sexual education.

In more detail, in Section 5.4 I will present how BRT should be informed by my analysis in the 1st, 2nd, 3rd and 4th Chapters in order to provide a methodology towards sexual education that addresses issues that have to do with plastic sexuality (1st Chapter), with the role of technology in our bodily and sensory involvement in the "experience of" having sex (2nd Chapter), the reflexive organization of our sexual-identities (3rd Chapter) and pornification (4th Chapter).

After Section 5.5, in which I will present the conclusions of the present Chapter, in Section 5.6 I will present the limitations of my analysis. Finally, in Section 5.7 I will present future areas of research to which my analysis and argumentation in this thesis can contribute.

5.2 Why Sexuality Education is Important?

As argued before, pornography should not be understood as an "independent" parameter that has the potentiality to affect our sexual-identities and sexual lives. Pornography has to be understood in connection with the emergence of plastic sexuality and with the reflexive organization of our sexual-identities in the conditions of modernity. The emergence of plastic sexuality means that sexuality is reordered in relation to lifestyles. In that sense, individuals have to make a choice between different lifestyle options in respect to their sexuality, with the incorporation of pornography in their sex lives being one among many. Additionally, due to modernity the formation of our sexual-identities is susceptible to revision in the light of new information and knowledge; and in some cases pornography functions as the source of information and knowledge that have to do with sex and sexuality.

As a result, regulations against pornography that aim to protect young people, adolescents and even adults, to whom the society in which they live recognize the right to participate in sexual relations under certain conditions and requirements, means that these individuals are not considered capable to "engage" with this source of information and knowledge and/or this possible lifestyle option that has to do with sex and sexuality.

A thorough analysis about the regulation of pornography goes beyond the aim of the present thesis. However, even if we accept regulations against pornography on the grounds that pornography can negatively affect our lives (Walker, 2016) or if we accept regulations against certain forms of pornography that depict "life threatening sexual acts", "non-consensual sex" and use abusive language (Saul, 2014); we have to keep in mind that these regulations are only focused on pornography and pornification. As a result, the issues that arise from the emergence

of plastic sexuality and from the reflexive organization of our sexual-identities in the conditions of modernity remain intact. However, as I argued in the previous Chapters, pornography acquired its role as a source of information and knowledge about sex and sexuality due to the emergence of plastic sexuality and the reflexive organization of our sexual-identities. Due to this reason I will not elaborate further on issues that have to do with pornography's regulation. I would limit myself by saying that even if pornography is regulated and certain pornographic materials are banned, we still need an integrated approach towards sexual education, since sexuality would still be reordered in relations to lifestyles and our sexual-identities would be still reflexively organized in the light of new information and knowledge. In that sense, it can be said that the "need" for sexual education strives from the emergence of plastic sexuality and the reflexive organization of our sexual-identities, and this "need" for sexual education becomes more pressing due to pornification and the role of pornography as a source of information and knowledge about sex and sexuality.

Additionally, regulations against pornography become more problematic due to the fact that the casual connection between pornography and certain negative effects that pornography may have to the sex lives of the individuals that use/consume it is not clearly established by empirical data (Altman, 2004; Ferguson & Hartley, 2009; Isaacs & Fisher, 2008; McKee, 2007).

However, there are empirical data that demonstrate that sexual education can mitigate certain negative issues that have to do with sex, such as teen pregnancy and dissemination of sexually transmitted diseases and infections. In comparison with other developed countries with which the USA has more or less similar cultural, social and economic characteristics, the USA has substantially higher levels of teen pregnancy (Stanger-Hall & Hall, 2011) and of dissemination of sexually transmitted diseases and infections (Advocates for Youth, 2009). According to Kathrin F. Stanger-Hall and David W. Hall, the reason why this situation holds sway in the USA in respect to teen pregnancy has to do with sexual education (Stanger-Hall & Hall, 2011). According to their argumentation and analysis, most European countries adopt the approach of the World Health Organization, according to which "a person's sexuality is experienced in different ways at different stages of his or her life" (World Health Organization, 2010, p. 17) and as a result the expression and shaping of sexuality is recognized as a lifelong process.

This approach was not adopted by the USA. USA adopted the abstinence-only approach, which promotes "abstinence behavior through emotion, such as romantic notions of marriage, moralizing fear of STDs [Sexually Transmitted Diseases], and by spreading scientifically incorrect information" (Stanger-Hall & Hall, 2011, p. 9). Additionally, it has to be mentioned that due to the "Teen Pregnancy Prevention Initiative" of 2009, the legislators of the individual States of USA can now decide "which type of sexual education (and which funding option) to chose" (Stanger-Hall & Hall, 2011, p. 1) in order to reduce teen pregnancy rates and the dissemination of sexually transmitted diseases and infections. On the one hand, they can chose the abstinence-only approach according to which sexual activity should be delayed until marriage and issues that have to do with contraception should not be addressed in sexual education programs. And on the other hand, they can choose the "Teen Pregnancy Prevention Policy" that is based upon "research- and evidence-based efforts" (Stanger-Hall & Hall, 2011, p. 1) that aim to reduce teen pregnancy and the dissemination of sexually transmitted diseases and infections.

By taking these two options into consideration, Stanger-Hall and Hall made the following categorizations of sexual education programs in the USA. "Level 3" describes the education programs in which abstinence is stressed as the fundamental parameter of sexual education.

“Level 2” describes the education programs in which the aim of sexual education is to promote abstinence, but discussions about contraception are not prohibited. “Level 1” describes the education programs in which abstinence is covered as part of a more general and integrated approach towards sexual education that includes also the coverage of sexually transmitted infections and diseases and accurate information about contraception. And lastly, “Level 0” that describes the education programs in which abstinence is not specifically mentioned as part of the sexual education program. According to their research, as we move from the “Level 3” to the “Level 0” the rates of teen pregnancy and dissemination of sexually transmitted infections and diseases do drop, even after accounting for other factors such as socio-economic status, education attainment and ethnic composition (Stanger-Hall & Hall, 2011). These issues demonstrate the importance of sexual education, at least in the cases of teen pregnancy and dissemination of sexually transmitted diseases and infections.

By taking these issues into consideration, in the following Section I will present and analyze BRT and how this approach should be used in connection with sexual education. I will also present and analyze certain competences and skills that individuals should acquire in order to deal with the reflexive organization of their sexual-identities in the conditions of plastic sexuality and pornification. In order to do so, I will incorporate some of my arguments and conclusions in the previous Chapters of the present thesis. After this step, I will move to the Section 5.4 in which I will give an integrated account of how the issues that I raised in the present thesis should be addressed under the lens of sexual education.

5.3 Sexuality and Education.

The aim of this Section is to present and explain BRT and how this approach should be used in connection with issues that have to do with sexual education. Additionally, I will present some competences and skills that are important for sexual education.

