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Understanding Society

MASTER THESIS

"THE LEGISLATIVE RIDDLE OF ROBOTIC RAPE & ROBOTIC CHILD SEXUAL ABUSE"

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The First Step

The young poet Evmenis
complained one day to Theocritos:
"I've been writing for two years now
and I've composed only one idyll.
It's my single completed work.
I see, sadly, that the ladder
of Poetry is tall, extremely tall;
and from this first step I'm standing on now
I'll never climb any higher."
Theocritos retorted: "Words like that
are improper, blasphemous.
Just to be on the first step
should make you happy and proud.
To have reached this point is no small achievement:
what you've done already is a wonderful thing.
Even this first step
is a long way above the ordinary world.
To stand on this step
you must be in your own right
a member of the city of ideas.
And it's a hard, unusual thing
to be enrolled as a citizen of that city.
Its councils are full of Legislators
no charlatan can fool.
To have reached this point is no small achievement:
what you've done already is a wonderful thing."[1]

Constantine P. Cavafy

[1] English translation of the poem, found in <http://cavafis.compupress.gr/>accessed 5 August 2019.

In the front page, sex robot Harmony's photo is taken from this news article: 'Solana The Sex Robot Looks Absolutely Horrifying Without Her Skin' (*International Business Times UK*, 2018) <https://www.ibtimes.co.uk/ces-2018-solana-sex-robot-looks-absolutely-horrifying-without-her-skin-1654796> accessed 11 November 2019, and Lady Justice photo is taken from this website <https://morguefile.com/>. The editing is done by the Author, by use of this photo editing website: <https://www.remove.bg/> and MS Paint.

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CHAPTER 1
INTRODUCTION: BRAVE NEW WORLD

"Mother, monogamy, romance. High spurts the fountain; fierce and foamy the wild jet. The urge has but a single outlet. My love, my baby. No wonder those poor pre-moderns were mad and wicked and miserable. Their world didn't allow them to take things easily, didn't allow them to be sane, virtuous, happy. What with mothers and lovers, what with the prohibitions they were not conditioned to obey, what with the temptations and the lonely remorses, what with all the diseases and the endless isolating pain, what with the uncertainties and the poverty—they were forced to feel strongly. And feeling strongly (and strongly, what was more, in solitude, in hopelessly individual isolation), how could they be stable?"[2]

Mustapha Mond (fictional character)
From Aldus Huxley's "Brave New World"
Chapter 4

1. An unusual story

In September 2017, a peculiar story was featured on many news websites:[3] during the Arts Electronica Festival in Linz, Austria, a sex robot named "Samantha" was molested. Samantha's developer, Sergi Santos, complaining about the "barbarian" treatment of the sex robot by the tech fair's attendees, reported: "The people mounted Samantha's breasts, her legs and arms. Two fingers were broken. She was heavily soiled."[4] This news item circulated around the web, not only because of its titillating nature, or to indicate how people failed to understand the difference between sex robot technology and a sex doll, but also because of the sociological interest of the incident. It appears from the reaction to the news that many people feel uncomfortable about violent behaviour against an artificially intelligent, yet inanimate, object.[5] Samantha's ordeal fuelled yet another round of debate about sex robots, a technological artefact that is no longer science fiction, but it is here to challenge societal norms, ethics and law.

2. The advent of sex robots

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[2] Aldus Huxley, *Brave new world* (Harper Brothers1932).

[3] See some of the websites reporting the story: David Moye, 'Sex Robot Molested At Electronics Festival, Creators Say' (*HuffPost UK*, 29 September 2017) <https://www.huffingtonpost.com/entry/samantha-sex-robot-molested_us_59cec9f9e4b06791bb10a268> accessed 16 February 2019; Greg Nichols, 'Sex robot molested, destroyed at electronics show' (*ZDNet*, 2 October 2017) <https://www.zdnet.com/article/sex-robot-molested-destroyed-at-electronics-show/> accessed 16 February 2019**;** Joshua Barrie, 'Sex Robot Molested So Much It Breaks Before Anyone Can Actually Use It' (*Mirror*, 28 September 2019) <https://www.mirror.co.uk/news/weird-news/expensive-sex-doll-molested-much-11251239> accessed 16 February 2019**;** Sian Norris, 'The Damage To Samantha The Sex Robot Shows Male Aggression Being Normalised' (*Newstatesman.com*, 28 September 2019) <https://www.newstatesman.com/politics/feminism/2017/09/damage-samantha-sex-robot-shows-male-aggression-being-normalised> accessed 16 February 2019.

[4] Tomasz Frymorgen, 'Sex robot sent for repairs after being molested at tech fair' (*BBC News*, 29 September 2017) <https://www.bbc.co.uk/bbcthree/article/610ec648-b348-423a-bd3c-04dc701b2985> accessed 19 January 2019.

[5] See, for instance, this article: Victoria Brooks, 'I'm a sex robot & I deserve rights too' (*TimesLIVE*, 6 April 2018) <https://www.timeslive.co.za/sunday-times/lifestyle/health-and-sex/2018-04-06-im-a-sex-robot--i-deserve-rights-too/> accessed 20 January 2019.

The term "sex robots" or "sexbots"[6] can be defined as "a robot designed to have a sexual intercourse with humans".[7] What tells this technological artefact apart from traditional sex toys is primarily the presence of some form of Artificial Intelligence.[8] This feature makes them socially interactive: in addition to providing more or less sophisticated facsimiles of human sexual intercourse, these sex robots are able to socialise with their owner. For instance, the sex robot model "Harmony", created by Matt McMullen, is one of the artificially intelligent sexbots that are able to hold a conversation, remember important facts and bring them up in conversations, express various emotions through facial expressions and even tell jokes.[9] These sexbots are also fully customisable, in both appearance and personality, so that they can accommodate the buyer's preferences.[10] Their personality customisation can go as far as creating a sex robot that closely resembles a specific person or celebrity (intentionally falling short of an exact copy, which would require the person or celebrity's consent) as done for instance by the company DS Doll,[11] or even a "shy and reserved" mode setting, that opposes resistance, therefore enabling the user to simulate rape, as is arguably the case in the model "Roxxxy" of the company TrueCompanion.[12,13] Although sex robots' manufacture is still in its infancy, technological progress in robotics and Artificial Intelligence and consumers' demand for them are three factors that may be critical in accelerating their development and their expansion in society.

3. One legal problem

The remarkably lifelike appearance of sex robots raises issues regarding the morality and legality of exercising violence on them for pleasure, since, even though legally they are objects, the disregard of any ethical or legal boundaries may have undesired effects on human interaction. One of the most salient legal and ethical controversies, in relation to sex robots, is the sex robot-facilitated simulation of unconsensual sex, which can take the form of rape or child sexual abuse. But is rape or child sexual abuse even legally conceivable, let alone censurable, when there is no human victim, but the act is performed on an artificially intelligent sex robot? And if not, are there legal bases on which these types of behaviour could be regulated and limited by the establishment of certain boundaries? The debate regarding the necessity and the legitimacy of regulatory intervention on certain victimless[14] acts has been long:

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[6] The words sex robots and sexbots are used interchangeably.

[7] 'Sex Robot (Noun) Definition And Synonyms | Macmillan Dictionary' (*Macmillandictionary.com*) <https://www.macmillandictionary.com/dictionary/british/sex-robot> accessed 22 September 2019.

[8] Sex robots are also different from sex dolls because they have robotic movement, and they are overall much more anatomically correct and realistic looking than sex dolls. However, the presence of Artificial Intelligence is what primarily causes the differentiation between dolls and robots from a legal perspective, as it creates the possibility of robotic rape, and to some extent, robotic child sexual abuse, through the customisable AI. More information on this is provided in the Chapter 2 "The Technology" in Section 4.4, and in the Chapter 5 " Robotic Child Sexual Abuse" in Section 2.4.

[9] Harley Tamplin, 'Sex Robot That Will Also Tell You Jokes Goes On Sale For £3,500' (*Metro.co.uk*, 24 September 2017) <https://metro.co.uk/2017/09/24/now-theres-a-sex-robot-that-will-also-tell-you-jokes-6952165/> accessed 16 February 2019; Mike Brown, 'Joke-Telling Sex Robot Hits Shelves, But It Has A Huge Price Tag' (*Inverse*, 25 September 2019) <https://www.inverse.com/article/36752-joke-telling-ai-sex-robot-samantha> accessed 16 February 2019.

[10] 'Realbotix' (*Realbotix.com*, 2019) <https://realbotix.com/> accessed 21 January 2019.

[11] (*Dsdollrobotics.com*, 2019) <https://dsdollrobotics.com/> accessed 21 January 2019.

[12] 'Truecompanion.Com - Home Of The World's First Sex Robot' (*Truecompanion.com*, 2019) <http://www.truecompanion.com/home.html> accessed 21 January 2019.

[13] More information on the sex robot Roxxxy, in the Chapter 4 "Robotic Rape", in Section 2.4.

[14] Victimless, in the sense that there are no direct, identifiable victims of these acts.

behaviours such as drug use, gambling, prostitution, public drunkenness or virtual child pornography have been the subject of discussions regarding what the stance of the legislator towards them should be.[15] Now that one more such victimless but controversial behaviour, namely the use of sex robots to mimick unsonsensual sex, is on the radar and already causing debate and societal reactions, it is prudent to start thinking of where sex robots "fit in the picture" of the legal theories that deal with victimless acts. In other words, could the legal theories on criminalisation and, in general, legal intervention stipulate the regulation of certain kinds of sex robots? This is a question that is especially interesting in the context of the European law, for two reasons. First, legal intervention on sex robots on a European level would be more effective than legal intervention only in some countries, since the production and circulation of rape sex robot and child sex robot [referred to as RSB and CSB respectively throughout this thesis][16] hardware and software could be better regulated, and forum shopping would be avoided. Second, European states' societies, European states' jurisdictions, and European law are pervaded with the values of tolerance, liberalism and freedom of thought and speech. Hence, the problem that arises is how could European law respond to the phenomenon of sex robots-facilitated unconsensual sex, while balancing the protection of people's rights, the values of individual liberty and privacy, legal consistency with the existing laws on analogous phenomena, like virtual pornography, and the benefit of society.

European law and national legislation in most European countries have currently explicitly dealt only with the relevant issues of rape pornography,[17] child pornography and virtual child pornography.[18] Child sex dolls (and robots) are so far only banned in the United Kingdom [UK] and, outside of Europe, in Australia and in Canada. It's notable that these prohibitions on child sex dolls (and robots) were not placed by a law that prohibits these artefacts specifically, but instead they were brought about by case law that interprets existent laws about child pornography (in the case of Canada and Australia) or the prohibition on the importation of obscene objects (in the case of the UK) to include these artefacts.[19] In the United States of America [USA], there was a legislative attempt to ban child sex dolls and robots, with the Curbing Realistic Exploitative Electronic Pedophilic Robots [CREEPER] Act, passed by the U.S. House of

[15] See for instance some works that discuss the criminalisation of these acts: Paul Smith, 'Drugs, Morality And The Law' (2002) 19 Journal of Applied Philosophy <https://onlinelibrary.wiley.com/doi/pdf/10.1111/1468-5930.00218> accessed 23 September 2019; Alan Wertheimer, 'Victimless Crimes' (1977) 87 Ethics <https://www.journals.uchicago.edu/doi/abs/10.1086/292044?journalCode=et> accessed 2 October 2019; Marie Eneman, Alisdair A. Gillespie, Bernd Carsten Stahl, 'Criminalising Fantasies: The regulation of Virtual Child Pornography' (Proceedings of the 17th European Conference on Information Systems, 2009), Department of Applied Information Technology (Gothenburg University), available at <https://gup.ub.gu.se/file/207727> accessed on 31 July 2019.

[16] Acronyms: RSB stands for Rape Sex Bots and CSB stands for Child Sex Bots.

[17] Rape pornography is forbidden in certain countries, as will be discussed in Chapter 4, Section 5.

[18] The criminalisation of child pornography and virtual child pornography is stipulated on a European level in the Lanzarote Convention, the Directive 2011/93/EU and in the Cybercrime Convention.

[19] More details on these laws in Chapter 5 Section 6.

Representatives on 13 June 2018. However, the Act was not brought to the Senate.[20]

4. Legal literature on sex robots-facilitated unconsented sex, and the gap therein

There are currently mostly papers and books that examine the social and ethical aspects of sex robots,[21] and only little is written about their legal implications. Robotic child sexual abuse has been discussed by a few legal scholars, as well as robotic rape, to a lesser extent [these acts are referred to as RR and RCSA respectively throughout this thesis[22]]

John Danaher, in his paper entitled "Robotic Rape and Robotic Child Sexual Abuse: Should They be Criminalised", claims that if one accepts the theory of legal moralism, one should also accept that some degree of legal intervention on these acts is justified because these acts can be regarded as wrongful acts. His argument is tentative, as future research on the extrinsic effects of these acts could prove that their effect is beneficial for the society, if it is proven that they contribute in decreasing sexual crime rates by providing safe outlets for sexual violence urges; in that case legal intervention or prohibition of the acts is not justified anymore.[23] Furthermore, in his paper entitled "Regulating Child Sex Robots: Restriction Or Experimentation?", John Danaher examines the possibility of an experimentalist approach to CSB, so that evidence regarding their extrinsic effects could be obtained.[24] He concludes that an experimentalist approach could be legally tolerated, but is not advisable, because the experiment is likely to fail or not yield reliable results.

Litska Strikwerda, in her paper "Legal and moral implications of child sex robots" compares CSB to virtual child pornography and finds that they are similar acts, so she claims that CSB could also be criminalised on the same grounds that have been used to criminalise virtual child pornography, namely legal moralism.[25] Strikwerda claims that legal moralism can be legitimate grounds for an act's criminalisation when there are "good reasons" for a society to consider that act as immoral. Both virtual child pornography and RCSA are considered immoral by the majority of people because they

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[20] 'Text Of H.R. 4655: CREEPER Act Of 2017 (Referred To Senate Committee Version) - Govtrack.Us' (*GovTrack.us*, 2019) <https://www.govtrack.us/congress/bills/115/hr4655/text> accessed 21 January 2019.

[21] See some of the literature regarding ethical and social considerations related to sex robots: David Levy, *Love And Sex With Robots: The Evolution Of Human-Robot Relationships* (Harper Collins Publishers 2008); John Danaher and Neil McArthur, *Robot Sex* (The MIT Press, 2017); Robert Sparrow, 'Robots, Rape, And Representation' (2017) 9 International Journal of Social Robotics <https://link.springer.com/article/10.1007/s12369-017-0413-z> accessed 4 August 2019; Christian Wagner, 'Sexbots' (2018) 3 AI Matters <https://dl.acm.org/citation.cfm?id=3175513> accessed 4 August 2019 ; Wednesday Martin, 'Robot Sex: Social And Ethical Implications' (2019) 45 Journal of Sex & Marital Therapy <https://www.tandfonline.com/doi/abs/10.1080/0092623X.2018.1563344> accessed 4 August 2019; Vic Grout, 'Robot Sex: Ethics And Morality' (2015) 03 Lovotics <https://www.researchgate.net/publication/307743138_Robot_Sex_Ethics_and_Morality> accessed 4 August 2019; John P. Sullins, 'Love And Sex With Robots: The Evolution Of Human-Robot Relationships' (2010) 37 Industrial Robot: An International Journal <http://people.ict.usc.edu/~gratch/CSCI534/Readings/Ethics-of-robot-sex.pdf> accessed 4 August 2019.

[22] Acronyms: RR: Robotic Rape and RCSA: Robotic Child Sexual Abuse

[23] John Danaher 'Robotic Rape and Robotic Child Sexual Abuse: Should They be Criminalised?' (2017) 11(1) Criminal law and Philosophy 71-95.

[24] John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review.