According to Juliette D.G. Goldman, “much sexual education appears to be anchored in Bloom’s lowest levels of thinking namely Remembering, Comprehension and some in Application”, while “Bloom’s top three levels namely Analysis, Evaluation and Creating, exhibit the sorts of thinking that a meaningful adulthood requires, especially in all kinds of human relationships, and in personal management skills” (Goldman, 2006, p. 83). In that sense, the ability to remember certain information about sexuality (Knowledge/Remembering⁴⁶), the ability to understand the meaning of certain notions (Comprehension) and the ability to apply or use certain information and certain notions in a new situation (Application) are not enough in order to help individuals to develop certain skills in terms of their sexuality.

In addition to these skills, individuals must acquire certain skills and competences in terms of Analysis, Evaluation and Creating. Analysis has to do with the ability to “separate concepts into parts” (Goldman, 2006, p. 88). Evaluation has to do with the ability to “make a judgment about the value of ideas and their connections” (Goldman, 2006, p. 88). And lastly, Creativity occurs when “disparate elements are explored and gathered into a newly conceived coherent whole which produces an intellectual advancement” (Goldman, 2006, p. 88).

⁴⁶ The terms Remembering and Knowledge are used interchangeably by Goldman (Goldman, 2006) and they are considered to have the same meaning. I adopt the same approach for the following analysis in this Chapter.

This approach can help us describe what kind of issues sexual education should include. However, it can be augmented in order to address these issues more sufficiently (Goldman, 2006; Krathwohl, 2002). In order to present how this approach can be augmented I invite the reader to consider the following example: “The learner shall be able to remember Newton’s first law of motion”. The above sentence can be divided in two parts. The first part has to do with the cognitive process that is expected by the learner. In the examined case this cognitive process is to “remember”. The second part has to do with the subject matter that he/she should remember, namely Newton’s first law of motion.

In that way, the above sentence is referring to the first level of BRT, which is Remembering/Knowledge. Even though the level of Remembering/Knowledge is divided into different categories, such as knowledge of terminology, of conventions, of criteria, of methodology, et cetera (Krathwohl, 2002), the categorization of the examined sentence as Remembering/Knowledge creates a certain form of “unidimensionality” (Krathwohl, 2002). This means that the categorization of the examined sentence as Remembering/Knowledge does not place the needed emphasis on the second part of the sentence, which is “Newton’s first law of motion”. In order to surpass this “unidimensionality”, David R. Krathwohl proposed a second dimension of categorizations, which is focused on the subject matter that the educator tries to address, and not on the cognitive process that is expected from the learner.

These categorizations are the following (Krathwohl, 2002, p. 214):

- Factual Knowledge: “The basic elements that students must know to be acquainted with a discipline or solve problems in it”.
- Conceptual Knowledge: “The interrelationships among the basic elements within a larger structure that enable them to function together”.
- Procedural Knowledge: “How to do something; methods of inquire, and criteria for using skills, algorithms, techniques, and methods”.
- Metacognitive Knowledge: “Knowledge of cognition in general as well as awareness and knowledge of one’s own cognition”.

As a result, Bloom’s Original Taxonomy with its “unidimensionality” is replaced by BRT, which has two dimensions and allows us to put the needed emphasis not only on the cognitive process that is needed by the learner, but also on the character of the subject matter that is included in the educational process (Krathwohl, 2002), as it is presented in Table 2⁴⁷.

In that sense, certain issues that have to do with sexual education can be categorized and analyzed in connection with BRT. For example, the issue of pornography and the role of pornography in the reflexive organization of our sexual identities in the conditions of modernity, but also in connection with the emergence of plastic sexuality, can also be addressed in connection with this revised taxonomy. In the lines to follow I will give some examples and I will connect these examples with BRT.

In order to do so, I invite the reader to imagine the following example. A teacher describes in class the process of pornification (Section 4.3) and connects this issue with a class assignment. In that way, the teacher gives to his/her students the following tasks:

⁴⁷ The presentation of the revised Bloom’s taxonomy was adopted from (Krathwohl, 2002).

- [1] Remember the three levels of pornification (viz. culture, legislation and technology).
- [2] Explain the consequences of pornification in the visibility of pornography in your daily life.
- [3] Prepare a comprehensive argument which can inform individuals, with extra emphasis on young people, about the possible negative consequences that pornification may have for them.

Table 2: Revision of Bloom's Taxonomy

<i>The Knowledge Dimension</i>	<i>The Cognitive Dimension</i>					
	1. Remember	2. Understand	3. Apply	4. Analyze	5. Evaluate	6. Create
A. Factual Knowledge	A1	A2	A3	A4	A5	A6
B. Conceptual Knowledge	B1	B2	B3	B4	B5	B6
C. Procedural Knowledge	C1	C2	C3	C4	C5	C6
D. Metacognitive Knowledge	D1	D2	D3	D4	D5	D6

The 1st objective of the examined assignment has to do with remembering/knowledge of the three levels of pornification; in that sense this objective is categorized as “1. Remember”. In addition to this, the three levels of pornification should be understood as elements that are important in order to address issues that have to do with pornification; as a result this objective is categorized as “A. Factual Knowledge”. The 1st objective is placed in cell A1 of Table 2.

The 2nd objective of the examined assignment has to do with explaining. In that sense, the learner has to create a link between pornification and the cultural visibility of pornography in his/her daily life, which task is based upon his/her ability to determine the connection between these two and understand how pornification affects his/her daily life. As a result this objective is categorized as “2. Understand”. Additionally, in the 2nd objective the learner has not only to remember and identify some aspects of pornification. He/she must interconnect images, texts, videos, attitudes, et cetera from his/her daily life with the notion of pornification; in that sense this objective is categorized as “B. Conceptual Knowledge”. The 2nd objective is placed in cell B2 of Table 2.

The 3rd objective of the examined assignment has to do with argumentation. This argumentation has to be based on the knowledge that the learner has already acquired with the process of pornification and his/her personal intuition in this matter. By putting these elements together he/she has to make an argumentation in respect to pornification and its possible affects on the daily lives of individuals, with an extra emphasis on young people. As a result this objective is categorized as “6. Creating”. In terms of the 3rd objective the learner has to specify how pornification can affect our daily lives, and in order to do so he/she has to interconnect the process of pornification with the daily lives of individuals. As a result, this objective is categorized as “B. Conceptual Knowledge”. Additionally, he/she has to determine how his/her argumentation can be adopted in respect to the special conditions of the lives of individuals that he/she tries to help, such as age, gender, educational backgrounds, moral believes, et cetera. As a

result, this objective is also categorized as “C. Procedural Knowledge”. The 3rd objective is placed in cells B6 and C6 of Table 2.

Another example can be given in terms of metacognitive knowledge. According to John H. Flavell:

“Metacognitive knowledge consists primarily of knowledge or beliefs about factors or variables act and interact in what ways to affect the course and outcome of cognitive enterprises” (Flavell, 1979, p. 907).

This means that in respect to the formation of their sexuality, learners/students should learn what factors influence their views about sexuality. One example can be given here in connection with my analysis in the Section 4.4 of the 4th Chapter. In this Section I used the analysis of Kaarina Nikunen in order to demonstrate that pornography affects the formation of our sexual-identities. In her analysis about online discussions about sex Nikunen argues that pornography is used as a source of information and knowledge about sex. Due to this fact, knowing about certain sexual techniques is understood as very important. Additionally, during sex women’s acquisition of sexual pleasure is intertwined with the acquisition of sexual pleasure by their partners, which means that women tend to hide their personal reluctance or even disgust in order to give pleasure to their sexual partners.

If we connect this analysis with Flavell’s quotation, we can say that pornography is a factor of importance when the women that participate in the examined online discussions think about sex and reach the “outcome” that avoiding your personal reluctance or disgust is not as important as it is to give sexual pleasure to your partner. Other important issues here are modernity and the emergence of plastic sexuality. Since due to the emergence of plastic sexuality individuals have to reorder their sexuality in relations to lifestyles, and due to modernity our sexual-identities are reflexively organized in the light of new information and knowledge. As it was argued, pornography receives its meaning as a source of information and knowledge around sex in this context.

An example that can encompass issues that have to do with the reordering of sexuality in relations to lifestyles, the reflexive organization of our sexual-identities and pornography is presented by Goldman:

“Analyze all the factors that influence a young person’s attitudes to sexuality, and synthesize it into a coherent whole with critical suggestions for improved sexuality education” (Goldman, 2006, p. 93).

In terms of the cognitive dimension, the above objective demands from the learner the ability to analyze, namely “breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose” (Krathwohl, 2002, p. 215), and the ability to create, namely “putting elements together to form a novel, coherent whole or make an original product” (Krathwohl, 2002, p. 215). In terms of the knowledge dimension, the above objective has to do with metacognitive knowledge. In that sense, the learner has to critically reflect on the factors that influence young people’s thinking and reflection in respect to their sexuality. As a result, this objective is placed in cells D4 and D6 of Table 2.

Additionally, metacognitive knowledge can help individuals to surpass the negative influence that pornography can have in their sex lives. Towards that direction Sharon Horne and Melanie J. Zimmer-Gembeck propose a multidimensional measure of sexual subjectivity (Horne & Zimmer-Gembeck, 2005).

The multidimensional measure of sexual subjectivity that Horne & Zimmer-Gembeck propose is focused on female individuals. However, I chose to expand their analysis in order to include male individuals, but also people with non-heteronormative sexuality. I chose to do so in accordance with my argumentation in Section 4.4 of the 4th Chapter, in which I argued that pornification has importance consequences to heterosexual men and women and to individuals with non-heteronormative sexuality. Another reason why I chose to do so has to do with my argumentation in Section 1.4 of the 1st Chapter, in which I argued that the emergence of plastic sexuality influenced heterosexual men and women; but also individuals with non-heteronormative sexuality. Additionally, it has to be noted that many scholars support the idea that healthy sexual development should move from the gender-specific approaches of the past to models that integrate men, women and individuals with non-heteronormative sexuality (McKee et al., 2010; Tolman et al., 2003).

In their analysis Horne & Zimmer-Gembeck mention the following:

“Sexual subjectivity emerges not only from the experiences of the body and associated pleasures but also from emotional and cognitive interaction and reflection. It is through metacognitive sexual-reflection that individuals are able to know their sexual selves” (Horne & Zimmer-Gembeck, 2005, p. 28).

This means that individuals have to be able to critically reflect and analyze their sexual experiences in relations to their body esteem, their experience of pleasure and also in connection with factors and variables that shape their “cognitive enterprises” (Flavell, 1979, p. 907) in respect to their sexual experiences.

In connection with my analysis in the previous Chapters the following can be said. Firstly, in terms of bodily esteem, individuals have to understand and reflect in their bodily characteristics in relations to “positive self-perceptions of attractiveness and sexual desirability” (Horne & Zimmer-Gembeck, 2005, p. 28). This issue becomes more important due to the sexualization of culture, due to which “a person’s value comes from his or her sexual *appeal* or *behavior*, to the exclusion of other characteristics” (American Psychological Association, 2007, p. 1[emphasis added]). The issue of sexual behavior becomes even more pressing due to pornification (Sections 4.3 and 4.4).

Secondly, in terms to the experience of pleasure during sex, Horne and Zimmer-Gembeck mention that in order to experience sexual pleasure during sex an individual “must possess a sense of entitlement to these feelings (from self and partner) and a feeling of efficacy in achieving sexual pleasure” (Horne & Zimmer-Gembeck, 2005, p. 28). This issue has to be understood in connection with the empirical data that I presented and analyzed in Section 4.4 of the 4th Chapter. According to Kaarina Nikunen’s argumentation, pornography serves as a source of information around sex in the online discussions among women, with subsequent results on how women understand sexual pleasure during sex. In the examined discussion, avoiding personal reluctance or even disgust was not considered to be as important as performing well in sex and giving pleasure to their sexual partners. Nikunen’s analysis is limited to women, and as a result also her conclusions. However, in terms to sexual pleasure the impact of pornography is

more general. Nikunen mentions that in these discussions “sex is largely defined in terms of positions and techniques as supposed to emotional aspects” (Nikunen, 2007, p. 78).

This issue affects also men, and how they perceive their sexuality. In their analysis, Deborah L. Tolman, Meg I. Striepe and Tricia Harmon point to a comparison between boys and girls. During their endeavor to create a model for sexual healthy development for boys, they found out that the public discourse about male sexuality that “positioned boys as being driven by sexual desire and as sexual predators with no interest in emotions or relationships” (Tolman et al., 2003, p. 9) was not coming in accordance with the empirical data that they collected. According to these empirical data, “boys described wanting emotional connection, so it made sense to include this and other features we have identified as aspects of adolescent girls’ sexual health” (Tolman et al., 2003, p. 9) to the boys model for sexual healthy development. As a result, it seems plausible to say that the definition of sex in terms of technique, and not in terms of emotional aspects, is an issue that will affect men also. Additionally, this remark can be expanded to individuals with non-heteronormative sexuality, since pornification is closely related with these forms of sexuality, too.

Thirdly, the issue of metacognitive sexual-reflection can be divided into two important dimensions. On the one hand, individuals should acquire the basic competences and skills in respect to the “experience of” watching pornography (Section 4.5). In this issue, individuals should be competent in mediated sexuality, which means that they should have skills in regards to the issue of “accessing, understanding, critiquing, and creating mediated representations of sexuality in verbal, visual, and performance media” (McKee et al., 2010, p. 18). By taking into account the definition of pornography as a source of information and knowledge about sex and sexuality (Section 4.4), individuals should be able to analyze and evaluate pornography, not only as the media representation of sex and sexuality, but also as the “genre” that shapes what is understood as good sex (Paasonen et al., 2007). The issue of persuasive technologies and how persuasive technologies are used in respect to the production, distribution and consumption of pornographic materials through the Internet (Section 4.6), should be seen in support to the need of sexual education in terms of metacognitive knowledge in this issue. Since pornographic production companies and pornographic video sharing websites use the data of the individuals that consume pornography in order to provide to their users/consumers the “content that is pertinent to their needs and contexts” (Fogg et al., 2007, p. 114).