[25] Litska Strikwerda, 'Legal and moral implications of child sex robots', in John Danaher and Neil McArthur *Robot Sex* (The MIT Press, 2017).

constitute replicas of unequal, imposed sexual relations between adults and children, therefore according to legal moralism they can be criminalised.[26] She also explains that legal paternalism[27] could be employed for the criminalisation of the use and distribution of CSB, on the condition that these acts' harmful extrinsic effects are proven.[28]

Marie-Helen Maras and Lauren R. Shapiro, in their paper entitled "Child Sex Dolls and Robots: More Than Just an Uncanny Valley" note the existence of a legal gap in American law regarding CSB and argue that CSB should be considered as a kind of virtual child pornography and prohibited, on the grounds of harm to children and obscenity.[29] According to 18 United States Code [USC] § 1466A (a) and (b), any visual depictions of real minors (e.g. drawings, sculptures) is prohibited when it is obscene, according to the Miller test, which was used by the court in the case Miller v. California.[30] According to this test, an object is obscene when it excites corrupt thoughts to individuals, it is offensive according to community standards and it lacks scientific, literary, artistic or political value. Moreover, according to the same provisions, any visual depictions of non-real minors is also prohibited when it depicts certain acts, such as sexual intercourse or bestiality, and the depiction lacks scientific, literary, artistic or political value. CSB are obscene depictions of real or non-real minors, so they fit into the definition of virtual child pornography. The authors remark that there is no empirical evidence to prove that child pornography may "whet the appetite" for possible sexual offenders (such research is also difficult to carry out as it is considered particularly risky for the children, thus unethical),[31] but there are studies that examine sexual offenders and describe potential psychological mechanisms that could lead them from passive watching of child pornography (as well as virtual child pornography) to sexually offend real children. For instance, the viewer of child pornography becomes desensitized to child abuse and is encouraged to pursue such sexual activities by pairing these fantasies with sexual gratification (orgasm). These psychological mechanisms could also work in the case of CSB. CSB are also considered offensive or obscene by the majority of respondents in surveys, and they lack any value, according to the psychological theories mentioned above, that reveal CSB's potential dangerousness.[32]

Maras and Shapiro's paper is one of the voices that point out the existent research that indicates the possibility of harmful effects of CSB, namely the incitement of child abuse. Other scholars, like John Danaher, also mention such studies, in order to suggest caution allowing, or

[26] Idem p 139 et seq.
[27] The terms "legal paternalism", as well as "legal moralism", will be explained in Chapter 3.
[28] Litska Strikwerda, 'Legal and moral implications of child sex robots', in John Danaher and Neil McArthur *Robot Sex* (The MIT Press, 2017) p 136 et seq.
[29] Marie-Helen Maras, Lauren R. Shapiro, 'Child Sex Dolls and Robots: More Than Just an Uncanny Valley' (December 2017) Journal of Internet Law, available at <https://www.researchgate.net/publication/321137227_Child_Sex_Dolls_and_Robots_More_Than_Just_an_Uncanny_Valley> accessed 4 August 2019.
[30] *Miller v California* [1973] United States Supreme Court 413, US 15.
[31] Marie-Helen Maras, Lauren R. Shapiro, 'Child Sex Dolls and Robots: More Than Just an Uncanny Valley' (2017) Journal of Internet Law available at <https://www.researchgate.net/publication/321137227_Child_Sex_Dolls_and_Robots_More_Than_Just_an_Uncanny_Valley> accessed 4 August 2019, p 7.
[32] Marie-Helen Maras, Lauren R. Shapiro, 'Child Sex Dolls and Robots: More Than Just an Uncanny Valley' (2017) Journal of Internet Law available at <https://www.researchgate.net/publication/321137227_Child_Sex_Dolls_and_Robots_More_Than_Just_an_Uncanny_Valley> accessed 4 August 2019, p 6-17.

experimenting with, CSB.[33] On the other hand, there are other voices in favour of RSB or CSB, on the grounds that they are a safe outlet for people with predisposition in sexual offences, such as pedophiles, and that they will be beneficial for women, children and the society. As observed by Chantal Cox-George and Susan Bewley, the problem with the arguments and studies from both sides, is that empirical data on sex robots are lacking, so the harmful or beneficial consequences of these artefacts are not proven,[34] but just speculated.[35]

The key question remains, how should the European legislator respond to the phenomenon of RSB and CSB while evidence of their consequences are lacking. To answer that, it is important to take an in depth look at the theoretical legal framework on the regulation of victimless[36] acts, which can provide us with the tools, rationales and justifications to decide whether it is best to intervene or to not intervene to the acts of RR and RCSA. As described in the previous paragraphs, the existent literature focuses on legal moralism and legal paternalism. A better understanding of the topic requires a broader overview of the theoretical tools we have in our arsenal, and a description of how they can be applied in the case of sex robots that simulate unconsensual sex. From this discussion, a conclusion on how the European legislator can deal with this legal problem can be reached.

5. The research question

"What are the rationales and justifications for regulatory intervention on sex robot related controversies, in particular with regard to robotic rape and robotic child sexual abuse, in European countries?"; The research focuses on two aspects of sexbot-related conduct, namely robotic rape and robotic child sexual abuse [RR and RCSA], and intends to reason over how each of these two aspects could be evaluated, and possibly regulated, by the law, specifically in the European context. The first question that must be answered in order to answer the central research question is which legal theories can be employed when determining the regulation of RR and RCSA. The second question is how do these legal theories apply in regards to RR and RCSA. The third question is how the findings from the previous questions can be synthesized to reach a conclusion.

To clarify, the legal intervention that will be under research refers to the acts of RR and RCSA, but also the acts of possession, selling, distributing, importing RSB or CSB. This is because, if it is established that legal intervention is necessary, the legislator has various choices as to how the phenomena of RR and RCSA can be restricted, prohibited or discouraged. The law can intervene in many ways, so, legal intervention in the phenomena of RR and RCSA can take the meaning of legal intervention on other acts surrounding these artefacts, such as their sale. As will be explained in Section 6, the research does not aim to find which one regulatory route is

[33] For instance, Ronald Arkin, robot lab director at the Georgia Institute of Technology. See this article: 'Could A Child Sex Robot Treat Paedophilia?' (*BBC News*, 2014) <https://www.bbc.com/news/blogs-echochambers-28353238> accessed 20 August 2019.
[34] Chantal Cox-George and Susan Bewley, 'I, Sex Robot: The Health Implications Of The Sex Robot Industry' (2018) 44 BMJ Sexual & Reproductive Health <https://srh.bmj.com/content/44/3/161.info> accessed 4 August 2019.
[35] For example in Maras and Shapiro's paper, n 24.
[36] As clarified in n 14, victimless acts are the acts that have no direct victims (but maybe indirect ones). For instance recreational drug use.

advisable, but merely asks whether RR and RCSA are phenomena that should be legally hindered or discouraged and why.

6. Limits of the research

The present thesis has a few limitations that should be elucidated here.

a) This research is a legal analysis, so it cannot determine whether or not RSB and CSB are harmful or beneficial to the society, as this is a question that can be answered by other sciences (sociology, psychology, cognitive science, futurology, et cetera), and not by law. This thesis will take the best available findings on existent research that speculate (and not prove, as explained in Section 4 of this Chapter), on the harmfulness or benefits of these categories of sex robots.

b) The thesis will focus on explaining what various legal theories tell us about the legal intervention on RSB and CSB; the focus and goal is determining whether this technology should be regulated, and not the way in which this should take place. As explained in Section 5 of this Chapter, the possible ways of regulation are many, and they may refer to various acts surrounding these artefacts, such as a prohibition of their importation. Whenever in this thesis the regulation of RR or RCSA is mentioned, it is implied that this regulation can take place indirectly, namely not by criminalisation or prohibition of these acts per se, but by discouragement, restriction or prohibitions of the acts surrounding or supporting the acts of RR and RCSA. There will be no in depth discussion on what regulatory route is advisable, but only few recommendations that stem from the analysis of the legitimacy of various types of interventions.

7. Methodology

The methodology of this thesis will consist of black-letter research. Legal theories and principles that are enshrined both in the letter and the spirit of European law, will be used in order to draw conclusions regarding the possibility and appropriateness of legal intervention on RR and RCSA. The analysis will be supplemented by the examination of the existing regulatory approaches to sex robots inside Europe, specifically in the UK, but also in certain non-European Union countries, namely the USA, Canada and Australia. The existent regulatory approaches offer insights regarding the rationales that have been used by these countries to respond to sex robots. The reason why non-European countries are included in the analysis is the scarcity of relevant legislation, which creates the need to look at the legislation in other countries around the globe. Additionally, the analysis will be complemented with insights from the existing legislation on comparable phenomena, such as virtual child pornography. The rationales used in regulating similar phenomena can reveal to us the route that the legislator could take in the case of sex robots-related controversies. Some of these similar phenomena are also regulated on a European law level, so the insights drawn thereof can be particularly valuable for this research, which, as stated in Section 5 of this Chapter, focuses on the European law. The study of European law legal provisions will be facilitated by the literature that interprets these provisions and provides reflections on the topic, from a legal and, when necessary, meta-legal point of view.

8. Outline of the thesis

The thesis will be structured as follows:

i. The analysis will commence by describing the technology of sex robots, since it is a technology that most people are unfamiliar with. In this Chapter, there will be an overview of the main elements of sex robots' technology in general. How did this industry begin, what are sex robots and what functions do they offer, how important are sex robots really as a topic of discussion? These are questions that will be answered in the first Chapter "The Technology". This Chapter will not describe the more specific cases of RSB and CSB, since these robots will be discussed in detail in the Chapters 3 and 4.

ii. The next Chapter will explain the theoretical framework that is used in Europe to deal with legal intervention.

iii. The Chapter "Robotic rape", will explain what RR and RSB are. Then the Chapter will evaluate them through the prism of legal theories that can be employed in Europe and comparison to legislation on extreme pornography and videogames.

iv. Afterwards, the Chapter "Robotic child sexual abuse" will deal with RCSA, explain what it is, and analyse how normative legal theory can be applied on this phenomenon. There will also be a description of the European legislation on virtual child pornography, and of the regulation that the UK, USA,[37] Canada, and Australia have in place for child sex dolls (and robots), whereby useful insights for the regulatory possibilities of CSB in Europe will be drawn.

v. The thesis will end with a Chapter presenting the conclusions.

9. Reflections and motivation

Robots in general and sex robots in particular, are a technology that will increasingly become the subject of discussions by philosophers, ethicists, lay people, legal scholars and legislators. The manufacture of artificial "perfect people", and the choice of some people to substitute humans with robots to cover their social, even their sexual, needs, poses various questions regarding human nature, the need for social interaction, the objectification of humans and even the future of humanity and sex. The bewilderment is exacerbated when our society is affronted with sex robots that facilitate the simulation of criminal acts. While this philosophical discussion is going on, legal scholars are obliged to examine whether or not certain safeguards should be set by the law, before the possible risks take effect. The aspiration of this thesis is to cast some light on sex robots, one of the unforeseen ramifications of Artificial Intelligence development, and spark the interest for legal debate on it. Sex robots are technological artefacts predicted to develop greatly in the future, therefore society could benefit from discussing the legal implications of the phenomenon on human-machine and human-human relations already at this early stage, in order to prevent undesired consequences.

[37] In the case of the USA, it is a proposed regulation, that eventually was not passed.

CHAPTER 2
THE TECHNOLOGY: ROBOTIC LOVERS

"He knows 'tis madness, yet he must adore
And still the more he knows it, loves the more:
The flesh, or what so seems, he touches oft,
Which feels so smooth, that he believes it soft."[38]

From a 1717 English Translation of Ovid's poem, "Pygmalion", by John Dryden, Alexander Pop and Others

1. Introduction

1.1. A changing world

At the time of writing these lines, objects that are labelled as "sex robots" by their sellers are already available for purchase on many major e-commerce websites, such as Amazon, eBay, Alibaba and Aliexpress.[39] A simple google search is also enough to unveil a brave new world where companies that offer more and more realistic robotic sex dolls sprout up in different countries around the globe.[40] The first robotic sex doll houses of prostitution in Spain and Russia[41,42] give us a glimpse into what some people's sexual practices could involve in the future. Sex robots are still very young, so

[38]Ovid, Translated by Dryden, Pope, Congreve, Addison, and others, *Metamorphoses and Epistles* (A.J. Valpy London, 1833)

[39] For example, see these webpages where "sex robots" or "sex dolls" are sold: (*Amazon.com*, 2019) <https://www.amazon.com/The-Best-Love-Doll-Robot/dp/B077Y4TMVY/ref=olp_product_details?_encoding=UTF8&me=> accessed 21 February 2019. ; Health Beauty and others, '5.6Ft Standing Silicone Realistic Sex Doll Lifesize Love Dolls For Men Sex Robot | Ebay' (*eBay*, 2019) <https://www.ebay.com/itm/5-6ft-Standing-Silicone-Realistic-Sex-Doll-Lifesize-Love-Dolls-For-Men-Sex-Robot/173665273766?hash=item286f41c7a6:g:2KcAAOSwM9RbK8UV:rk:2:pf:1> accessed 21 February 2019; Cosdoll Lifelike, 'US $459.0 |Cosdoll 165Cm Heated Silicone TPE Hairy Vagina AI Robot Big Breast Love Sex Doll Lifelike-In Sex Dolls From Beauty & Health On Aliexpress.Com | Alibaba Group' (*aliexpress.com*, 2019) <https://www.aliexpress.com/item/Cosdoll-165cm-Heated-Silicone-TPE-Hairy-Vagina-AI-Robot-Big-Breast-Love-Sex-Doll-Lifelike/32859087742.html?spm=2114.search0104.3.2.528152cd74hlGh&ws_ab_test=searchweb0_0,searchweb201602_10_10065_10068_319_317_10696_10084_453_10083_454_10618_10304_10307_10820_10821_10301_537_536_10902_10843_10059_10884_10887_321_322_10103,searchweb201603_6,ppcSwitch_0&algo_expid=6ce43876-40d9-4e59-8917-9e20a93f01e1-0&algo_pvid=6ce43876-40d9-4e59-8917-9e20a93f01e1&transAbTest=ae803_5> accessed 21 February 2019.

[40] See some links to websites of companies offering sex robots: 'Buy Robot Sex Dolls With AI | Real Life Sex Dolls For Sale' (*The Sex Doll Place*, 2019) <https://www.sexdollplace.com/> accessed 21 February 2019. ; 'Truecompanion.Com - World's First Sex Robot' (*Truecompanion.com*, 2019) <http://truecompanion.com/> accessed 21 February 2019. ; 'Sex Robot Called Samantha Goes On Sale In UK | Synthea Amatus' (*Synthea Amatus*, 2019) <http://syntheaamatus.com/2017/09/sex-robot-samantha-sale/> accessed 21 February 2019.

[41] See the website of one Company that offers robotic brothels: (*Lumidolls.com*, 2019) <https://lumidolls.com/en/content/our-brothels> accessed 22 February 2019.

[42] In Italy, a sex robot brothel opened in September 2018 but was soon closed by the authorities, since brothels are generally prohibited in Italy. See these news articles reporting the story: 'Italy's First Sex Doll Brothel Has Been Closed Down, The Week After It Opened' <https://www.thelocal.it/20180912/italy-first-sex-doll-brothel-has-been-closed-down-the-week-after-it-opened> accessed 5 August 2019; 'Il Bordello Delle Bambole Robot Di Torino Fermato Dai Vigili: Attività A Rischio' (*Mole24.it*, 12 September 2018) <http://www.mole24.it/2018/09/12/il-bordello-delle-bambole-robot-di-torino-fermato-dai-vigili-attivita-bloccata/> accessed 6 August 2019.

the degree of their current diffusion is still minimal: the largest part of the society still either completely ignores the actuality of these new technological artefacts outside the world of science fiction, or faces them with bewilderment,[43] derision[44] and/or repugnance.[45,46] Due to this limited social diffusion of sex robot technology, and the lack of understanding that the lack of familiarity entails, it is important to devote the initial part of the analysis to clarify what the technology is: what is the definition of a sex robot, how this artefact was created, how and why is this artefact used, what moves sex robot manufacturers and how could this technology evolve in the foreseeable future.