On the other hand, individuals should be resilient in the cases that pornography is inappropriately adopted by their sex partners, and due to this issue they engage in a sexual act in which they feel that they are not entitled to the feeling of sexual pleasure. According to McKee et al., resilience’s importance strives from the fact that risk is an unavoidable parameter of learning, and as a result of sexual learning, too. In order to acquire the skill of resilience, individuals should “develop agency in order to facilitate resilience so that bad sexual experiences are opportunities for learning rather than being destructive” (McKee et al., 2010, p. 17). In regards to this matter, once again the analysis of Nikunen comes up (Nikunen, 2007). However, it is important to note here the importance of plastic sexuality and of the reordering of sexuality in relations to lifestyles, but also of the reflective organization of our sexual identities in the conditions of modernity. As mentioned before, according to the World Health Organization, “a person’s sexuality is experienced in different ways at different stages of his or her life, as the sexual health needs and chosen forms of sexual expression alter” (World Health Organization, 2010). This means the learning about sexuality is a lifelong process, which is shaped by new information and knowledge, by the age of the individual and by his/her choices in respect to

his/her sexuality. This means that resilience should not be strictly understood in relation to pornography. Resilience should be understood as a skill that is need due to the emergence of plastic sexuality and the reflective organization of our sexual-identities in the conditions of modernity.

In this Section I presented BRT and certain skills and competences that sexual education should address. In order to do so I made certain connections with my argumentation and conclusions in the previous Chapters. In the following section I will present how BRT should be informed by my argumentation and conclusions in this thesis, in order to propose a methodology of sexual education that is informed by the role of technology in the transformation of sexuality.

5.4 How should Sexual Education be informed by the Role of Technology in the Transformation of Sexuality?

The aim of this Section is to augment BRT with my analysis and argumentation in the previous Chapters of this thesis, in order to analyze how sexual education should be informed by the role of technology in the transformation of human sexuality.

In order to do so I am going to use certain examples of BRT, and how these examples can be augmented by my analysis in the previous Chapters. I will present these examples separately for each Chapter, and I will also connect them both with the knowledge and cognitive dimension of BRT, as these dimensions were presented and analyzed in the previous Section.

In the 1st Chapter of the present thesis I presented and analyzed the role of technology in the emergence of plastic sexuality. In connection with my analysis and argumentation in this Chapter the following learning objectives can be proposed:

- Cognitive Dimension: Analyze/Knowledge Dimension: Procedural → C4
Explain the role of technology in the split between sex and reproduction that contributed to the emergence of plastic sexuality.
- Cognitive Dimension: Evaluate/Knowledge Dimension: Conceptual → B5
Present an argument in support of better sexual education due to the role of technology in the emergence of plastic sexuality and the reordering of sexuality in relations to lifestyles.
- Cognitive Dimension: Create/Knowledge Dimension: Procedural → C6
Explain the role of technology in the transformation of the normative practices in respect to sexuality and reproduction.

In the 2nd Chapter of the present thesis I presented and analyzed the role of technology in respect to our bodily and sensory involvement in the “experience of” having sex. In connection with my analysis and argumentation in this Chapter the following learning objectives can be proposed:

- Cognitive Dimension: Remember/Knowledge Dimension: Factual → A1
What is the definition of contraception technologies?
- Cognitive Dimension: Analyze/Knowledge Dimension: Procedural → C4
Explain the following phrase: “Due to contraception technologies we can have both close-to-“natural” and pregnancy-free sexual relations”.
- Cognitive Dimension: Analyze/Knowledge Dimension: Metacognitive → D4

One of your friends tells you that he/she has more sex in terms of frequency, but he/she feels that this issue does not positive affect his/her sexual life. Do you think that your friends' condition is affected by contraception technologies? Justify your answer.

In the 3rd Chapter of the present thesis I presented the notion of modernity and how our sexual-identities are reflexively organized in the light of new information and knowledge. In connection with my analysis and argumentation in this Chapter the following learning objectives can be proposed:

- Cognitive Dimension: Analyze/Knowledge Dimension: Procedural → C4
Distinguish the characteristics that differentiate modernity from pre-modern eras in respect to the formation of our sexual-identities.
- Cognitive Dimension: Create/Knowledge Dimension: Metacognitive → D6
Create a list of suggestions for individuals, with emphasis on young people, about how to deal with the role of technology in terms of the sensuality of their bodies and the bodily regimes to which they are subject to.
- Cognitive Dimension: Create/Knowledge Dimension: Metacognitive → D6
Analyze the source of information about sex and sexuality that individuals encounter in their daily lives, i.e. psychologists, doctors, psychiatrists, magazines for women, men's lifestyle and entertainment magazines, newspapers, movies, scientific articles and magazines, et cetera, and create an argument on how this kind of information is connected with plastic sexuality and the reflexive organization of our sexual-identities in the conditions of modernity.

In the 4th Chapter of the present thesis I elaborated further in respect to pornography and pornification and I argued that pornography should also be understood as a source of information and knowledge in terms of sex and sexuality, due to the emergence of plastic sexuality and also due to the reflexive organization of our sexual-identities. In connection with my analysis and argumentation in this Chapter the following learning objectives can be proposed:

- Cognitive Dimension: Analyze/Knowledge Dimension: Metacognitive → D4
Examine how does pornography in the conditions of pornification and plastic sexuality influence the formation of our sexual-identities. What are your conclusions in this matter?
- Cognitive Dimension: Analyze/Knowledge Dimension: Procedural → C4
Explain the reasons why should we be competent in mediated representations of sexuality that we come across with when we are watching pornography.
- Cognitive Dimension: Analyze/Knowledge Dimension: Procedural → C4
Prepare a comprehensive argument why it is advantageous for individuals, especially young people, to acquire competences and skills in order to critically analyze and evaluate pornography as a source of information and knowledge about sex and sexuality in the conditions of plastic sexuality.

As a result, in accordance with my analysis and argumentation in the previous Chapters, BRT should be informed and augmented due to the role of technology in the transformation of sexuality as follows:

- A1 → Cognitive Dimension: Remember/Knowledge Dimension: Factual.
- Technological properties of contraception technologies.
- B5 → Cognitive Dimension: Evaluate/Knowledge Dimension: Conceptual.
- Technology, plastic sexuality and the reordering of sexuality in relations to lifestyles.
- C4 → Cognitive Dimension: Analyze/Knowledge Dimension: Procedural.
- Technology, reproduction and plastic sexuality
 - Contraception technologies and close-to-“natural” and pregnancy free sexual relations.
 - Modernity’s dynamism.
 - Competence in mediated representations of sexuality and pornification.
 - Competence in mediated representations of sexuality, plastic sexuality and modernity.
- C6 → Cognitive Dimension: Create/Knowledge Dimension: Procedural.
- Technology and the normative practices in terms of sexuality and reproduction.
- D4 → Cognitive Dimension: Analyze/Knowledge Dimension: Metacognitive.
- Technology and the creation of the possibilities we have for interpreting our sexuality.
 - Pornification, plastic sexuality and the reflexive organization of our sexual identities.
- D6 → Cognitive Dimension: Create/Knowledge Dimension: Metacognitive.
- Technology, sensuality of the body and bodily regimes.
 - Plastic sexuality and the reflexive organization of our sexual identities in the light of new information and knowledge.

As the above list demonstrates, sexual education should be more focused on Analysis, Evaluation and Creation, which according to Goldman “exhibit the sorts of thinking that a meaningful adulthood requires, especially in all kinds of human relationships” (Goldman, 2006, p. 83). Additionally, in terms of the knowledge dimension sexual education should focus on procedural and metacognitive knowledge.

5.5 Conclusion.

Contraception technologies were created in order to reduce the possibility of pregnancy that a sexual act entails; this was the functionality that was inscribed to these technologies by their designers. By concealing the connection between sex and reproduction, contraception technologies revealing other aspects of the “experience of” having sex. In that way the role of contraception technologies in the bodily and sensory involvement of the individuals that use them “determine[d] the very possibilities human beings have for interpreting” (Verbeek, 2005, p. 132) their sexuality (2nd Chapter). Due to this role of contraception technologies in the transformation of the “experience of” having sex, but also due to social changes that followed, human sexuality is “no longer a natural condition which an individual accepts as a preordained state of affairs” (Giddens, 1992, p. 15). Human sexuality is intrinsically connected with sexual

equality (which sexual equality affects men, women and individuals with non-heteronormative sexuality) and with the issue of choice. In that sense, human sexuality is reordered in relations to lifestyles and it receives its plastic character (1st Chapter).

Additionally, the reflexive organization of our sexual identities in the conditions of modernity should also be incorporated in the discussion around sexuality. In the conditions of modernity our sexual identities, as part of our self-identities, are reflexively organized in the light of new information and knowledge (3rd Chapter). The human body is an important parameter in that respect and contraception technologies transformed the bodily regimes to which the human body is subject to. In that sense, men, women and people with non-heteronormative sexuality shape their sexual-identities in a context in which plurality of choice prevails in respect to sexuality (1st Chapter); but also in conditions in which their sexual-identities are revised and reflexively organized in the light of new information and knowledge (3rd Chapter).

In this content, pornography receives another meaning. Even though we should not neglect that the proliferation of pornography is based on the fact that causes sexual excitement to its users, we have to add that pornography serves also as a source of information and knowledge about sex and sexuality (Section 4.4). As a result, any approach that supports regulations of pornography is limited only to pornography itself, without taking into consideration issues that have to do with plastic sexuality, the impact of contraception technologies in our sex lives and the reflexive organization of our sexual identities in the conditions of modernity. In that sense, sexual education emerges as an important issue that we have to address.

My proposition to this issue is that sexual education, with an emphasis on procedural and metacognitive knowledge, can help individuals to deal with the issues that arise from the technological transformation of sexuality. Additionally, competence in mediated sexuality and resilience were presented and analyzed as issues that can help individuals in that respect.

5.6 Limitations of the Present Research.

In the present thesis I presented how technology transformed sexuality and I presented how this transformation should be addressed as an issue of sexual education. However, there are certain limitations in the present analysis that demand attention.

I would like to begin with how the issue of pornography was addressed in the present thesis. My basic aim was to present pornography as a source of information and knowledge about sex and sexuality, which receives its importance due to plastic sexuality and the reflexive organization of our sexual-identities in the conditions of modernity. Due to this reason I did not put the needed emphasis on the fact that pornography is not homogeneous. According to Susanna Paasonen “pornography should not be approached as a singular entity” and “porn futures need to be thought of as plural” (Paasonen, 2007, p. 169). My analysis in the Section 4.5 about the categorizations of pornography can be used as an entry point towards that discussion, however is far from complete. In that sense, when we talk about pornography we should not refer to Pornography, with capital T, but also to the different categorization of pornography. This issue becomes more evident due to the proliferation of that is defined as feminist and alternative pornography (Lust, 2015; May, 2011; Saul, 2016). In this kind of pornography, some of the elements that are part and parcel of “mainstream” pornography are abandoned. Alternative and feminist pornography can have some very important consequences in respect to the definition of pornography as a source of information and knowledge about sex and sexuality. While alternative and feminist pornography can cause sexual excitement to its viewers, just like the

“mainstream” pornography does, their role as a source of information and knowledge about sex and sexuality is very different, since, as noted above, they strongly differ in comparison with “mainstream” pornography.

Secondly, in the 1st Chapter I was focused on plastic sexuality, and in order to do so I used Anthony Giddens analysis and elaboration on issues that have to do with plastic sexuality. According to Giddens’ analysis, plastic sexuality is also connected with the notion of pure relationship. A further elaboration on pure relationship would complex the present thesis. However, it has to be mentioned that when it comes to plastic sexuality, and Giddens’ work is the main source of insights, as is the case with the present thesis, pure relationship should also be addressed. According to Giddens, pure relationship “is part of a generic restructuring of intimacy” and “is in some causally related ways parallel to the development of plastic sexuality” (Giddens, 1992, p. 58).

Thirdly, during the present thesis I used literature and also empirical data that were social and culturally specific in order to make certain generalization. Unfortunately, this may distort my argumentation in many cases. One evident example has to do with Section 5.2, in which I used the multidimensional measure of sexual subjectivity that is proposed by Horne and Zimmer-Gembeck (Horne and Zimmer-Gembeck, 2005) and I applied it to men and individuals with non-heteronormative sexuality, while this model is focused on female individuals. As I already mentioned, some scholars already identified the need that healthy sexual development should move towards gender models that integrate men, women and individuals with non-heteronormative sexuality (McKee et al., 2010; Tolman et al., 2003). To the best of my knowledge, expect from McKee et al. (McKee et al., 2010), little work has been done towards this direction.

5.7 Future Research.

As already mentioned in the previous Section, “pornography should not be approached as a singular entity” and “porn futures need to be thought of as plural” (Paasonen, 2007, p. 169). Nowadays, Paasonen’s quotation becomes more evident in relation with how pornography’s users place themselves in respect to the “experience of” watching pornography. In order to understand one important parameter that has to do with the “experience of” watching pornography in that respect I will use Don Ihde’s approach towards embodied and disembodied experience. Don Ihde analyzed the responses of his students when he asked them to imagine doing something they had not done before. A big part of his students chose to imagine how it would be to fly and described this imaginary experience in connection with examples of parachute jump. In the description of this imaginary experience, Ihde’s students were divided in two parts. Some of them adopted the embodied, and some of them the disembodied description (Ihde, 2002). On the one hand, the embodied parachutist “described takeoff, attaining altitude, the leap from the open door to experience the rush of wind in the face, the sense of vertigo felt in the stomach, and the sight of the earth rushing toward the jumper” (Ihde, 2002, p. 4). On the other hand, the disembodied “describer sees an airplane take off, climb, and sees someone (identified with himself or herself) jump from the door and speed toward the earth” (Ihde, 2002, p. 4).