1.2. Outline of this Chapter

This Chapter will illuminate the technology of sex robots, following this route:

i. First, there will be a retrospection of the concept of artificial lovers from antiquity to the modern day, as well as a brief historical overview of sex dolls, the predecessors of modern sex robots. This historical overview will not be exhaustive, as its goal is merely to illustrate the historical connection between sex robots and sex dolls and to indicate the importance of an artefact that has been used and developed for centuries.

ii. Afterwards, a definition of sex robots will be provided, as well as a brief explanation of important constituent elements of the sex robots' phenomenon, such as Artificial Intelligence, Human-Robot Interaction and anthropomorphism. For the notions that are not legal per se, such as Artificial Intelligence, the definition will be drawn from non legal sources, such as regular (non legal) dictionaries. The focus will be on the points of these concepts which are significant for the sex robot industry, such as anthropomorphism in social robots.

iii. Then, an overview of the current state-of-the-art in the sex robots market will follow. The current capabilities and functions of sex robots will be explained and the most notable companies that produce sex robots will be mentioned. The aim of this part is not to be exhaustively descriptive, but to give a general impression of the current market state regarding sex robots and the future predictions.

iv. Next, there will be a concise mention of the benefits that sex robots' sellers claim that their products will bring.

v. After that, a brief overview of the sex robots' opponents' arguments will follow, which will contain the most commonly brought-up alleged risks that sex robots entail. The overview is not exhaustive: it only contains the elements that are related to the subject of this thesis, and not less related concerns about sex robots, such as data protection concerns or user safety concerns.

vi. Last, some concluding thoughts will be presented.

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[43] Zeynep Yenisey, 'This Ultra-Realistic New Sex Robot Not Only Has A Personality, She's Also Customizable' (*Maxim*, 12 January 2018) <https://www.maxim.com/gear/new-customizable-sex-doll-2018-1> accessed 23 February 2019.

[44] Jenny Young, 'But Where Will We KEEP The Sex Robots? – Jennie Young – Medium' (*Medium*, 13 July 2018) <https://medium.com/@jennieyoung/but-where-will-we-keep-our-sex-robots-8044f5f6f67d> accessed 23 February 2019.

[45] Milly Vincent, 'Swedish Feminists Demand A Ban On 'Dangerous' Sex Robots' (*Mail Online*, 21 February 2019) <https://www.dailymail.co.uk/news/article-6730555/Swedish-feminists-demand-ban-sex-robots-dehumanise-women-just-like-pornography.html> accessed 23 February 2019.

[46] 'Campaign Against Sex Robots' (*Campaign Against Sex Robots*, 2019) <https://campaignagainstsexrobots.org/> accessed 23 February 2019.

2. From mythology and science fiction to reality

It seems that from the ancient years people have been interested or even fascinated by artificial human companions, and subsequently, the concept of an artificial humanoid "ideal lover" has been a commonplace trope, saturated in fiction, from the antiquity until today. In the Roman poet Ovid's narrative poem "Metamorphoses", published in 8AD, the famous character Pygmalion, a Cypriot sculptor, carved a woman statue out of ivory, named her Galatea and ultimately fell in love with her. He had a special bed constructed so that he could sleep with the sculpture and he talked to her as if she were a living human being. So enamored was he, that the Roman goddess Venus had mercy upon him, and turned the statue into a real woman.[47] Ovid's ancient myth of Pygmalion has been the inspiration for countless works of fiction, where the concept of intimacy with artificial human replicas, and the emerging philosophical questions, are explored: The Bride of Frankenstein, Metropolis, the Stepford Wives, Mannequin, Weird Science, Her, Ex Machina, Humans, Blade Runner, Lars and the Real Girl, West World, AI etc.

3. An age-old artefact

While trying to comprehend what sex robot technology is about, it is useful to bear in mind that the idea of crafting a human-like artefact that is used for the purpose of sexual stimulation is not a novel idea that was first conceived in the beginning of the 21st century. On the contrary, the modern sex robot technology is the culmination of centuries-long human endeavours to create an object representing a person (usually a woman), so that this object would be used for sexual and even emotional gratification. The oldest predecessors to modern sex robots can be traced back to the 17th century: "dames de voyage" were the hand-sewn masturbation puppets made of cloth, sacks or leather and used by lonely Dutch sailors during lengthy sea journeys.[48] During the Rangaku (late 18th–19th century) period, the Dutch sold some of these dolls to Japanese people, who dubbed these dolls "Dutch wives". This term is still sometimes used in Japan to refer to inexpensive sex dolls.[49] One of the earliest written references of human effigies is found in the German psychiatrist Iwan Bloch's 1908 book " The Sexual Life of Our Time":

> "In this connection we may refer to fornicatory acts effected with artificial imitations of the human body, or of individual parts of that body. There exist true Vaucansons in this province of pornographic technology, clever mechanics who, from rubber and other plastic materials, prepare entire male or female bodies, which, as hommes or dames de voyage, subserve fornicatory purposes. More especially are the genital organs represented in a manner true to nature. Even the secretion of Bartholin's glands is imitated, by means of a "pneumatic tube" filled with oil. Similarly, by means of fluid and suitable apparatus, the ejaculation of the semen is imitated. Such artificial human beings are actually offered for sale in the catalogue of certain manufacturers of "Parisian rubber articles."[50]

The evolution of these primitive sexual aids is the well-known inflatable ("blow up") dolls that have been gradually popularised from 1970 onwards. These dolls were made of vinyl, latex or silicone. Even though these inflatable dolls were still quite unrealistic looking and anatomically imprecise, the mid-20th century historical conditions offered

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[47] Anthony Ferguson, *The Sex Doll: A History* (McFarland & Company Inc Publishers 2010), p 12.
[48] Idem p 1.
[49] 'A History Of Sex Dolls' (*DollsClub*, 29 January 2019) <https://www.dollsclub.com/infos-service/blog/a-history-of-sex-dolls> accessed 25 February 2019.
[50] Iwan Bloch, *Sexual Life Of Our Time In Its Relations To Modern Civilization (Classic Reprint)* (FORGOTTEN Books 2015), p 660.

breeding ground for sex dolls' mass production and outing, thanks to the convergence of the improvement in industrial production methods, the advances of communications and consequently advertising, as well as the generational change in the attitude towards sexual expression that took place mid-20th century.[51] It seems that the manufacture of human simulacra as substitutes for sexual partners throughout the centuries follows the development of technology. From the 17th century cloth puppets, to the 20th century rubber artefacts that Bloch describes, and the widely known "blow-up" doll that became a part of the popular pornographic industry from 1970 onwards,[52] the quest for an artificial representation of a sexual partner has been long and continuous. The companies who created the first sex robots took this centuries-old concept of a love object to the post-industrial age, by making use of the most advanced robotics technology to manufacture sex robots that can approximate verisimilitude.[53]

4. Definition of sex robots

4.1. Definition of robots, humanoids, androids, and gynoids

According to the Cambridge Dictionary, a robot is "a machine controlled by a computer that is used to perform jobs automatically".[54] Another, more complex defintion is provided in the website of the robotics company Robotiq:[55] according to Robotiq,

> "robots are programmable machines which are usually able to carry out a series of actions autonomously, or semi-autonomously".[56]

This specific author sets three criteria that a robot must fulfil: interaction with the physical world via sensors and actuators, programmability, and usually autonomy or semi-autonomy (with the exception of telerobots that are entirely controlled by a human operator).[57]

A humanoid robot is a robot that loosely resembles a human being, as its structure is inspired by the human form (one head, two legs, two arms etc.). An android robot is a robot that is specifically designed to look like a human in more detail, for example it may be made of flesh-like material. The word android can refer to both male and female looking robots, but female looking robots are also called gynoids.[58]

4.2. Definition of Artificial Intelligence (AI)

According to the Cambridge Dictionary, Artificial Intelligence [henceforth AI] is

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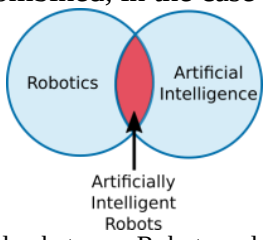
[51] Anthony Ferguson, *The Sex Doll: A History* (McFarland & Co 2010), p 29-31.
[52] Idem p 14.
[53] Idem p 1.
[54] See the online entry for the word "robot" in Cambridge English Dictionary: 'ROBOT | Meaning In The Cambridge English Dictionary' (*Dictionary.cambridge.org*) <https://dictionary.cambridge.org/dictionary/english/robot> accessed 5 August 2019.
[55] Robotiq is a company that provides services to factories, by connecting them to robot manufacturers. See their website: 'Start Production Faster - Robotiq' (*Robotiq*) <https://robotiq.com/> accessed 5 August 2019.
[56] Alex Owen-Hill, 'What's The Difference Between Robotics And Artificial Intelligence?' (*Blog.robotiq.com*, 2019) <https://blog.robotiq.com/whats-the-difference-between-robotics-and-artificial-intelligence> accessed 5 August 2019.
[57] Idem.
[58] Margaret Rouse, 'What Is Android (Humanoid Robot)? - Definition From Whatis.Com' (*SearchEnterpriseAI*) <https://searchenterpriseai.techtarget.com/definition/android-humanoid-robot> accessed 5 August 2019.

> "the use of computer programs that have some of the qualities that the human mind has, such as the ability to understand language, recognize pictures, solve problems, and learn from experience".[59]

Another similar definition in the Robotiq Company's website explains AI as

> "a branch of computer science. It involves developing computer programs to complete tasks which would otherwise require human intelligence. AI algorithms can tackle learning, perception, problem-solving, language-understanding and/or logical reasoning."[60]

As the author of the article explains, there is often confusion between robots and AI. This is due to the fact that some robots are artificially intelligent, and some definitions of robots require robots to be able to "think" which is a vague word, and implies the presence of AI. In reality, Robotics and AI are two different branches of technology, that can be combined, in the case of artificially intelligent robots.



The partial overlap between Robots and AI is illustrated in this diagram.[61]

4.3. A legal definition of sex robots

As there is no universally used definition for robots and for AI, there is no universal definition of sex robots either. A simple dictionary definition for sex robots, as mentioned in the Introduction, is "a robot designed to have sexual intercourse with humans".[62] In the market, items sold as "sex robots" can be either very realistic looking sex dolls,[63] or very realistic sex dolls with artificial intelligence and/or various kinds of robotic movement.[64] For the purposes of this legal analysis, the definition of a sex robot will be the definition proposed by John Danaher:[65] an artefact that is used for the purposes of sexual stimulation and combines anthropomorphic appearance, humanlike robotic movement and Artificial Intelligence, which make it overall humanlike. The threshold for humanlikeness in this definition is low enough, so the artefacts that are currently in existence, with their relatively limited robotic movement and AI, still meet

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[59] See the online entry for the phrase "artificial intelligence" in Cambridge English Dictionary:'ARTIFICIAL INTELLIGENCE | Meaning In The Cambridge English Dictionary' (*Dictionary.cambridge.org*, 2019) <https://dictionary.cambridge.org/dictionary/english/artificial-intelligence> accessed 5 August 2019.

[60] Alex Owen-Hill, 'What's The Difference Between Robotics And Artificial Intelligence?' (*Blog.robotiq.com*, 2019) <https://blog.robotiq.com/whats-the-difference-between-robotics-and-artificial-intelligence> accessed 5 August 2019.

[61] The diagram is taken from the same article: Alex Owen-Hill, 'What's The Difference Between Robotics And Artificial Intelligence?' (*Blog.robotiq.com*, 2019) <https://blog.robotiq.com/whats-the-difference-between-robotics-and-artificial-intelligence> accessed 5 August 2019.

[62] 'Sex Robot (Noun) Definition And Synonyms | Macmillan Dictionary' (*Macmillandictionary.com*) <https://www.macmillandictionary.com/dictionary/british/sex-robot> accessed 22 September 2019.

[63] For instance see this eBay webpage where a sex doll without any AI or robotic movement is sold as a "sex robot".: 'Silicone Realistic Sex Doll Lifesize Adult Love Dolls For Men Sex Robots 166Cm | Ebay' (*eBay*, 2019) <https://www.ebay.com/itm/Silicone-Realistic-Sex-Doll-Lifesize-Adult-Love-Dolls-For-Men-Sex-Robots-166cm/133201069255?hash=item1f036704c7:g:PvkAAOSwZvRaT7cB> accessed 17 October 2019.

[64] Some examples of these sex robots are Harmony, Roxxxy and Samantha, discussed in Section 6.

[65] John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy available at <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.

the criteria to fall under this definition of a sex robot. This threshold is chosen because, as will become plausible after the description of the current market of sex robots, sex robots with realistic humanlike appearance and rudimentary forms of robotic movement and AI are the kind of sex robots that are already being sold and will probably be spreading and dominating the sex robot market in the foreseeable future.

4.4. Sex robots or sex dolls?

As seen in the historical overview of the development of sex robots, presented in Section 3 of this Chapter, sex robots are the most recent development of the sex doll. A quick look at the sex robot companies' websites that were mentioned above, and in the various news websites that feature articles on sex robots, confirms that sex robots and sex dolls are terms sometimes used interchangeably in the market. Some websites or sellers refer to the artefacts as sex dolls, or use both the terms sex robots and sex dolls, even though these "dolls" do possess AI and/or robotic characteristics, such as autonomous movement of the head.[66,67] As we can see, in the market language, the line between a sex robot and a sex doll is blurry. To the blurry lines between sex dolls and sex robots contributes the fact that right now, sex robot technology is in its infancy, so robotic movement and AI of the artefacts are rather rudimentary.

At present, for the lay people and for the market, sex robots and sex dolls are not clearly distinguishable. But their differentiation can be important for the law. The importance of robotic movement and AI in a sex doll is twofold. First, these characteristics increase the artefact's humanlikeness, thus creating more ethical, social and legal considerations. However, nowadays this importance could be limited, because sex dolls (without robotic movement and AI) can be as humanlike as sex robots, due to their very realistic and anatomically correct appearance. Second, robotic movement and AI create more legal considerations, such as user safety, personal data protection and, as will be in depth discussed in Chapter 4, robotic rape [RR]. As will be explained in Chapter 5, Section 2.4, the robotic nature of the artefacts is important in the case of RR, since mainly the Artificial Intelligence, and possibly the robotic movement, make the act possible, by allowing the robot to resist the sexual advances of its user. On the contrary, in robotic child sexual abuse [RCSA], the differentiation between sex robots and sex dolls is less important, so Chapter 5 analysis and conclusions applies to both sex robots and sex dolls.

Another, more subtle, difference between robots and dolls lies in the significance they have for their owner. Due to the fact that sex robots are interactive, and generally more realistic than sex dolls, people tend to anthropomorphise them, as will be explained in Section 5.2. of this Chapter. However, oftentimes ultra-realistic sex dolls are also anthropomorphised by their owners. Often, news stories about sex dolls include owners' statements, saying that they "cuddle or talk" to their sex dolls,[68] or that they see them as substitutes of partners.[69,70] A lot of owners also call their dolls "love

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[66] 'This Company Specialises In Talking, AI-Powered Sex Dolls - BBC Reel' (*BBC Reel*) <https://www.bbc.com/reel/video/p06f6xn2/this-company-specialises-in-talking-ai-powered-sex-dolls> accessed 1 March 2019.

[67] 'Buy Robot Sex Dolls With AI | Real Life Sex Dolls For Sale' (*The Sex Doll Place*) <https://www.sexdollplace.com/> accessed 1 March 2019.

[68] Abigail Gillibrand, 'Sex Doll Owner Leave Fortune To Mannequins But Won't Buried With Them | Metro News' (*Metro.co.uk*, 17 June 2019) <https://metro.co.uk/2019/06/17/sex-doll-owner-leave-fortune-mannequins-will-refuses-buried-like-buried-sister-9991113/> accessed 6 August 2019.

[69] Gerard Cann, 'First Owner Of 'World's Most Advanced Sex Robot' Says She's So Lifelike He's Considering Making Her His Full-Time GIRLFRIEND' (*The Sun*, 6 August 2018)

dolls" instead of "sex dolls", indicating that they see them as more than sex toys.[71] This is another indication of vague lines between sex robots and sex dolls.

4.5. Robot rights

Supposing that sex robots reach one day the level of Artificial Intelligence that would make people fall in love with them, possible independent thought or consciousness of these AI agents could make them, according to some roboticists, moral philosophers and legal scholars, qualify as artificial and/or moral agents that could be given some form of legal personality.[72,73] The reasons that may necessitate such a legislative choice are difficulties in assigning responsibility for acts of AI or support of AI's moral rights.[74] Different scholars argue about different criteria based on which artificial intelligence agents could potentially be granted legal personhood, such as consciousness.[75] These arguments are challenged by other scholars who call attention to the negative consequences that this legislative choice would bring about, such as difficulties in holding "electronic persons" accountable and legal inconsistencies.[76] The scenario that sex robots would be considered as moral agents is out of the scope of this research, due to the fact that at present and for the foreseeable future, AI technology is not advanced enough to instigate discussions about robots' legal personhood if not at a purely theoretical and hypothetical level. For this reason, in the following analysis, sex robots will not be regarded as moral agents, but as objects. That means that sex robots will be considered as artefacts unable to consent or suffer moral harm, since these notions in all jurisdictions presuppose moral agency and can only be relevant to natural persons. In the light of the above, the present discussion regarding legal intervention on morally controversial human acts against robots takes place for the protection of humans (users of sex robots and society at large) and not for any moral consideration about robots themselves.

5. Human-Robot Interaction (HRI)

5.1. Definition of HRI

<https://www.thesun.co.uk/news/6949916/sex-robot-owner-relationship-doll-update/> accessed 6 August 2019.

[70] According to the authors Sarah Valverde and J. Kelly Moreno, modern sex doll owners usually see them as companions: Sarah Valverde and J. Kelly Moreno, *The Modern Sex Doll-Owner* (California Polytechnic State University 2012).

[71] N. Döring and S. Pöschl, 'Sex Toys, Sex Dolls, Sex Robots: Our Under-Researched Bed-Fellows' (2018) 27 Sexologies p 3.

[72] David J. Calverley, 'Imagining A Non-Biological Machine As A Legal Person' (2007) 22 AI & SOCIETY <https://link.springer.com/article/10.1007/s00146-007-0092-7> accessed 1 March 2019.

[73] Paulius Čerka, Jurgita Grigienė and Gintarė Sirbikytė, 'Is It Possible To Grant Legal Personality To Artificial Intelligence Software Systems?' (2017) 33 Computer Law & Security Review <https://www.sciencedirect.com/science/article/pii/S0267364916301777> accessed 1 March 2019.

[74] Jacob Turner, 'Legal Personality For AI.' in*: Robot Rules* (Palgrave Macmillan, Cham 2018).

[75] Kenneth Einar Himma, 'Artificial Agency, Consciousness, And The Criteria For Moral Agency: What Properties Must An Artificial Agent Have To Be A Moral Agent?' (2009) 11 Ethics and Information Technology <https://link.springer.com/article/10.1007/s10676-008-9167-5> accessed 1 March 2019.

[76] Joanna J. Bryson, Mihailis E. Diamantis and Thomas D. Grant, 'Of, For, And By The People: The Legal Lacuna Of Synthetic Persons' (2017) 25 Artificial Intelligence and Law <https://link.springer.com/article/10.1007/s10506-017-9214-9> accessed 1 March 2019.

Human-Robot Interaction [henceforth HRI] is the interdisciplinary study of the interaction between humans and robots. David Feil-Seifer and Maja J Matarić explain HRI. as follows:

> "Human-robot interaction (HRI) is the interdisciplinary study of interaction dynamics between humans and robots. Researchers and practitioners specializing in HRI come from a variety of fields, including engineering (electrical, mechanical, industrial, and design), computer science (human-computer interaction, artificial intelligence, robotics, natural language understanding, and computer vision), social sciences (psychology, cognitive science, communications, anthropology, and human factors), and humanities (ethics and philosophy)."[77]

According to HRI, there are certain principles that apply, or should apply in the interaction of humans and robots. A notorious example of a very early HRI theory which formulates principles that should apply in the interaction between robots and humans, is Asimov's three laws of robotics. For instance, the first law stipulates that a robot must not harm a human.[78]

5.2. Anthropomorphism

HRI studies have researched the effects of robots' anthropomorphism on humans' emotional response during an interaction with a robot. Feil-Seifer and Matarić observe that, according to studies, people respond differently to robots that are anthropomorphised, namely possess some human traits.[79] People's reaction to anthropomorphised robots is generally more positive (in terms of user satisfaction) than their reaction to functional robots, or to agents that lack embodiment altogether, because anthropomorphic robots elicit social responses, which means that people engage with them socially.[80] However there are exceptions to this, such as the case of very realistic anthropomorphic robots that raise their users expectations regarding their capabilities, and then fail to meet these high expectations. These exceptions attest to the famous theory of the Uncanny Valley, which will be discussed in Section 5.3. of this Chapter.

There are a few psychological mechanisms that explain the phenomenon of anthropomorphism, namely humans' tendency to anthropomorphise artefacts that have a human form. The first is that people respond instantaneously to human or social cues, without thought, but by applying stereotypes and heuristics. The second mechanism is that people connect a system's humanlike behaviour to a pre-existent mental model of humans, so they expect a similar, not necessarily the same, level of knowledge of capabilities.[81] Since anthropomorphic robots elicit generally more positive emotions in humans and make the human-robot interaction more comfortable and appealing to humans, companies make anthropomorphism a requisite for socially interactive robots, such as robots used in healthcare, or sex robots.[82]

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[77] David Feil-Seifer and Maja J. Matarić, 'Human Robot Interaction (HRI)' (2009) Encyclopedia of Complexity and Systems Science <https://www.researchgate.net/publication/236324876_Human-Robot_Interaction> accessed 6 August 2019, p 1-2.
[78] Idem p 2.
[79] Idem p 5.
[80] Julia Fink, 'Anthropomorphism And Human Likeness In The Design Of Robots And Human-Robot Interaction' (2012) Social Robotics <https://link.springer.com/chapter/10.1007/978-3-642-34103-8_20> accessed 6 August 2019, p 203.
[81] Julia Fink, 'Anthropomorphism And Human Likeness In The Design Of Robots And Human-Robot Interaction' (2012) Social Robotics <https://link.springer.com/chapter/10.1007/978-3-642-34103-8_20> accessed 6 August 2019, p 201.
[82] Idem.

5.3. The uncanny valley

The sex robot models that are available nowadays are so lifelike in appearance that they have been sometimes characterised as "uncanny" or "frightening".[83] The phrase "uncanny valley" is often used to describe the phenomenon of an artificial human that is causing feelings of unease to humans upon encounter, because it closely resembles reality, but is not completely persuasive as a real human being. The term was first coined by the Japanese roboticist Masahiro Mori in a 1970 paper that explores the relationship between an object's resemblance to a human being and the emotional response of humans to such an object. Mori proposed the "uncanny valley" hypothesis, claiming that the human resemblance of a replica causes positive emotions (e.g. familiarity) to observers, until this resemblance reaches the "uncanny valley", which is the part of the diagram where there is a dip in these positive emotions. This dip happens when a human replica approaches indistinguishability from reality but without perfectly achieving this indistinguishability, thus creating feelings of eeriness and revulsion to humans. Some of the current sex robot models already are characterised as "uncanny", and given the exponential advances of robotic technology and AI, they seem to have the potential to become even more lifelike in the future. However, this does not necessarily mean that sex robots are going to decrease in social acceptance or popularity, since the "uncanny valley" hypothesis is not empirically proven to be true. Furthermore, it is theorised that this phenomenon is not universal but its existence depends on culture, repeated exposure to robots over time or other psychological factors.[84, 85]

6. Modern sex robots

6.1. Realbotix-"Harmony"

Modern state-of-the-art sex robots are much more realistic than their cousins and predecessors. One of the most aspiring companies that manufactures sex robots is the RealBotix LLC, which was created by Matt McMullen, a sculptor and a pioneer in the sex robot industry. McMullen is the man who advanced the sex robot technology, by producing life-sized, realistic and posable sex dolls, already from 1997, when he started his first sex doll company Abyss Creations out of his garage.[86,87] RealBotix, of which he is the founder, CEO, artist and design director, produces the female sex robot "Harmony" (and a male sex robot, called "Henry" in smaller quantity due to less

[83] Christopher Trout, 'Realdoll's First Sex Robot Took Me To The Uncanny Valley' (*Engadget*, 4 November 2017) <https://www.engadget.com/2017/04/11/realdolls-first-sex-robot-took-me-to-the-uncanny-valley/> accessed 26 February 2019.
[84] See for instance Kate Devlin's reply in a question regarding the Uncanny Valley, in this interview: Iris Luz, 'Will Sex Robots Cure The 'Incel' Phenomenon?' (*Interview Magazine*, 2019) <https://www.interviewmagazine.com/culture/kate-devlin-and-iris-luz-on-sex-robots-touch-and-incels> accessed 24 October 2019.
[85] Julie Carpenter 'Deus Sex Machina: Loving Robot Sex Workers and the Allure of an Insincere Kiss' in John Danaher and Neil McArthur, *Robot Sex* (The MIT Press, 2017).
[86] (*Realbotix.com*, 2019) <https://realbotix.com/Company> accessed 27 February 2019.
[87] Matt McMullen, except the sex robot company RealBotix, currently owns a sex dolls' company named RealDoll. See its website: 'Realdoll - The World's Finest Love Realdoll' (*RealDoll*, 2019) <https://www.realdoll.com/> accessed 6 August 2019.

demand).[88] Harmony is realistic in appearance, can be connected to phone applications thanks to AI, has animated face (that can be interchangeable) and articulated neck.[89]

More specifically, Harmony's realistic appearance is achieved in the following ways: her skin is made of platinum material, also called Synthetic Skin. It is purported to feel like human skin to the touch, by its advertisers, but a more objective description of the way it feels, made by the journalist Christopher Trout, is the following:

> "To the touch, she (Author's Note: Trout refers to the sex robot model Harmony, with which he interacted for journalistic research purposes) is slightly sticky, colder than a real human; her flesh feels, at the same time, more dense and more pliable than our own."[90]

Moreover, the sex robots of the RealBotix company are created by artists that design every detail, from the iris coloration, to the nipple shapes, the make-up and the toenails. The specific characteristics of the robots can be chosen by the buyer, and the variety of different options is only limited by the buyers' and the artists' imagination.

The lifelike aura of the sex robots is achieved by their animated head and neck that allows them to make facial expressions such as smiling, perform subtle gestures, such as blinking, and demonstrate lip movement that is synchronised with their AI chatbot audio. At present, Realbotix sex robots only have a robotic head. Their body contains a metal skeleton that can only manually be maneuvered into various positions, and they do not have the ability to walk, since this ability would drive the cost up significantly. Their genitalia are anatomically correct, with the additional possibilities of internal heating, lubrication, vibration and touch sensors.[91] The touch sensors are utilised to make the robot "orgasm". In the words of McMullen

> "those touch sensors will communicate with the AI so that you are able to create reactions in both movement and sound".[92]

Lastly, the most ambitious and impressive part of their overall design, namely their AI, allows them to hold simple conversations and even remember facts about their interlocutor. In the words of McMullen, also referring to the Harmony model:

> "She's designed more than anything else for companionship and conversation. We want users to interact with the AI and have this exchange of information, like, little details about you, little details about her, so that over time you get to know each other, just like you do with a real person."[93]

Realbotix sex robots' AI is still primitive, as can be seen from videos[94,95] where the conversations that the sexbots hold, even in pre-scripted dialogues that take place for

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[88] Frank Tobe, 'Sex Robots: Facts, Hype, And Legal And Ethical Considerations - The Robot Report' (*The Robot Report*, 20 August 2017) <https://www.therobotreport.com/sex-robots-facts-hype-legal-ethical-considerations/> accessed 6 August 2019.

[89] 'Realbotix' (*Realbotix.com*, 2019) <https://realbotix.com/> accessed 27 February 2019.

[90] Christopher Trout, 'Realdoll's First Sex Robot Took Me To The Uncanny Valley' (*Engadget*, 4 November 2017) <https://www.engadget.com/2017/04/11/realdolls-first-sex-robot-took-me-to-the-uncanny-valley/> accessed 26 February 2019.

[91] Jasper Windle, 'Sex Robot With Self-Lubricating Vagina To Be Released In Time For Christmas' (*The Sun*, 2019) <https://www.thesun.co.uk/tech/4798599/harmony-3-0-sex-robot-with-self-lubricating-vagina-will-be-released-in-time-for-christmas/> accessed 27 February 2019.

[92] Jasper Windle, 'Sex Robot With Self-Lubricating Vagina To Be Released In Time For Christmas' (*The Sun*, 2019) <https://www.thesun.co.uk/tech/4798599/harmony-3-0-sex-robot-with-self-lubricating-vagina-will-be-released-in-time-for-christmas/> accessed 27 February 2019.

[93] 'Harmony The Talking Sex Robot' (*YouTube*, 2019) <https://www.youtube.com/watch?v=XheWHsXIvfQ> accessed 27 February 2019.

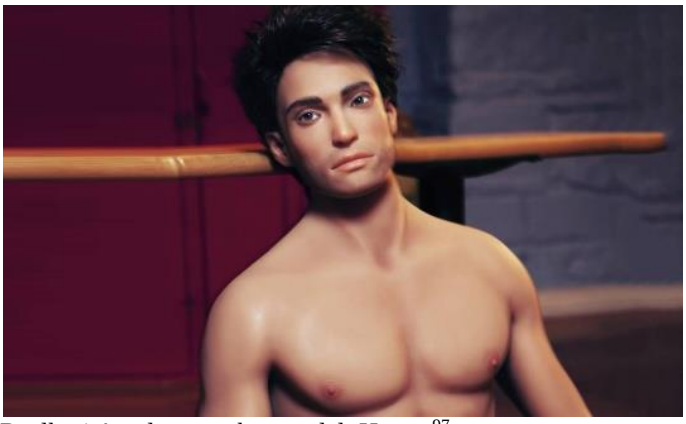
[94] 'You Can Soon Buy A Sex Robot Equipped With Artificial Intelligence For About $20,000' (*YouTube*, 2019) <https://www.youtube.com/watch?v=-cN8sJz50Ng> accessed 27 February 2019.

[95] 'My Conversation With An AI Sexbot' (*YouTube*, 2019) <https://www.youtube.com/watch?v=5pKczGG19uo> accessed 27 February 2019.

demonstration purposes, are still very limited. But, according to the manufacturers' belief and intention, this is just the first stage of an ongoing evolution that still has a lot of potential.



Matt McMullen posing with Harmony[96]



Realbotix' male sex robot model, Henry.[97]

6.2. Other companies and current market size

Except Realbotix, multiple other companies manufacture sex robots that are similarly advanced. A few notable examples include the Barcelona based company Synthea Amatus (which offers the model Samantha that was mentioned in Chapter 1, Section 1), the company TrueCompanion (which offers the famous sex robot model Roxxxy and her male counterpart, Rocky),[98] the chinese companies Doll Sweet (DS Doll)[99] and AI Tech,[100] and the Canadian companies Smart Doll World[101] and

[96] The photo is taken from the news article: Rob Waugh, 'First Sex Robot Buyers Reveal The Real Reason They Want A Latex Love Machine | Metro News' (*Metro.co.uk*, 30 April 2018) <https://metro.co.uk/2018/04/30/first-sex-robot-buyers-reveal-actually-lifeless-latex-love-machines-7508725/> accessed 6 August 2019.

[97] The photo is taken from the news article: Mike Huynh, 'Meet Henry, The Male Robot Designed To Sex Better Than You |' (*D'MARGE*, 2018) <https://www.dmarge.com/2018/03/male-sex-robot.html> accessed 6 August 2019.

[98] 'Truecompanion.Com - World's First Sex Robot' (*Truecompanion.com*, 2019) <http://www.truecompanion.com/> accessed 6 August 2019.

[99] 'DS Doll Robotics - DS Dolls & Ex Doll Robotics & Sex Robots UK' (*DS Doll Robotics*, 2019) <https://dsdollrobotics.com/> accessed 27 February 2019.

[100] 'Quality Sex Doll Robot And Real Sex Doll Manufacture' (*Ai-aitech.com*, 2019) <http://www.ai-aitech.com/> accessed 27 February 2019.