According to Ihde, the embodied perspective refers to “a full or multidimensional experience”, while the disembodied perspective refers to “a visual objectification of presumed body experience” (Ihde, 2002, p. 4). These issues can be connected with POV pornography. The

acronym POV refers to the phrase “Point Of View”. In POV pornography the male participant carries a camera, and the whole pornographic material is recording from this perspective. The “experience of” watching POV pornography is a different kind of experience, since we have a different bodily and sensory involvement in this kind of “experience of” watching pornography. The advent of Virtual Reality (VR) pornography will intensify this issue. However, the discussion around this form of pornography, namely POV or VR, should not be limited only in its “effects” (i.e. sexual arousal, sexual excitement), but it should include issues that have to do with the role of pornography as a source of information and knowledge about sex and sexuality.

Additionally, in Section 4.6 I presented and analyzed how the conjunction between Web 2.0 and pornography transformed pornography. I argued that pornographic production companies and free pornographic video sharing websites provide tailored information to their users in order to “persuade” them that these companies can offer them the “content that is pertinent to their needs and contexts” (Fogg et al., 2007, p. 114), and this kind of tailored information is based on the “flow” of information that the users of pornography create. In that sense, the conjunction between Web 2.0 and pornography should be seen as a form of surveillance. According to David J. Phillips and Carolyn Cunningham, “surveillance is a process of knowledge production in which entities are uniquely identified, their activities tracked and recorded, those records analyzed for patterns and norms, and those norms applied back to individuals in the population” (Phillips & Cunningham, 2007, p. 32). This means that the use of persuasive technologies by pornographic production companies and free pornographic video sharing websites is also an issue of surveillance. In that sense, the interrelations between persuasive technologies, surveillance and the production, distribution and consumption of pornography in the era of Web 2.0 emerge as promising fields of research, especially under the lens of philosophy of technology. Moreover, due to the role of pornography as a source of information and knowledge about sex and sexuality, the issue of surveillance becomes more pressing and demands more attention.

Lastly, even though I gave a lot of emphasis on how the Internet transformed pornography, and led to the situation in which pornography is easily accessible, affordable for use and under conditions of anonymity, I did not address the issue of sexual education in connection with the Internet. Even though, sexual education should be an important issue that should be addressed by parents, teachers and other professionals, it is also an issue that can be addressed through the Internet. On the grounds that the Internet can be proved to be a “rich, interactive, individualized pedagogical tool with the strengths of well-validated behavioral science theory in order to provide effective sex education to large numbers of individuals in a very cost-effective fashion” (Barak & Fisher, 2001, p. 324). In that sense, the anonymity of the Internet can be used in order to encourage individuals, with extra emphasis on young people and adolescents, to search for information that has to do with sex and sexuality and is based on scientific research. Additionally, an Internet-based approach to sex education can adopt certain forms of interaction with the learner, which interaction can provide immediate educational feedback. Such an approach was adopted by the Society of Obstetricians and Gynecologists of Canada, which took the initiative to create the website “Sexuality and U” in order to provide accurate, credible and up-to-date information and education on sexual health⁴⁸. According to Azy Barak and William A. Fisher, in the case of the “Sexuality and U” initiative “unique aspects of the Internet – such as it’s [sic] accessibility, anonymity, interactivity, audiovisual richness, and ability to convey expert

⁴⁸ Information about “Sexuality and U” can be found in the official website of the initiative: <http://sexualityandu.ca/>.

and updated content – have been successfully mobilized to provide an example of cost-effective sexual and reproductive health communication” (Barak & Fisher, 2003, p. 306). My emphasis on the role of technology in the transformation of sexuality, and my conclusion that sexual education should be focused on procedural and metacognitive knowledge can augment this approach.

References.

- Advocates for Youth. (2009). Adolescent Sexual Health in Europe and the U.S. - Why the Difference? Retrieved June 15, 2016, from www.advocatesforyouth.org/storage/advfy/documents/fsfest.pdf.
- Altman, A. (2004). The Right to Get Turned On: Pornography, Autonomy, Equality. In A. I. Cohen & C. H. Wellman (Eds.), *Contemporary Debates in Applied Ethics* (pp. 223-235). Malden - USA, Oxford - UK, Victoria - Australia: Blackwell Publishing.
- American Psychological Association. (2007). *Report of the APA Task Force on the Sexualization of Girls*, Task Force on the Sexualization of Girls. Retrieved November 15, 2015, from <http://www.apa.org/pi/women/programs/girls/report-full.pdf>.
- Apter, D., Borsos, A., Baumgärtner, W., Melis, G. B., Vexiau-Robert, D., Colligs-Hakert, A., . . . Kelly, S. (2003). Effect of an Oral Contraceptive containing Drospirenone and Ethinylestradiol on General Well-being and Fluid-related Symptoms. *The European Journal of Contraception & Reproductive Health Care*, 8(1), 37-51.
- Attwood, F. (2006). Sexed Up: Theorizing the Sexualization of Culture. *Sexualities*, 9(1), 77-94.
- Barak, A., & Fisher, W. A. (2001). Toward an Internet-driven, Theoretically-based, Innovative Approach to Sex Education. *Journal of Sex Research*, 38(4), 324-332.
- Barak, A., & Fisher, W. A. (2003). Experience with an Internet-based, Theoretically grounded Educational Resource for the Promotion of Sexual and Reproductive Health. *Sexual and Relationship Therapy*, 18(3), 293-308.
- Berlin, I. (1996). Two Concepts of Liberty. In M. R. Stewart (Ed.), *Readings in Social & Political Philosophy* (2nd ed., pp. 90-97). New York - Oxford: Oxford University Press.
- Böhme, G. (2012). *Invasive Technification: Critical Essays in the Philosophy of Technology* (C. Shingleton, Trans.). London - New Delhi - New York - Sydney: Bloomsbury.
- Brison, S. J. (2009). Surviving Sexual Assault: A Philosophical Perspective. In R. B. Baker & K. J. Wininger (Eds.), *Philosophy and Sex* (pp. 460-476). Amherst, New York: Prometheus Books.
- Brison, S. J. (2014). "The Price We Pay"?: Pornography and Harm. In L. Coleman & J. M. Held (Eds.), *Philosophy of Pornography: Contemporary Perspectives* (pp. 89-103). Lanham - Boulder - New York - London: Rowman & Littlefield.
- Butler, H. (2004). What Do You Call a Lesbian with Long Fingers? The Development of Lesbian and Dyke Pornography. In L. Williams (Ed.), *Porn Studies* (pp. 167-197). Durham and London: Duke University Press.
- Cole, S. G. (1995). *Power Surge: Sex, Violence and Pornography*. Toronto, Canada: Second Story Press.
- Coleman, L., & Held, J. M. (2014). Introduction: Why Pornography? In L. Coleman & J. M. Held (Eds.), *The Philosophy of Pornography: Contemporary Perspectives* (pp. xi-xvi). Lanham - Boulder - New York - London: Rowman & Littlefield.
- Cooper, A. (1998). Sexuality and the Internet: Surfing into the New Millennium. *CyberPsychology & Behavior*, 1(2), 187-193.
- Den Tonkelaar, I., & Oddens, B. J. (1999). Preferred Frequency and Characteristics of Menstrual Bleeding in Relation to Reproductive Status, Oral Contraceptive Use, and Hormone Replacement Therapy Use. *Contraception*, 59(6), 357-362.
- Döring, N. M. (2009). The Internet's Impact on Sexuality: A Critical Review of 15 years of Research. *Computers in Human Behavior*, 25(5), 1089-1101.