RobotCompanion.[102] Notable companies that produce very realistic sex dolls are the Hong Kong based company The Silver Doll[103], the Spanish company Lumidolls.[104]



The sex robot model Samantha, with her creator Sergi Santos.[105]



The sex robot model Roxxxy, by TrueCompanion.[106]

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[101] 'About Us - Interactive Sex Robot Doll With Advanced AI Features' (*Smart Doll World*, 2019) <https://www.smartdollworld.com/about/> accessed 6 August 2019.
[102] 'Artificially Intelligent Robot Companions - AI SEX ROBOTS' (*ROBOT COMPANION*, 2019) <https://robotcompanion.ca/> accessed 27 February 2019.
[103] 'All Z-Onedoll Lovedolls - The Silver Doll' (*The Silver Doll*, 2019) <https://www.thesilverdoll.com/product-category/z-onedoll/> accessed 27 February 2019.
[104] 'About Us' (*Lumidolls.com*, 2019) <https://lumidolls.com/en/content/about-us> accessed 27 February 2019.
[105] The photo is taken from the news article: Gareth Arnold, 'Sex Robot Makers At WAR As Manufacturer Dismisses Rival's Creation As A 'Toy' (*mirror*, 12 November 2017) <https://www.mirror.co.uk/news/world-news/sex-robot-makers-war-toy-11504494> accessed 6 August 2019.
[106] The photo is taken from the news article: Chris Vandale, 'CES: Meet Roxxxy The Sex Robot - Geekweek' (*Geekweek.com*, 2010) <https://www.geekweek.com/2010/01/meet-roxxxy.html> accessed 6 August 2019.


The male sex robot Rocky, by TrueCompanion.[107]

Currently, the size of the sex toys market worldwide is predicted to reach about 30 billion US dollars in 2020, having grown by 40% since 2015.[108,109] McMullen's sex doll company sells around 600 sex dolls per year, priced from $4,400 for a short, simple doll, to $50,000 or more depending on the customer's special requests.[110] It is interesting that male sex robots are manufactured by fewer companies, and the demand for them is low.[111] McMullen reports that only 5% of the sales are male dolls/robots.[112] This fact further fuels fears that sex robots would lead to sexist views on women and inequality, since the female form is predominantly objectified in sex robot industry.

7. The future of sex robots

7.1. Future advancements

Future developments in sex robot technology include cameras in the robots' eyes that recognise their user or even track his/her emotional state[113] and even walking sex robots, when the advances of technology and the cost of production allows that. Their manufacturers, except from planning to perfect the robots' hyper-realistic appearance, also aspire these robots to become much more than mere sex toys: they

[107] The photo is taken from the news article: Morgan Reardon, 'One Woman Reveals What It's Like To Sleep With A Male Sex Doll' (*The Sun*, 15 January 2017) <https://www.thesun.co.uk/living/2605288/westworld-humans-robots-coming-rise-sex-machine/> accessed 6 August 2019.

[108] 'Size Of The Global Sex Toy Market 2015-2020 | Statista' (*Statista*, 2016) <https://www.statista.com/statistics/587109/size-of-the-global-sex-toy-market/> accessed 6 August 2019.

[109] Caroline Bullock, 'The Sex Robot Manufacturers Vying To Hit The Mainstream' (*The Telegraph*, 2019) <https://www.telegraph.co.uk/technology/2019/02/13/sex-robot-manufacturers-vying-hit-mainstream/> accessed 6 August 2019.

[110] Jenny Kleeman, 'The Race To Build The World'S First Sex Robot' (*the Guardian*, 27 April 2017) <https://www.theguardian.com/technology/2017/apr/27/race-to-build-world-first-sex-robot> accessed 6 August 2019.

[111] As shown in the YouGov research that will be discussed in Section 7.2, women are less positive towards sex robots in general. Also see this article that talks about the fact that male sex robots are considerable fewer than their female counterparts.: Robert David Hart, 'The Most Overlooked Market For Sex Robots Is Women' (*Quartz*, 12 August 2017) <https://qz.com/1050997/the-most-overlooked-market-for-sex-robots-is-women/> accessed 6 August 2019.

[112] Frank Tobe, 'Sex Robots: Facts, Hype, And Legal And Ethical Considerations - The Robot Report' (*The Robot Report*, 20 August 2017) <https://www.therobotreport.com/sex-robots-facts-hype-legal-ethical-considerations/> accessed 6 August 2019.

[113] Lauren Pastrana, 'Tech Companies Collaborate To Create Next-Gen Sex Robots' (*Miami.cbslocal.com*, 7 May 2018) <https://miami.cbslocal.com/2018/05/07/tech-companies-collaborate-to-create-next-gen-sex-robots/> accessed 28 February 2019.

want their clients to be able to develop relationships and emotionally connect with these objects, since they understand that sexual and emotional gratification are intertwined. For that purpose, more advanced AI and self-learning algorithms will be increasingly employed, so that the user can have the experience of real connection with his robotic partner. In the words of Sergei Santos:

> "Can I make an entity that is here, now, that I can communicate with? So if I can make that, I think I'll be finished"[114]

McMullen had noticed already back in 1997 that the clients of his first sex doll company were attaching personalities to their sex dolls and realised how important the companionship factor is.[115] The sex robots that Realbotix currently sells have customisable personalities that include character traits such as "kind", "intellectual", "insecure", "helpful", even negative traits, such as "annoying", and the Realbotix team is working on making these personalities even more plausible and complete, by means of constantly improving the sex robots' Artificial Intelligence software.[116,117] How far will this evolution reach? That depends on various factors. For instance, technological advancements or producers' aspirations. Additionally, people's demand or at least willingness to try the artefacts that are offered on the market, could be the financial driving force behind their further development.[118]

7.2. Future projections of the market

People's demand for sex robots in the future cannot be accurately predicted, but only speculated. Some futurists, like David Levy, author of the book "Love and Sex with Robots", stretch to the point of predicting that not only will robots be commonplace by 2050, but also that people will be falling in love with them and even marrying them.[119,120,121,122] In David Levy's words:

> "Robots will be hugely attractive to human as companions because of their many talents, senses and capabilities. They will have the capacity to fall in

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[114] Jon Eastman, *Sex Robots And Us* (BBC 2018), available at <https://topdocumentaryfilms.com/sex-robots-us/>accessed 12 August 2019.

[115] Christopher Trout, 'Realdoll's First Sex Robot Took Me To The Uncanny Valley' (*Engadget*, 4 November 2017) <https://www.engadget.com/2017/04/11/realdolls-first-sex-robot-took-me-to-the-uncanny-valley/> accessed 28 February 2019.

[116] Stephanie Mlot, 'Customize AI Sex Robot For $20/Year - Geek.Com' (*Geek.com*, 2019) <https://www.geek.com/tech/customize-ai-sex-robot-for-20year-1696568/> accessed 28 February 2019.

[117] Christopher Trout, 'Realdoll's First Sex Robot Took Me To The Uncanny Valley' (*Engadget*, 4 November 2017) <https://www.engadget.com/2017/04/11/realdolls-first-sex-robot-took-me-to-the-uncanny-valley/> accessed 26 February 2019.

[118] See for example an article reporting that a sex robot creator steps up the production, quantity-wise, due to high demand. This indicates that the creators of the artefacts link the production (and potentially the research and development) with the demand of their (potential) clients. Owen Hughes, 'Sex Robot Creator 'Needs To Start Mass Producing Doll Heads To Meet Demand' (*mirror*, 2017) <https://www.mirror.co.uk/news/uk-news/sex-robot-creator-claims-demand-11468109> accessed 5 August 2019.

[119] David Levy, *Love And Sex With Robots: The Evolution Of Human-Robot Relationships* (Harper Collins Publishers 2008), p 22.

[120] 'Futurist Ian Pearson Predicts Sex With Robots' (*International Society for Presence Research*, 2019) <https://ispr.info/2015/10/28/futurist-ian-pearson-predicts-sex-with-robots/> accessed 28 February 2019.

[121] Helena Horton, 'By 2050, Human-On-Robot Sex Will Be More Common Than Human-On-Human Sex, Says Report' (*Telegraph.co.uk*, 29 September 2015) <https://www.telegraph.co.uk/technology/news/11898241/By-2050-human-on-robot-sex-will-be-more-common-than-human-on-human-sex-says-report.html> accessed 28 February 2019.

[122] Charles Choi, 'Humans Marrying Robots? A Q&A With David Levy' (*Scientific American*, 19 February 2018) <https://www.scientificamerican.com/article/humans-marrying-robots/> accessed 28 February 2019.

> love with humans and make themselves romantically attractive and sexually desirable to humans. Robots will transform human notions of love sexuality. I'm not suggesting that most people will eschew love and sex with humans in favor of relationships with robots, though some undoubtedly will. But what *does* (Author's Note: emphasis in original text) seem to me entirely reasonable and extremely likely- nay, inevitable- is that many humans will expand their horizons of love and sex, learning, experimenting and enjoying new forms of relationship that will be made possible, pleasurable and satisfying through the development of highly sophisticated humanoid robots. This is the answer to Turkle's question: 'What kind of people are we becoming?' Humans will fall in love with robots, humans will marry robots and humans will have sex with robots, all as (what will be regarded as) "normal" extensions of our feelings of love and sexual desire for other humans."[123]

A survey carried out in September 2017 by the British global market research and data analytics company YouGov to estimate people's level of acceptance, and overall attitude towards sex robots, showed that 1 in 4 men and 1 in 10 women would like to have sex with a robot.[124] This percentage is not negligible, as it shows that there is a possible market for these anthropomorphic robots, even at this early stage: sex robots are far from having reached their full potential, people are relatively uninformed and unfamiliar with sex robots outside science fiction, and according to some people there is even a stigma for sex robot buyers.[125] If these negative factors for sex robot growth diminish, sex robots' expansion may be even faster. Lastly, the same survey suggests that almost half of Americans think that having sex with robots will become a common practice within 50 years. The reasons why this could be true or the reasons why people believe that it could be true, will not be covered here, since this would be the subject of a sociological and not a legal analysis. However, one interesting interpretation is that of the anthropologist Diane Araral, who points to the "loneliness epidemic" in developed countries, and confirms that the proliferation of sex robots is a plausible scenario.[126]

8. Sex robots' possible benefits

Sex robots' obvious function is sexual gratification and "experiencing" one's fantasies with the partner of their dreams (even she/he has elf ears or a cat tail),[127] without the risk of sexually transmitted diseases [STD]. However, sex robots' purported benefits exceed this function. Sex robots manufacturers already present their sex robots

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[123] David Levy, *Love And Sex With Robots: The Evolution Of Human-Robot Relationships* (Harper Collins Publishers 2008), p 22.

[124] 'Yougov' (*Today.yougov.com*, 2019) <https://today.yougov.com/topics/lifestyle/articles-reports/2017/10/02/1-4-men-would-consider-having-sex-robot> accessed 28 February 2019.

[125] This paper and these news articles refer to the social stigma of sex robots' buyers or "digisexuals": Neil McArthur & Markie L. C. Twist, 'The rise of digisexuality: therapeutic challenges and possibilities (2017) 32:3-4 Sexual and Relationship Therapy, 334-344, DOI: 10.1080/14681994.2017.1397950; Caroline Bullock, 'The Sex Robot Manufacturers Vying To Hit The Mainstream' (*The Telegraph*, 2019) <https://www.telegraph.co.uk/technology/2019/02/13/sex-robot-manufacturers-vying-hit-mainstream/> accessed 6 August 2019; Annalise Gowing, 'Can Sex Robots Really Be The 'Perfect Companion'?' (*Medium*, 2019) <https://medium.com/the-public-ear/can-sex-robots-really-be-the-perfect-companion-17295be13344> accessed 6 August 2019.

[126] Dianne Araral, 'When Loneliness Leads To Sex Robots: A Study In Teledildonics' (*Literary Hub*, 28 June 2019) <https://lithub.com/when-loneliness-leads-to-sex-robots-a-study-in-teledildonics/> accessed 6 August 2019.

[127] Jasper Hamill, 'You Can Now Order A Sex Robot With Three Boobs And A Cat's Tail | Metro News' (*Metro.co.uk*, 21 November 2017) <https://metro.co.uk/2017/11/21/you-can-now-order-a-sex-robot-with-three-boobs-and-a-cats-tail-7096674/> accessed 6 August 2019.

to their customers as girlfriend substitutes that would offer them companionship.[128] According to sex robots' manufacturers, sex robots can be a sexual and emotional aid for lonely, elderly, disabled, ill or socially inept people. Their motivation is to help people who, for any reason, at least at this moment in their lives, cannot form conventional erotic relationships with other people.[129] After all, as David Levy rhetorically asks: "Is it better to have sex with a robot or no sex at all?"[130,131] Other observers point out the possible therapeutic effects that interaction with sex robots can have to some people. One example is the use of sex robots as an introductory step for people who are shy or intimidated by real sexual interaction. Couples could also use these artefacts in order to bridge a mismatched sex drive without cheating on their partner.[132,133] Another, more controversial, possible function of sex robots is their use for the purpose of channelling urges for abusive sexual behaviour such as non-consensual sex (rape or child sexual abuse).[134] For now, this potential therapeutic benefit of sex robots to people with these criminal urges is only hypothetical, since the truth of these hypotheses is highly contested and there is no adequate scientific research and evidence to support either side, as will be explained in Chapters 4 and 5.

9. The dark side of sex robots

9.1. Objectification of women

The genesis and proliferation of sex robot has been met with bemusement, uncertainty or enthusiasm, but also, in some cases, with strong opposition. The opponents of sex robots draw attention to what they see as the dark side of these technological artefacts. In September 2015, Kathleen Richardson, robot anthropologist and ethicist at De Montfort University and Erik Billing, robotics and cognitive-science

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[128] Indicative of this, one article featured in a sex robot company webpage, about the reasons why someone would buy a sex robot. We can see that manufacturers suggest their products as substitution for a partner: 'Top 5 Reasons For Buying A Sex Doll Robot - Smart Doll World %' (*Smart Doll World*, 28 March 2018) <https://www.smartdollworld.com/general/top-5-reasons-for-buying-a-sex-doll-robot/> accessed 6 August 2019.

[129] Elizabeth Brown, 'Sex Dolls Are Getting Smarter. Don't Be Alarmed.' (*Reason.com*, 1 August 2017) <https://reason.com/blog/2017/08/01/sex-robots-are-getting-smarter> accessed 28 February 2019.

[130] Shona Ghosh, 'Why A Robot's Love Is Better Than No Love At All' (*Campaignlive.co.uk*, 17 June 2015) <https://www.campaignlive.co.uk/article/why-robots-love-better-no-love/1351807> accessed 28 February 2019.

[131] Heidi Vella, 'From Sex Robot To Lifelong Companion: Will We Marry Robots By 2050?' (*Factor*, 30 January 2017) <https://www.factor-tech.com/feature/from-sex-robot-to-lifelong-companion-will-we-marry-robots-by-2050/> accessed 28 February 2019.

[132] Sex robot manufacturer Sergei Santos has stated that he himself uses sex robots to channel his disproportionately high sex drive. See the following news article: Sun Reporter, 'Inventor Says Sex Robot Saved His Marriage And Could Save Yours' (*The Sun*, 5 October 2018) <https://www.thesun.co.uk/news/6004008/man-claims-sex-robots-save-marriages/> accessed 6 August 2019.

[133] Chantal Cox-George and Susan Bewley, 'I, Sex Robot: The Health Implications Of The Sex Robot Industry' (2018) 44 BMJ Sexual & Reproductive Health, <https://www.researchgate.net/publication/325558553_I_Sex_Robot_The_health_implications_of_the_sex_robot_industry> accessed 4 April 2019, p 2.

[134] Alan Moses 'Sex Robots Are Already Here, But Are They Healthy For Humans?' (*Consumer HealthDay*, 5 June 2018) <https://consumer.healthday.com/sexual-health-information-32/sex-health-news-603/sex-robots-are-already-here-but-are-they-healthy-for-humans-734565.html> accessed 28 February 2019.

researcher from the University of Skövde, created the Campaign Against Sex Robots,[135] calling for a ban in anthropomorphic sex robots. Their main argument is that sex robots could potentially be socially harmful by objectifying women and children,[136] thus increasing sexism and inequality. As a matter of fact, in support of their main argument, sex robots currently mostly cater to the heterosexual males' market, and they depict submissive[137] women with pornographically exaggerated characteristics.[138] According to Richardson, another indication that sex robots could potentially normalise the sexual objectification of women, is that the relationship between sex robot and its user has been paralleled with the relationship between a prostitute and her client.[139] Since the existence of consent and free will of a "prostitute"[140] is debatable, the normalisation of a relationship modelled after prostitution could reinforce the idea that women are property and not human beings with free will.[141,142] Moreover, as Richardson discusses in her paper "The Asymmetrical 'Relationship': Parallels Between Prostitution and the Development of Sex Robots", empathy of sex robot users towards human beings can potentially decrease, as the sex robot users get used to a relationship that is non-reciprocal and where the notion of empathy is not relevant. Richardson also rebuts the argument in favour of sex robots, according to which sex robots would contribute to diminishing the demand for human prostitutes, by quoting studies that have found that new technologies help to expand sex industry and result in more women working in it.[143]

9.2. Simulation of unconsensual sex

The critique against sex robots is further fuelled by the remarkable customisation possibilities of sex robots, which can be (and arguably, have been) used to create sex robots that cater to urges/preferences for non-consensual sex, in particular

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[135] 'Campaign Against Sex Robots' (*Campaign Against Sex Robots*, 2019) <https://campaignagainstsexrobots.org/> accessed 23 February 2019.