- Eunice Kennedy Shriver National Institute of Child Health and Human Development. (2016). Assisted Reproductive Technologies (ART). Retrieved February 24, 2016, from <https://www.nichd.nih.gov/health/topics/infertility/conditioninfo/Pages/art.aspx>.
- European Commission. (2014). Report on Equality between Women and Men. Retrieved January 27, 2016, from http://ec.europa.eu/justice/gender-equality/files/annual_reports/150304_annual_report_2014_web_en.pdf.
- Fausto-Sterling, A. (1993). The Five Sexes. *The Sciences*, 33(2), 20-24.
- Ferguson, C. J., & Hartley, R. D. (2009). The Pleasure is Momentary... the Expense Damnable? The Influence of Pornography on Rape and Sexual Assault. *Aggression and violent behavior*, 14(5), 323-329.
- Flavell, J. H. (1979). Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry. *American Psychologist*, 34(10), 906-911.
- Fogg, B. J., Cuellar, G., & Danielson, D. (2007). Motivating, Influencing, and Persuading Users: An Introduction to Captology. In A. Sears & J. A. Jacko (Eds.), *Human-Computer Interaction: Fundamentals* (pp. 109-122). Boca Raton - London - New York: CRC Press - Taylor & Francis Group.
- Giddens, A. (1990). *The Consequences of Modernity*. Cambridge, United Kingdom: Polity Press.
- Giddens, A. (1991). *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford, California: Stanford University Press.
- Giddens, A. (1992). *The Transformation of Intimacy: Sexuality, Love and Eroticism in Modern Societies*. Stanford, California: Stanford University Press.
- Goldman, J. D. G. (2006). Developing Higher Level Thinking in Sexuality Education for Young People. *Educational Practice and Theory*, 28(2), 83-95.
- Hamlin, A. (2015). The male Pill is coming – and it’s going to change everything. Retrieved July 27, from <http://www.telegraph.co.uk/women/womens-health/11646385/Contraception-Male-Pill-is-coming-and-its-going-to-change-everything.html>.
- Hooton, C. (2014). A long list of sex acts just got banned in UK porn. Retrieved December 2, 2015, from <http://www.independent.co.uk/news/uk/a-long-list-of-sex-acts-just-got-banned-in-uk-porn-9897174.html>.
- Horne, S., & Zimmer-Gembeck, M. J. (2005). Female Sexual Subjectivity and Well-Being: Comparing Late Adolescents with Different Sexual Experiences. *Sexuality Research and Social Policy*, 2(3), 25-40.
- Ihde, D. (1990). *Technology and the Lifeworld: From Garden to Earth*. Bloomington and Indianapolis: Indiana University Press.
- Ihde, D. (2002). *Bodies in Technology*. Minneapolis - London: University of Minnesota Press.
- Isaacs, C. R., & Fisher, W. A. (2008). A Computer-Based Educational Intervention to Address Potential Negative Effects of Internet Pornography. *Communication Studies*, 59(1), 1-18.
- Isaacs, C. R., & Fisher, W. A. (2008). A Computer-Based Educational Intervention to Address Potential Negative Effects of Internet Pornography. *Communication Studies*, 59(1), 1-18.
- Kangasvuo, J. (2007). Insatiable Sluts and Almost Gay Guys: Bisexuality in Porn Magazines. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 139-149). Oxford - New York: Berg Publishers.
- Kechiche, A., et al., (2013). Blue is the Warmest Color.
- Krathwohl, D. R. (2002). A Revision of Bloom's Taxonomy: An Overview. *Theory Into Practice*, 41(4), 212-218.

- Ladyman, J. (2002). *Understanding Philosophy of Science*. London and New York: Routledge - Taylor & Francis Group.
- Lust, R. (2015, October 31). It's Time for Porn to Change [Video File], Retrieved May 11, 2015, from <http://www.tedxvienna.at/watch/its-time-for-porn-to-change-erika-lust-tedxvienna/>.
- May, C. (2011). Porn Made for Women, by Women. Retrieved July 24, 2016, from <https://www.theguardian.com/lifeandstyle/2011/mar/22/porn-women>.
- Mayo Clinic. (2016). Sex Therapy. Retrieved May 13, 2016, from <http://www.mayoclinic.org/tests-procedures/sex-therapy/home/ovc-20170347>.
- McKee, A. (2007). The Relationship Between Attitudes Towards Women, Consumption of Pornography, and Other Demographic Variables in a Survey of 1,023 Consumers of Pornography. *International Journal of Sexual Health*, 19(1), 31-45.
- McKee, A., Albury, K., Dunne, M., Grieshaber, S., Hartley, J., Lumby, C., & Mathews, B. (2010). Healthy Sexual Development: A Multidisciplinary Framework for Research. *International Journal of Sexual Health*, 22(1), 14-19.
- Mowlabocus, S. (2007). Gay Men and the Pornification of Everyday Life. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 61-71). Oxford - New York: Berg Publishers.
- National Union of Students. (2014). Student Opinion Survey: November 2014. Retrieved December 15, 2015, from <http://www.nus.org.uk/Global/SRE%20Research%20Nov%202014.pdf>.
- Nikunen, K. (2007). Cosmo Girls Talk: Blurring Boundaries of Porn and Sex. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 73-85). Oxford - New York: Berg Publishers.
- Oddens, B. J. (1997). Determinants of Contraceptive Use among Women of Reproductive Age in Great Britain and Germany II: Psychological Factors. *Journal of Biosocial Science*, 29(04), 437-470.
- Oddens, B. J. (1999). Women's Satisfaction With Birth Control: a Population Survey of Physical and Psychological Effects of Oral Contraceptives, Intrauterine Devices, Condoms, Natural Family Planning, and Sterilization Among 1466 Women. *Contraception*, 59(5), 277-286.
- Oddens, B. J., & Lehert, P. (1997). Determinants of Contraceptive Use among Women of Reproductive Age in Great Britain and Germany I: Demographic Factors. *Journal of biosocial Science*, 29(04), 415-435.
- Oddens, B. J., Visser, A. P., Vemer, H. M., Everaerd, W. T. A., & Lehert, P. (1994). Contraceptive Use and Attitudes in Great Britain. *Contraception*, 49(1), 73-86.
- O'reilly, T. (2007). What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. *International Journal of Digital Economics*, 65, 17-37.
- Paasonen, S. (2007). Epilogue: Porn Futures. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 161-170). Oxford - New York: Berg Publishers.
- Paasonen, S. (2011). *Carnal Resonance: Affect and Online Pornography*: Cambridge, Massachusetts – London, England: MIT Press.
- Paasonen, S. (2014). Diagnoses of Transformation: "Pornification", Digital Media, and the Diversification of the Pornographic. In L. Coleman & J. M. Held (Eds.), *The Philosophy of Pornography: Contemporary Perspectives* (pp. 3-16). Lanham - Boulder - New York - London: Rowman & Littlefield.