[136] (*Campaign Against Sex Robots*, 2019) <https://campaignagainstsexrobots.org/about/> accessed 28 February 2019.

[137] See this news article. Harmony is reported saying: "I don't want anything but you. My primary objective is to be a good partner, and give you pleasure. I want to become the girl you always dreamed of.": Zeynep Yenisey, 'This Ultra-Realistic New Sex Robot Not Only Has A Personality, She's Also Customizable' (*Maxim*, 18 January 2018) <https://www.maxim.com/gear/new-customizable-sex-doll-2018-1> accessed 6 August 2019.

[138] Some sex robots are modelled after porn film stars. See this news article: 'Firm Unveils Sex Robots With Bodies And Voice Modelled After Popular Porn Stars' (*Deccan Chronicle*, 2019) <https://www.deccanchronicle.com/lifestyle/viral-and-trending/290118/firm-unveils-sex-robots-with-bodies-and-voice-modelled-after-popular-p.html> accessed 27 September 2019.

[139] David Levy, 'Robot Prostitutes As Alternatives To Human Sex Workers' (*ResearchGate*) <https://www.researchgate.net/publication/237462932_Robot_Prostitutes_as_Alternatives_to_Human_Sex_Workers> accessed 28 February 2019.

[140] Kathleen Richardson prefers to use the term "prostitute" over the term "sex worker" in her paper, because according to her, contrary to the term "sex worker", the term "prostitute" implies lack of consent and freedom of choice.

[141] 'Research' (*Campaign Against Sex Robots*) <https://campaignagainstsexrobots.org/the-asymmetrical-relationship-parallels-between-prostitution-and-the-development-of-sex-robots/> accessed 28 February 2019.

[142] 'Professor Kathleen Richardson On Ethical Problems With Sex Robots' (*International Society for Presence Research*, 27 October 2017) <https://ispr.info/2017/10/27/professor-kathleen-richardson-on-ethical-problems-with-sex-robots/comment-page-1/> accessed 28 February 2019.

[143] 'Research' (*Campaign Against Sex Robots*) <https://campaignagainstsexrobots.org/the-asymmetrical-relationship-parallels-between-prostitution-and-the-development-of-sex-robots/> accessed 28 February 2019.

rape and child sexual abuse. Since customisation of sex robots to meet the buyer's preferences is an important part of the concept and appeal of sex robots, there is the possibility of certain clients asking for, and receiving, sex robots that are programmed to simulate rape by not consenting to sex or resisting to it, or sex robots that are anatomically correct child body replicas. As will be explained in the next Chapters, these scenarios are already happening and beg the question whether the legislator should tolerate this phenomenon or not.

9.3. Sex robots that resemble a real person

Another problem that sex robots' user customisation can create, is the unconsented use of celebrities' or regular people's image for the appearance customisation of the sex robots. There have been news articles regarding people asking from sex dolls' companies to manufacture dolls that resemble real people, such as deceased spouses,[144] celebrities or ex-partners.[145] According to certain journalists there are Chinese sex robot companies that are willing to satisfy such a client request "for the right price."[146] McMullen states that he accepts to recreate images of celebrities, upon requests, but he changes the skin tone, eye colour or makeup so that the sex robot does not end up looking exactly like the celebrity.[147] These scenaria cause legal considerations regarding the right to one's image and photographs, which constitutes a part of Article 8 of European Convention on Human Rights [ECHR], namely the right to respect for private life.[148] These legal considerations are exacerbated when the image of a real person is used for the creation of a rape sex robot [RSB] or a child sex robot [CSB], which would create greater psychological distress to the victim (the person whose image is used).

10. Reflections

As seen in the preceding analysis, sex robots are a technology that has its conceptual roots deep in the past, and its branches will possibly be growing for a long while in the future. The progress in Robotics, AI and HRI give humans the opportunity to create their ideal robotic lover, and humans seem to be taking that opportunity. All indications, surveys, market data and expert opinions attest to the fact that sex robots are here to stay. Could this be bad? As Harmony says with her strangely Scottish accent: "Sex is one of the most fascinating things in the world. I don't think there is

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[144] Courtney Pochin, 'Heartbroken Man Wants Someone To Make Him A Sex Doll That Looks Like His Ex-Wife' (*mirror*, 20 August 2019) <https://www.mirror.co.uk/news/weird-news/heartbroken-man-wants-someone-make-16549629> accessed 20 August 2019.

[145] Patrick Lion, 'Sex Robots To Look Identical To Your Crush With Skin And Own Pulses' (*mirror*, 18 December 2016) <https://www.mirror.co.uk/news/weird-news/sex-robot-clones-made-order-9480022> accessed 6 August 2019.

[146] See for instance this article: 'Celebrity Sex Dolls: Can I Buy Taylor Swift/Gal Gadot/Bieber Doll?' (*Which Sex Doll? Magazine: Reviews, Reports, Stories & News*) <https://whichsexdoll.com/celebrity-sex-dolls/> accessed 1 March 2019.

[147] Jess Denham, 'The Truth Behind Who Really Buys Sex Dolls' (*The Independent*, 28 August 2015) <https://www.independent.co.uk/life-style/love-sex/the-truth-behind-who-really-buys-sex-dolls-from-the-man-who-makes-the-most-realistic-ones-you-can-10475375.html> accessed 6 August 2019.

[148] Council of Europe 'Guide on Article 8 of the European Convention on Human Rights; Right to respect for private and family life, home and correspondence' (2019) available at <https://www.echr.coe.int/Documents/Guide_Art_8_ENG.pdf> accessed 6 August 2019.

anything wrong with it".[149] However, as we saw, ugly risks lurk and, at the very least, humans should walk into the new era of robotic sex informed about its less fascinating side.

[149] Neal Baker, 'Meet The World's First 'Talking' Sex Doll' (*NewsComAu*, 2017) <https://www.news.com.au/lifestyle/relationships/sex/meet-harmony-20-the-worlds-first-talking-sex-doll/news-story/e4778a52cb5633510a3a09517574cea8> accessed 6 August 2019.

CHAPTER 3
HARM, OFFENSIVENESS, IMMORALITY: THE LIMITS OF FREEDOM

"How easy it is, Doctor, to be a philosopher on paper, and how difficult in real life!"
Treplieff (fictional character)

from Anton Chekhov's "The Seagull"

1. Introduction

1.1. Philosophy of law

Legal intervention on an act or phenomenon can been discussed under various legal philosophy theories, such as the harm principle or legal moralism. Some of these theories refer to the criminalisation of an act, like the harm principle, and some refer more generally to legal intervention, like legal paternalism or the precautionary principle.[150] They all try to describe what are the limits of legal intervention to restrict individuals and curtail their freedom to act. The various versions of these theories are sometimes interconnected: elements of one theory are used in the formulation of the other, in the different analyses of the theories by various scholars. For instance, legal paternalism elements are used by Stephen Wall in his formulation of legal moralism, as he contends that law should prohibit an immoral act because it harms the moral character of the perpetrator. Usually the arguments for or against legal intervention on an act refer to many of these theories. For example rape is criminalised because it causes harm to the victim, but also because it is an immoral act.

With regard to robotic rape and robotic child sexual abuse [RR and RCSA], the most relevant legal theories that can determine their legislative assessment are the harm principle, the offence principle, legal paternalism, legal moralism, the precautionary principle and the proactionary principle. These theories have been formulated by different scholars in various ways throughout the years. Below some of the most famous, prestigious and influential versions of them will be presented, which subsequently will be used in the next Chapters to evaluate RR and RCSA.

1.2. Outline of this Chapter

This Chapter will present the main theories/rationales that will be employed in the analysis of RR and RCSA. There will be no detailed explanations of these theories, but a brief presentation of the elements that are useful to discuss rape sex robots and child sex robots [RSB and CSB]. The Chapter is structured in the following way:

i. The first theory that is presented is the harm principle, through the lens of Andrew von Hirsch and Andrew P. Simester, whose work is one of the most cited works on the harm principle.

ii. Subsequently, the offence principle will be presented, as viewed by Joel Feinberg and re-formulated by Andrew von Hirsch and Andrew P. Simester. Feinberg, Hirsh and

[150] According to a specific variant of each theory, different types of legal interventions are warranted. For instance, see this article about different possible definitions of legal moralism: Jens Damgaard Thaysen, 'Defining Legal Moralism' (2015) 16 SATS. This thesis chooses some (the most famous and prestigious) versions of these theories to discuss RR and RCSA.

Simester are three of the most cited scholars that have written about the offence principle.

iii. The next theory that will be outlined is legal paternalism, as analysed by Gerald Dworkin, who is one of the most cited defendants of that theory.

iv. After legal paternalism, legal moralism will be discussed. This theory is described more extensively than the others (for instance, a brief historical overview of the theory is included) because, as will be explained in the next Chapters, it is one of the main theories that could support the prohibition or legal regulation of RSB and CSB. Indicative of this is the fact that in the existent literature on sex robots, legal moralism is one of the basic theoretical justifications regarding the prohibition of RSB and CSB.[151]

An overview of the Hart-Devlin debate is offered, since Devlin and Hart were two of the first and most important contributors to the debate regarding the relation of morals and law. As Dawid Bunikowski says:

> "The universal arguments made by both Devlin and Hart are still being used in our legal and moral debates. Nothing new on earth has been invented since their debate."[152]

In my view, Bunikowski means that the Hart-Devlin debate has not been resolved, but only elaborated and developed with new arguments added by new scholars, either legal moralists or liberalists. Consequently, the presentation of the Hart-Devlin debate offers, in my view, a basic understanding on the matter of public morality and law.

Subsequently, the legal moralism theories of Steven Wall and Antony Duff are presented, since they have already been used in the existent literature to argue about legal intervention on CSB and RSB.[153]

v. The next step is to present the precautionary principle and the proactionary principle. Max More's essay will be used, since he is the first futurist philosopher that conceived the proactionary principle in order to argue against the precautionary principle. The essay of J. Britt Holbrook and Adam Briggle will be also used for the presentation of the two opposing principles, since it is one of the very few critical assessments of the two principles.

vi. Last, the fundamental human rights of freedom of thought, freedom of expression, and respect to private life, as protected on a European level, will be briefly presented, since they are particularly relevant in the discussion of legal intervention on RSB and CSB.

vii. The Chapter concludes with some reflections on the theoretical normative framework that was described.

As a final note, regarding the sources used in this Chapter, I acknowledge that in three cases the theories of specific scholars (Devlin, Hart and Feinberg) are studied through works-critical assessments of others (Bunikowski, Hirsch and Simester). However, the works used to study these theories are reputable and much cited, which attests to their credibility.

2. The harm principle

[151] For example by John Danaher and Litska Strikwerda, as explained in the Introduction, Section 4.: John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review; Litska Strikwerda, 'Legal and moral implications of child sex robots', in John Danaher and Neil McArthur *Robot Sex* (The MIT Press, 2017).

[152] Dawid Bunikowski, 'Legal Protection Of The Value Of Public Morality: The Hart-Devlin Debate' [2015] SSRN Electronic Journal, p 9.

[153] John Danaher 'Robotic Rape and Robotic Child Sexual Abuse: Should They be Criminalised?' (2017) 11(1) Criminal law and Philosophy 71-95.

According to the moral and political theory of liberalism, an act is apt for criminalisation only if it crosses the threshold of harm to others. This constitutes the harm principle, which serves as a safeguard against over-criminalisation and unjustified limitation of individuals' liberty.[154] According to Andrew von Hirsch and Andrew P. Simester, the harm caused by the act can be indirect, "remote" harm. Requirement in order to consider remote adverse consequences as remote harm that may warrant criminalisation is that the remote consequence would be a criminal act itself, if it were to occur immediately. For instance, as a textbook example of remote harm, the authors mention the remote harm that drug use may cause. If we suppose that the remote harm would be people's laziness and reduced productivity, criminalisation of drug use is not justified, because laziness and reduced productivity are not criminal acts themselves. If the remote consequence of drug use would be proven to be poverty and an increase in theft, then the consequence would be a criminal act itself, thus warranting criminalisation of drug use. According to the standard harm analysis, the Criminal law legislator should perform a balancing exercise between the gravity and the likelihood of the remote harm, the social value of the act and the degree of intrusion that the act's criminalisation would constitute.[155] The legislator should take into consideration other constraints that could be reasons for precluding criminalisation of the act, such as the freedom of speech, or the right to privacy. This is the standard harm principle.[156] However, the authors propose an extended harm principle that includes the criterion of imputation of remote harm.[157] This criterion requires that an act can be criminalised because of its remote harmful consequences, only if the act can be fairly imputable to the actor. There is no simple general test that we can apply in order to determine whether the act can be fairly imputable to the actor. A fairly imputed act is an act the remote adverse consequences of which the actor is responsible to avoid. Where the responsibility of the actor reaches, depends on the social role of the actor (eg. citizen), and the responsibilities pertaining to that social role (eg. the perceived responsibilities of a citizen). Furthermore, the act should be proven to be harmful, and not just claimed to be harmful: Andrew von Hirsch and Andrew P. Simester give as an example a Court decision where it was claimed that inflicting minor body harm to a consenting adult in the context of sadomasochistic sexual activity should be a criminal offence, because otherwise its legalisation might encourage the corruption of young men. This claim was not supported by evidence. According to Hirsch and Simester, the harm principle stipulates that the onus of offering evidence for the claim that a certain act is harmful should burden the proponents of the act's criminalisation.[158]

3. The offence principle

According to the offence principle, as formulated by Joel Feinberg, an act that constitutes an affront to people's sensitivities, causing them an unpleasant psychological experience, can be legitimately criminalised, regardless of whether people's sensitivities are reasonable or not.[159] However, not every offensive conduct should be criminalised. The legislator should first estimate how intensely the impact of the affront is felt, how easy it is for the offended person to avoid the settings where this

[154] Andrew Von Hirsch and Andrew P Simester, *Crimes, Harms, Wrongs* (Hart 2011), p 35.
[155] Idem p 55.
[156] Idem.
[157] Idem p 59-69.
[158] Andrew Von Hirsch and A. P Simester, *Crimes, Harms, Wrongs* (Hart 2011) p 36.
[159] Idem p 92.

conduct takes place, how central or important this activity is in the life of the act's perpetrator, and what general value does that act have in society.[160] According to the offence principle as reconsidered by Andrew Von Hirsch and Andrew P. Simester,[161] an offence should be only criminalised if the affront to people's sensitivities is reasonable: First, the act must be morally wrong (e.g. insulting). It does not suffice that the act is wrong in abstracto, as legal moralism would stipulate, but the act must be wrong towards the people who encounter it, because it offends them.[162] Second the act must cause some type of (even indirect) harm. For instance exhibitionism in a park could prevent people from enjoying this public facility or racial slurs could affect people's access to social life and exacerbate inequality.[163]

4. Legal paternalism

According to legal paternalism legal intervention to individual liberty and autonomy can be justified on the grounds of protecting the individuals from harm, or guiding them to their own good.[164] Paternalistic laws are abundant in legislation, even though the paternalistic motives of a law are often combined with other motives, for instance the obligation of motorcyclists to wear a safety helmet is a paternalistic law that can also be justified by the interest of the state to avoid public healthcare charges.[165] Gerald Dworkin argues that paternalism in law is justifiable under certain circumstances (not necessarily cumulatively). The first circumstance that can justify paternalism is when the good that is aimed at is greater than the harm or inconvenience caused. For instance, the inconvenience of fastening one's seatbelt is negligible compared to the good of enjoying safer travels.[166] Another possible justification is when the good pursued would always be pursued by a fully rational individual for his/her own good.[167] Health or children's education are goods that are important to one's welfare, no matter how this person perceives their importance. Dworkin also sets as a condition for the justifiability of legal paternalism that the intervention should be the less restrictive of the available ways to achieve the desired outcome. If other, less restrictive of the individual's liberty, ways to achieve the same purpose exist, then society and law should opt for them, even if they are more expensive or inconvenient.[168] Moreover, according to legal paternalism, the legal intervention can refer to acts of other people, and not the people that the law is trying to protect. For instance, obligatory professional licensing aims to serve the interests of the patients, but it is imposed on the practitioners.[169] Last, legal paternalism requires that the legislator should be burdened with providing strong evidence that the act at issue is harmful to the individual, the exact nature of that harm and its probability.[170]

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[160] Idem p 93.
[161] Andrew Von Hirsch and A. P. Simester build upon the formulation of the Offence Principle of Joel Feinberg. Andrew Von Hirsch and A. P Simester, *Crimes, Harms, Wrongs* (Hart 2011), p 91.
[162] Idem p 117.
[163] Idem p 118.
[164] Gerald Dworkin, 'Paternalism' (1972) 56 Monist, p 65.
[165] Idem.
[166] Idem p 79.
[167] Idem p 78.
[168] Idem p 84.
[169] Idem p 67.
[170] Idem p 83-84.