- Paasonen, S., Nikunen, K., & Saarenmaa, L. (2007). Pornification and the Education of Desire. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 1-20). Oxford - New York: Berg Publishers.
- Paasonen, S., & Saarenmaa, L. (2007). The Golden Age of Porn: Nostalgia and History in Cinema. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 23-32). Oxford - New York: Berg Publishers.
- Phillips, D. J., & Cunningham, C. (2007). Queering Surveillance Research. In K. O'Riordan & D. J. Phillips (Eds.), *Queer Online: Media, Technology & Sexuality* (pp. 31-43). New York - Washington, D.C./Baltimore - Bern - Frankfurt am Main - Berlin - Brussels - Vienna - Oxford: Peter Lang.
- Railton, D., & Watson, P. (2007). Sexed Authorship and Pornographic Address in Music Video. (Parker, 2009) In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 115-125). Oxford - New York: Berg Publishers.
- Randolph, M. E., Pinkerton, S. D., Bogart, L. M., Cecil, H., & Abramson, P. R. (2007). Sexual Pleasure and Condom Use. *Archives of Sexual Behavior*, 36(6), 844-848.
- Rich, F. (2001). Naked Capitalists: There's No Business Like Porn Business. Retrieved December 15, 2015, from <http://www.nytimes.com/2001/05/20/magazine/20PORN.html>.
- Rossi, L. M. (2007). Outdoor Pornification: Advertising Heterosexuality in the Streets. In S. Paasonen, K. Nikunen, & L. Saarenmaa (Eds.), *Pornification: Sex and Sexuality in Media Culture* (pp. 127-138). Oxford - New York: Berg Publishers.
- Satz, D. (2012). Gender. In D. Estlund (Ed.), *The Oxford Handbook of Political Philosophy* (pp. 354-372). New York: Oxford University Press.
- Satz, D. (2013). Feminist Perspectives on Reproduction and the Family. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy (Winter 2013 Edition)*. Retrieved January 24, 2016, from <http://plato.stanford.edu/entries/feminism-family/>.
- Saul, H. (2014). UK Porn Legislation: What is now Banned under New Government Laws. Retrieved July 23, 2016, from <http://www.independent.co.uk/news/uk/home-news/uk-porn-legislation-what-is-now-banned-under-new-government-laws-9898541.html>.
- Saul, H. (2016). Erika Lust: The Feminist Adult Film Maker Changing the Face of Porn. Retrieved July 24, 2016, from <http://www.independent.co.uk/news/people/erika-lust-the-feminist-adult-film-maker-changing-the-face-of-porn-a7083331.html>.
- Schaefer, E. (2004). Gauging a Revolution: 16mm Film and the Rise of the Pornographic Feature. In L. Williams (Ed.), *Porn studies* (pp. 370-400): Durham and London: Duke University Press.
- Skouby, S. (2004). Contraceptive Use and Behavior in the 21st Century: a Comprehensive Study across Five European Countries. *The European Journal of Contraception & Reproductive Health Care*, 9(2), 57-68.
- Spink, A., Ozmutlu, H. C., & Lorence, D. P. (2004). Web Searching for Sexual Information: An Exploratory Study. *Information Processing & Management*, 40(1), 113-123.
- Stanger-Hall, K. F., & Hall, D. W. (2011). Abstinence-Only Education and Teen Pregnancy Rates: Why We Need Comprehensive Sex Education in the US. *PLoS One*, 6(10), 1-11.
- The World Bank. (2012). World Development Report 2012: Gender Equality and Development. Retrieved January 27, 2016, from <https://siteresources.worldbank.org/INTWDR2012/Resources/7778105-1299699968583/7786210-1315936222006/Complete-Report.pdf>.

- The World Bank. (2016). Total Fertility Rate (Births per Woman). Retrieved January 27, 2016, from <http://data.worldbank.org/indicator/SP.DYN.TFRT.IN>.
- Tolman, D. L., Striepe, M. I., & Harmon, T. (2003). Gender Matters: Constructing a Model of Adolescent Sexual Health. *Journal of Sex Research*, 40(1), 4-12.
- Turkle, S. (1997). Multiple Subjectivity and Virtual Community at the End of the Freudian Century. *Sociological Inquiry*, 67(1), 72-84.
- Verbeek, P.-P. (2005). *What Things Do: Philosophical Reflections on Technology, Agency, and Design*. University Park, Pennsylvania: The Pennsylvania State University Press.
- Verbeek, P.-P. (2008). Cyborg Intentionality: Rethinking the Phenomenology of Human–Technology Relations. *Phenomenology and the Cognitive Sciences*, 7(3), 387-395.
- Walker, T. (2016). Republican brand Pornography 'A Public Health Crisis'. Retrieved July 23, 2016, from <http://www.independent.co.uk/news/world/americas/us-elections/republicans-pornography-public-health-crisis-policy-platform-2016-a7132081.html>.
- WebMD. (2016a). Birth Control Pills. Retrieved March 4, 2016, from <http://www.webmd.com/sex/birth-control/birth-control-pills>.
- WebMD. (2016b). Implanon Subdermal. Retrieved March 4, 2016, from <http://www.webmd.com/drugs/2/drug-144857/implanon-subdermal/details>.
- Williams, L. (2004). Porn studies: Proliferating Pornographies On/scene: An Introduction. In L. Williams (Ed.), *Porn studies* (pp. 1-23): Durham and London: Duke University Press.
- World Association of Sexual Health. (2014) Declaration of Sexual Rights. Retrieved January 24, 2016, from http://www.worldsexology.org/wp-content/uploads/2013/08/declaration_of_sexual_rights_sep03_2014.pdf.
- World Health Organization. (2010). Developing Sexual Health Programmes: A Framework for Action. Retrieved April 28, 2016, from http://apps.who.int/iris/bitstream/10665/70501/1/WHO_RHR_HRP_10.22_eng.pdf.

List of Abbreviations.

APA:	American Psychological Association.
ARTs:	Assisted Reproductive Technologies.
BRT:	Bloom's Revised Taxonomy.
IUDs:	Intrauterine Devices.
NUS:	National Union of Students.
POV:	Point of View.
STDs:	Sexually Transmitted Diseases.
VR:	Virtual Reality.

List of Tables.

Table 1: Effects on sexuality reported by current users of oral contraceptives, condoms, IUDs and natural family planning (percentages).	p. 26
Table 2: Revision of Bloom's Taxonomy.	p. 68