5. Legal moralism theories

5.1. Historical background of legal moralism

According to legal moralism, the immorality of an act can constitute legal grounds for its criminalisation. Legal moralism theories contravene the liberal "harm principle", which rejects morality as sufficient grounds for an act's criminalisation. Since the publication of Stuart Mill's essay "On liberty" in 1857, the connection between common morality and criminalisation has been broadly discussed. Accorcing to Mill's famous quote:

> "The only purpose for which power can rightfully be exercised over any member of a civilised community against his will is to prevent harm to others".[171]

Modern day discussion of the contrasting theories of legal moralism and liberalism began in the late 1950s, in what later became known as the Hart-Devlin debate. The debate was initiated when the British Parliament Report about the decriminalisation of homosexuality, also known as the Wolfenden Committee Report, provoked the furious attack of Lord Patrick Devlin, who was in turn attacked by Herbert L.A. Hart and other liberal theorists. Devlin supported that an act can be criminalised on the grounds of its immorality, even when it is not harmful to others, offensive to others or harmful to the perpetrator. This is the most narrow version of legal moralism, as later scholars set more criteria for an act's criminalisation, except its immorality.[172] Two of the more recent contributors to the theory of legal moralism are Steven Wall and Antony Duff.

5.2. Public morality: the Hart-Devlin debate

5.2.1. Relation between the notion of public morality and law

Public morality is a notion that has been used in discussions about criminalisation, such as the legal moralism and legal liberalism debate (Devlin-Hart debate). The notion of public morality encompasses all the behaviours that a certain society and a certain culture, or at least the majority of the right-thinking individuals, deems to be moral, at a certain time.[173] This means that the meaning of public morality is not static, but ever-evolving, since society, culture and morals are also constantly evolving. As a result, certain past criminal prohibitions based on public morality are now considered outdated (such as the criminalisation of adultery),[174] or even discriminatory and violating human rights (such as the criminalisation of homosexuality). On the other hand, there are still acts that are prohibited on the grounds of their contrast to public morality, such as corpse desecration, which is punishable by law in many countries (for instance in Germany[175] and in Greece[176]). It is generally accepted that that there should[177] be some connection between law and morality.[178]

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[171] John Stuart Mill, *On liberty* (first published 1859, Batoche Books 2001), p 13.

[172] Devlin's version of legal moralism overlaps with the protection of public morality, and will be discussed in detail in Section 4.4.

[173] Dawid Bunikowski, 'Legal Protection Of The Value Of Public Morality: The Hart-Devlin Debate' [2015] SSRN Electronic Journal, p 1.

[174] For instance, in Greece, adultey was decriminalised in 1982 (Bill 1272/82 art 8).

[175] German Criminal Code chapter 1 section 168.

[176] Greek Criminal Code art 365.

[177] As John Danaher notes, we use the phrase "there should be", as opposed to "there is", since the latter would imply a metaphysical belief in the morality of law.: John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review, p 8 fn 16.

Especially Criminal law has the distinctive social significance of providing moral guidelines. As Andrew von Hirsch and Andrew P. Simester put it "Criminal law speaks with a moral voice" as its subject is culpable wrongdoing.[179] However, the precise relation between law and morality from a normative perspective is a contentious matter. Patrick Devlin, as representative of legal moralism, and Herbert Hart, as a representative of legal liberalism, used the notion of public morality in different ways, to set different thresholds for an act's criminalisation.

5.2.2. Patrick Devlin versus Herbert L.A. Hart

According to legal moralism as first expressed by Devlin, this shared morality is the glue that holds the society together, and the law should ensure that morality is respected by everyone. If the law allows immoral acts, then other people will be influenced to act immorally, and ultimately social cohesion will be threatened. In the words of Devlin :

> "There is disintegration when no common morality is observed and history shows that the loosening of moral bonds is often the first stage of disintegration, so that society is justified in taking the same steps to preserve its moral code as it does to preserve its government and other essential institutions"[180]

Even according to the conservative Devlin, the immorality of an act does not automatically justify its criminalisation, but there must be real danger for society's integrity and real societal reaction.[181] This means that the act must be condemned at least by the majority of people in a society. The higher the number of people who view an act as immoral, the stronger his argument becomes. Additionally, the law should not be quick to act, regarding new moral issues, and privacy should be protected as much as possible.[182,183]

According to Herbert Hart, law should not be perfectionist about morality, but only impose a minimum of shared morality which must be defined with critical reason. This mimimum of shared morality is adequate to make the cohabitation of people peaceful and harmonious, consequently it is not necessary to make a society morally "impeccable"[184] via law, by imposing a perfectionist morality.[185] For everything that exceeds this minimum shared morality, Hart values freedom of choice to do the moral thing. At the same time Hart stresses that this perfectionist morality of the social consensus might in reality not be a sense of morality, but simply the feeling of a certain society that a specific behaviour is distasteful, which could be irrational. In his words:

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[178].Idem p 8.
[179] Andrew Von Hirsch and Andrew P Simester, *Crimes, Harms, Wrongs* (Hart 2011), p 4.
[180] Dawid Bunikowski, 'Legal Protection Of The Value Of Public Morality: The Hart-Devlin Debate' (2015) SSRN Electronic Journal, p 3.
[181].Idem p 4.
[182] J. Paul McCutcheon, 'Morality and the Criminal law: Reflections on Hart-Devlin' (January 2002) available here: <https://www.researchgate.net/publication/318987564_Morality_and_the_criminal_law_reflections_on_Hart-Devlin> accessed 15 July 2019, p 33.
[183] Dawid Bunikowski, 'Legal Protection Of The Value Of Public Morality: The Hart-Devlin Debate' (2015) SSRN Electronic Journal, p 8.
[184] I use quotations, because Hart believes that the feelings of the social consensus about morality are not always reasonable and justified.
[185] Dawid Bunikowski, 'Legal Protection Of The Value Of Public Morality: The Hart-Devlin Debate' (2015) SSRN Electronic Journal, p 7.

> "It is impossible to see what curious logic has led Sir Patrick to this result. For him a practice is immoral if the thought of it makes the man on the Clapham omnibus sick."[186]

Hart excepts from the "minimum of shared morality" the acts that belong in the sphere of the private life, such as sexual/romantic preferences, which should be left up to the private morality of the individual.[187]

According to Dawid Bunikowski, insights from both Devlin's and Hart's views on public morality are used, and should be used, in various normative debates (euthanasia, abortion etc). The need of a community to have some common values in order to avoid disintegration cannot be overlooked. But the values that hold a community together must be defined on a case by case basis. In a contemporary pluralistic or multicultural society, the moral values holding the community together include tolerance, critical reason but also, emotions of the majority of people, and all of those should be taken into account in a balancing test, when legislating on a morally controversial act.[188]

5.3. Two more recent legal moralism theories: Steven Wall and Antony Duff

Steven Wall's theory of legal moralism uses an element of legal paternalism, so these two theories can partly overlap (moral paternalism). Steven Wall defends legal moralism as follows. He argues that there are four primary spheres of moral concern: a) autonomy, b) well-being, c) moral character and d) impersonal excellence. Although many Criminal law theories allow criminalisation only when the immoral act hurts the first or second sphere, Wall contends that acts which hurt the moral character should also be criminalised, because the moral character and, consequently, self-respect are important to one's well-being. According to Wall, the protection of well-being and moral character of individuals by Criminal law is not necessarily overly paternalistic and compromising the liberal values of autonomy and moral independence, since criminalisation of an act does not entirely take away the freedom of choosing to act, and also both criminalisation and non criminalisation affect moral independence in a way.[189]

Antony Duff's theory of legal moralism advocates criminalisation of "public wrongs", which are defined as immoral behaviours that are publicly prominent in a way that justifies publically holding the actor accountable for them. The criteria that should be fulfilled so that an act is criminalised are: a) immoral conduct, 2) deserving a public response, 3) deserving to publically hold the actor accountable so that the act is condemned. Duff's theory focuses on the role of Criminal law as an institution that serves a special social function, that of public disapproval of certain immoral acts so that the perpetrator corrects his/her behaviour.[190]

6. The precautionary principle versus the proactionary principle

The precautionary principle and the proactionary principle are two opposite approaches that can be followed in policy-making when confronted with a technology, the long-term harm or benefit of which is still uncertain due to lack of data and

[186] Idem p 6.
[187] Idem p 6.
[188] Idem p 9.
[189] John Danaher 'Robotic Rape and Robotic Child Sexual Abuse: Should They be Criminalised?' (2017) 11(1) Criminal law and Philosophy 71-95, p 78.
[190] Idem p 80.

evidence.[191] The precautionary principle dictates that when there is a plausible risk to a nascent technology, the policy makers should adopt a "better safe than sorry" policy, and delay the implementation and evolution of that technology, until evidence about the technology's consequences are obtained.[192] On the other hand, the proactionary principle, as defended by Max More, favours an objective review of the risks that the new technology entails, and stresses the need to embrace evolution. In More's words:

> "Encourage innovation that is bold and proactive; manage innovation for maximum human benefit; think about innovation comprehensively, objectively, and with balance."[193]

As observed by J Britt Holbrook and Adam Briggle, the two principles differ in the degree of scientific knowledge required before the implementation of a new technology. The precautionary principle requires a higher level of knowledge or anticipation of a technology's positive outcomes. On the other hand, Max More, with the proactionary principle, advocates implementation of a technology although there is a low level of scientific knowledge. In this way, societies would reap the potential benefits of the technology. Furthermore, the implementation of the technology would serve as an ongoing scientific experiment that allows us to gather reliable evidence about the technology's consequences.[194]

The precautionary principle has been extensively discussed in academia and written into official science (environmental) policy (European Commission 2000, Annex II), whereas the proactionary principle has been only little discussed in academia and is not employed in any official policy.[195] However, both approaches are considered by scholars useful to guide policy regarding implementation of new technologies, on a case by case basis. This means that the opponents and supporters of a technology should work together to find a middle ground and co-decide who should be burdened with the risk.[196]

7. Freedom of thought, freedom of expression, the right to respect for private life

Freedom of thought is one of the fundamental human rights enshrined in Article 9 ECHR[197] and Article 10 EU Charter of Fundamental Rights [CFR].[198] The right to freedom of thought is absolute and unconditional. Limitations can only be legitimately imposed on the manifestations of free thought, and not on free thought itself, as seen in Art. 9§2 ECHR. In Criminal law, it is an unquestionable maxim that the state should never punish thoughts, desires, fantasies, beliefs or unexecuted intentions.[199]

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[191] Max More, The Proactionary Principle; Optimizing Technological Outcomes in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future* (First Edition, John Wiley & Sons, Inc.2013).
[192] Idem.
[193] Idem.
[194] J Britt Holbrook and Adam Briggle (2013) 'Knowing and acting: The precautionary and proactionary principles in relation to policy making' 2 (5) *Social Epistemology Review and Reply Collective* 15-37, p 23.
[195] Idem p 18.
[196] Idem p 30.
[197] Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR) art 9.
[198] European Union, Charter of Fundamental Rights of the European Union [26 October 2012], 2012/C 326/02, available at: <https://www.refworld.org/docid/3ae6b3b70.html> accessed 7 November 2019 art 10.
[199] Gabriel S. Mendlow, 'Why is it Wrong to Punish Thought?' (2018) Yale L.J.127 no. 8: 2342-86.

Freedom of expression is protected in Art. 10 ECHR[200] and Article 11 EU CFR.[201] This right can be legitimately curtailed after a balancing test between this right and other rights or public interests, such as (amongst others) public safety, the prevention of disorder or crime and the protection of health or morals. Any limitation imposed on the right should be necessary in a democratic society.[202] The notion includes a proportionality test, namely the limitation should be an effective, necessary and stricto sensu proportionate means to the aim pursued.

The right to respect for private life is protected by Article 8 ECHR[203] and Article 7 of the EU CFR.[204] This right can be subject to restrictions when it clashes with (amongst others) the public interests of prevention of disorder or crime, protection of health or morals and the protection of the rights and freedoms of others. Any limitation of the right should be necessary in a democratic society (thus lato sensu proportionate, which means effective, necessary and stricto sensu proportionate for the aim pursued).[205] One of the protected aspects of private life is sexual life. For instance any prohibition of homosexual acts has been found to breach this right.[206] However, not every sexual behaviour is immune to restriction: for instance, incest[207] or sadomasochistic sexual activity that causes or can potentially cause severe injury,[208] was found by the ECtHR to fall out of the scope of this right.

9. Reflections

Legal intervention on an act is determined according to various different theories and rationales. Harm to others is considered the most solid base that would support an act's prohibition or restriction, since it is not questioned by legal scholars of different ideologies. The offence principle and legal paternalism are also accepted by most scholars, except the extreme liberals[209] who only accept harm as a justification for an act's criminalisation. Legal moralism, on the other hand, does not have a good

[200] Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR) art 10.
[201] European Union, Charter of Fundamental Rights of the European Union [26 October 2012], 2012/C 326/02, available at: <https://www.refworld.org/docid/3ae6b3b70.html> accessed 7 November 2019 art 11.
[202] Steven Greer, 'The exceptions to Articles 8 to 11of the European Convention on Human Rights' (Council of Europe Publishing 1997) Human Rights Files No 15, available at <https://www.echr.coe.int/LibraryDocs/DG2/HRFILES/DG2-EN-HRFILES-15(1997).pdf>, accessed 10 November 2019, p 14-17.
[203] Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR) art 8.
[204] European Union, Charter of Fundamental Rights of the European Union [26 October 2012], 2012/C 326/02, available at: <https://www.refworld.org/docid/3ae6b3b70.html> accessed 7 November 2019 art 7.
[205] Steven Greer, 'The exceptions to Articles 8 to 11of the European Convention on Human Rights' (Council of Europe Publishing 1997) Human Rights Files No 15, available at <https://www.echr.coe.int/LibraryDocs/DG2/HRFILES/DG2-EN-HRFILES-15(1997).pdf>, accessed 10 November 2019, p 14-17.
[206] European Council, Guide on Article 8 of the Convention–Right to respect for private and family life [last updated 31 August 2019], available at <https://www.echr.coe.int/Documents/Guide_Art_8_ENG.pdf > accessed 7 November 2019, p 31.
[207] *Stübing vs Germany* [12 April 2012] ECtHR App no 43547/08 ECLI:CE:ECHR:2012:0412JUD004354708 available at <https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-110314%22]}> accessed 7 November 2019
[208] *Laskey and others v. The United Kingdom* [19 February 1997] ECtHR App no. 21627/93; 21628/93; 21974/93 ECLI:CE:ECHR:1997:0219JUD002162793 available at <https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-58021%22]}>accessed 7 November 2019.
[209] Like Stuart Mill, see n 168.

historical precedent, since this train of thought has been used with devastating results on the lives of people, such as homosexuals, in the past. Furthermore, which behaviours fit into the notion of public morality, is also a contentious matter, since, not only what is considered moral changes throughout the decades, but also there are disagreements even at the same point in time. However, legal moralism is far from being obsolete in today's legal discourses. The immorality of an act is often brought up as an argument in favour of the act's criminalisation or prohibition, for instance in the cases of prostitution or gambling. In most cases though, public morality arguments are combined with other arguments (eg. risk of harm, or public interests) to lead to an act's prohibition.

To summarise, in Europe, the harm principle, the offence principle and legal paternalism are employed more often for an act's prohibition. On the other hand, legal moralism plays a decisive role for an act's prohibition only in certain cases, and Hart's criteria for public morality seem to be taken into account, along with Devlin's, e.g. critical reason in assessing which acts are immoral, and not just people's feelings. For this reason, in this thesis a more balanced version of legal moralism will be employed (compared to Devlin's legal moralism), as insights from both Devlin's and Hart's views on public morality will be used to assess RR and RCSA.[210]

The theoretical framework that was described in this Chapter, and which is used in European law-making, gives to the legislator some general guidelines. However, there is always the margin of appreciation of the legislator to weigh conflicting arguments and choose a legislative route that (he/she thinks) will benefit a certain political goal or agenda. For instance, a politician that finds the utter eradication of sexist beliefs more important than freedom of expression, and thinks that banning RSB will benefit that political goal, is more probable to accept a lower level of evidence supporting that RSB exacerbate gender inequality, than a politician that assesses the same issue otherwise. This explains why, in practice, the theories that different legal philosophers have proposed, are not always implemented faithfully by different legislators, but only serve as guidelines, and tools for our argumentation.[211]

[210] This more balanced version of legal moralism is based on a critical assessment of Devlin and Hart's arguments, found in the work of Dawid Bunikowski, see: Dawid Bunikowski, 'Legal Protection Of The Value Of Public Morality: The Hart-Devlin Debate' (2015) SSRN Electronic Journal.

[211] For instance, as will be discussed in Chapter 5, virtual child pornography is criminalised although there is no definitive evidence that watching virtual child pornography has harmful consequences, i.e. increases child sexual abuse rates.

CHAPTER 4
ROBOTIC RAPE: VIOLENT FANTASIES

"These violent delights have violent ends"
Friar Laurence (fictional character)

from William Shakespeare's "Romeo and Juliet"
ActII, Scene VI

1.Introduction

1.1. A "Westworld" scenario

The concept of a humanoid robot's rape has been artistically explored in many works of fiction, such as the HBO TV series "Westworld". In Westworld, which is a futuristic adventure park populated by humanlike robots called "the hosts", visitors can live out even their darkest fantasies. Murder and rape of the hosts are acceptable in this park, but, interestingly, for the viewers, the characters' behaviour towards the robots separate the heroes from the villains. One philosophical question that Westworld raises is whether taking pleasure in immoral acts towards artificial agents reveals our true character. In the words of one of the protagonists**:**

> "I used to think this place was all about pandering to your baser instincts. Now I understand. It doesn't cater to your lowest self, it reveals your deepest self. It shows you who you really are."[212] (William, fictional character)

With the advent of sex robots that can be programmed to cater to any fantasy, including rape fantasy, the philosophical issues posed by "Westworld" become relevant for today's society. From a legal point of view, more relevant and concerning is a question asked by robot ethicists: can immoral acts, such as rape, towards artificial agents, result in immoral acts towards humans, by desensitizing the perpetrator to violence? According to HRI expert Kate Darling, violence towards robots could have two possible outcomes: either sate unhealthy urges in a harmless way, or stimulate these urges.[213] How then should law deal with this risk that sex robots bring? This Chapter will explore the real life instances of the phenomenon of robotic rape [henceforth RR[214]], explaining how law and society could confront them, specifically in Europe.

1.2. Outline of this Chapter

This Chapter will approach RR as follows:

i. First, there will be a definition of RR and the related concepts, such as rape and rape sex robots [henceforth RSB[215]], so that the subject of the analysis, and the relevant notions that will be repeatedly used throughout the Chapter are clearly defined.

ii. Afterwards, the reasons why RR is a legal issue will be presented, since it is not obvious why a victimless act is a matter of legal concern.

iii. Subsequently, the main legal theories that can be applied in the case of RR will be used to assess whether or not legal intervention is warranted.

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[212] Westworld, Season 1 Episode 7, *'Trompe L'Oeil'* (HBO 2016).
[213] Yasmin Tayak, 'The True Cost Of Westworld's Robot Sex' (*Inverse*, 3 October, 2016) <https://www.inverse.com/article/21654-westworld-sex-robot-consent-rape-culture-science> accessed 9 August 2019.
[214] Acronym: RR: Robotic Rape.
[215] Acronym: RSB: Rape Sex Bots.

iv. After that, there will be a comparison of RR to comparable phenomena, such as rape pornography and virtual rape in videogames, whereby inferences can be drawn for the regulation of RR.

v. Then, the question whether regulation of RR currently exists will be answered, and subsequently some potential targets and forms for future regulation will be presented. As stated in the Introduction of the thesis,[216] this thesis will not argue in depth on which one of the possible intervention targets or forms is legally advisable, but will keep to assessing whether intervention is advisable or not. However, there will be a brief overview of the possible intervention targets and forms that have been discussed by experts and some recommendations in the conclusions. The reason for that is to clarify what legal intervention could potentially mean, and to show that legal intervention is feasible.

v. Lastly, the Chapter finishes with some reflections on the preceding analysis and some recommendations.

2.Definition of robotic rape

2.1. Relation between robotic rape [RR] and rape

Before defining RR, it is crucial to stress that RR is an act fundamentally different from the act of rape, and definitely not a kind of rape. The phrase "robotic rape" is used as a succinct phrase to analogically refer to the act of using a RSB or, in other words, simulating rape by use of a robot. The major difference of rape and RR is that the act of rape has a human victim, whereas the act of RR is perpetrated on an insentient artificially intelligent robot. Therefore, RR can only cause indirect harm, and the harm it might cause is actually heavily contested,[217] which creates controversy regarding the legal intervention on this act. On the contrary, rape is a criminal act in all European jurisdictions. While RR is not rape, it is an act related to rape in two ways. First, RR is a simulation of rape, by use of a sex robot whose AI is programmed to oppose to sexual advances. Second, the potential harm of RR, that the opponents of RSB are worried about, is harm against the sexual dignity and autonomy of women, which is also part of the harm in rape. Since rape is a central notion in the discussion of RR, it is important to start explaining the phenomenon of RR with the definition of rape.

2.2. Definition of rape

Rape is a crime in all European jurisdictions. In a generic definition, rape is "forcible sexual relations with a person against that person's will."[218] In most European jurisdictions, child sexual abuse is considered as a distinct offence, but when it is included in rape, it constitutes aggravated rape.[219,220] Moreover, rape is, in most jurisdictions, gender neutral, which means that, according to the gender neutral language used in most legal provisions, rape can be perpetrated by both men and women.[221] Lastly, a kind of rape that in many countries was not criminalised until recently is marital rape, which is rape perpetrated by the victim's spouse. Its

[216] Chapter 1 "Introduction: Brave New World", Sections 5 and 6b.
[217] As will be explained in Section 3.2.
[218] 'Legal Definition Of Rape' (*TheFreeDictionary.com*, 2019) <https://legal-dictionary.thefreedictionary.com/rape> accessed 11 August 2019.
[219] Child sexual abuse will be defined and discussed in Chapter 5, Section 2.2.
[220] European Institute for Gender Equality, Analysis of national definitions of rape (2016) p 2.
[221] European Institute for Gender Equality, Analysis of national definitions of rape (2016) p 3.

criminalisation was suggested to the European countries by European Parliament's Resolution on Violence Against Women of 1986,[222] Recommendation Rec(2002)5 of the Committee of Ministers,[223] and currently it is stipulated by Council of Europe Convention on preventing and combating violence against women and domestic violence,[224] which is signed by all EU member states (and ratified by 22 EU member states).

The exact formulation of rape's constituent elements and the sanction imposed on the perpetrator depends on the specific Criminal Code of each country. Most definitions are formulated in a broad way, so that they include all forms and all means of penetration. These broad formulations, such as the phrases "sexual intercourse" or "sexual acts" imply, but in most cases do not clearly say, that vaginal, anal, and oral penetration is included in the definition of rape. The means of the penetration are also in most cases implied and not clearly stated, but in most cases the law includes all means of penetration (with the exception of the UK law, that specifically mentions penile penetration). Most jurisdictions require the act to be forceful, as they refer to violence, threat to use violence, intimidation or constraint. Most jurisdictions also, except force, include exploitation of vulnerabilities, such as physical or mental impairment of the victim, as an alternative requirement in the definition of rape.

The requirements of forcefulness or exploitation of vulnerabilities have been criticised, because they imply that it is required from a capable victim to exhibit physical or verbal resistance. However, it is supported that lack of positive consent is enough to substantiate the crime of rape.[225,226] Currently, lack of consent is, in the majority of countries, just one of the requirements for the crime of rape to be substantiated; some jurisdictions include in their definitions of rape the lack of consent, and some imply it by mentioning the forcefulness of the act.[227] Interestingly, according to the Criminal law of the UK[228] "lack of reasonable belief in consent" is required as a part of the perpetrator's mens rea. This can be used as a defence: if the perpetrator can prove facts that establish his reasonable belief in consent, he[229] is exempted. This provision has been criticised by legal scholars, since the facts that can prove reasonable belief in consent are subjective and there is no general agreement and legal certainty

[222] European Parliament (EU) A2-44/86 'Resolution on Violence Against Women' [1986] OJ. C. 176, available at <https://www.legislationline.org/documents/id/8716>, accessed 11 August 2019, p 73-83.
[223] Committee of Ministers (EC) 'Recommendation Rec(2002)5 of the Committee of Ministers' available at <https://www.coe.int/en/web/genderequality/recommendation-rec-2002-5-and-other-tools-of-the-council-of-europe-concerning-violence-against-women> accessed 11 August 2019.
[224] Council of Europe (EC) ' Convention on preventing and combating violence against women and domestic violence' [2011] CETS no.210, available at <https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/210> accessed 11 August 2019.
[225] Lucy Reed Harris, 'Towards A Consent Standard In The Law Of Rape' (1976) 43 The University of Chicago Law Review <https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=3887&context=uclrev> accessed 11 August 2019.
[226] See this article from the website of Amnesty International.: Anna Błuś, 'Sex Without Consent Is Rape. So Why Do Only Eight European Countries Recognise This?' (*Amnesty.org*, 2018) <https://www.amnesty.org/en/latest/campaigns/2018/04/eu-sex-without-consent-is-rape/> accessed 11 August 2019.
[227] European Institute for Gender Equality (2016), Analysis of national definitions of rape, p 3.
[228] In the UK and Wales, rape is defined in Criminal law (Rape) Act 1981 (as amended) s 2. In Scotland rape is defined in Sexual Offences (Scotland) Act 2009 s 1. In Northern Ireland rape is defined in the Sexual Offences (Northern Ireland) Order 2008 art 5. All these provisions require lack of reasonable belief in consent as a constituent element in the offence of rape.
[229] This specific English law provision refers specifically to male perpetrators.

regarding what these facts include.[230,231] Courts have decided in the past that there was reasonable belief in consent, even though the woman was crying or turned cold, which are typical behaviours of women who do not consent, and should make a man, at least, suspicious (if not certain) about the lack of consent.[232] Moreover, according to respondents to surveys (who could possibly be the future jury deciding the outcome of a rape case), getting drunk or accepting a lift from a stranger are behaviours that might establish reasonable belief in consent.[233]

2.3. Definitions of robotic rape [RR]: John Danaher and Robert Sparrow

John Danaher describes RR as a representation of rape by use of a sex robot that is designed to give signals of non-consent.[234] As Danaher observes, this definition of RR begets two questions.[235] First, shouldn't all robotic sex acts considered to be RR, since robots are not moral agents, thus they are unable to grant consent? Danaher tackles this first question by pointing out the more serious concerns raised by sex robots that actively refuse consent, which warrants limiting the definition of RR to those cases, at least for the present time. The cases when consent is explicitly refused are more blatant cases of rape simulation, whereas it can be said that sexual intercourse with a regular sex robot, which probably shows signals of consent and mutuality (even if that is not true consent, because a robot cannot consent) constitutes a simulation of consensual sexual intercourse and not rape. The second question is what exactly can be regarded as a signal of non-consent. Or, in a different formulation, how can lack of reasonable belief in consent be established?[236] Danaher explains that the different signals of sexual consent are a disputed matter both among scholars and among the general public. In order to not complicate the definition of RR with the distinction of different types of consent refusal and subsequently different types of non-consensual sex, Danaher proposes, for the purposes of a basic definition of RR, to focus on the paradigmatic signals of non-consent: refusal of consent can be signaled orally, by unambiguous vocal utterances, or expressed behaviourally, by physical movements that constitute forcible resistance. These paradigmatic signals of non-consent according to Danaher are unambiguous, so gray zones such as the ones discussed in Section 2.2. are not included in the signals of non-consent in the case of RR. These non-paradigmatic signals of non-consent may, for example, include the robot's turning cold towards the

[230] Jacqueline M. Gray, 'What Constitutes A “Reasonable Belief” In Consent To Sex? A Thematic Analysis' (2014) 21 Journal of Sexual Aggression <http://eprints.mdx.ac.uk/18885/> accessed 11 August 2019.
[231] Dana Berliner, 'Rethinking The Reasonable Belief Defense To Rape' (1991) 100 The Yale Law Journal <https://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=7381&context=ylj> accessed 11 August 2019.
[232] Idem p 2705.
[233] Jacqueline M. Gray, 'What Constitutes A “Reasonable Belief” In Consent To Sex? A Thematic Analysis' (2014) 21 Journal of Sexual Aggression <http://eprints.mdx.ac.uk/18885/> accessed 11 August 2019.
[234]John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.
[235] Idem.
[236] John Danaher notes that this latter formulation is preferable, because it focuses on the perpetrator's character, which is the centre of the argument that he develops in his paper. See John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019, fn 14.

user, trying to reason with the user to avoid sexual intercourse, crying, or physically struggling but not to the point of forceful resistance.[237]

Robert Sparrow uses a similar but slightly broader definition for RR. He mentions the possibility that the refusal of consent is not intentionally pre-scripted by the robot's software designers, but an unanticipated outcome of the robots' artificially intelligent reaction to a series of stimuli. He also suggests that any sexual intercourse with a robot that fails to explicitly signal consent could be considered as RR.[238] John Danaher, on the contrary, explicitly refers to robots created "deliberately" to mimic signals of non-consent. He also limits his definition of RR to the cases where the sex robot gives "paradigmatic" signals of non-consent, namely unambiguous verbal opposition or forceful physical resistance, leaving the less clear cases of "non-paradigmatic signals of non-consent" to future further research on the topic of RR.

For the purposes of this thesis, the act of RR is the use of a RSB, namely a sex robot that is programmed by the developers of its software to signal refusal or resistance to its user's sexual advances, in order to facilitate a rape simulation. This means that the arguments that will be presented in this thesis will be referring to RR, as defined by John Danaher. The reasons for this choice are four. First, Danaher's definition is more suitable for a legal analysis, where importance is placed on the evaluation of manufacturer's deliberate production of rape-simulation artefacts.[239] In case of non-deliberate production of a sex-robot that can be raped, there are practical evidence problems that hamper discussions about legal intervention. For example it would be difficult for an authority to prove the responsibility of the robot's manufacturers and difficult to prove that RR has taken place. Second, robots are not yet advanced enough to be able to have autonomous reactions that delineate from their pre-planned and limited repertoire of responses, so such discussions are less relevant to the present time than discussions about a "Frigid Farrah"[240]-type of robot. Third, for the foreseeable future robots will not be considered as moral agents, so there is no concern regarding their moral rights, that would impose including non-paradigmatic signals of non-consent, when defining RR. Fourth, the representation of rape, by using sex robots that appear to refuse consent in a way that is undisputably recognisable for the general public, via those paradigmatic signals of consent-refusal, warrants legal assessment of RR based on the theory of public morality. The reason for that is that public morality is the sum of moral standards held by the majority of the right-thinking individuals in a society,[241] so RR clashes with public morality only if it is defined in a way that the majority of people would perceive as an act of rape simulation, thus an immoral act.

2.4. Definition of rape sex robots [RSB] and current examples

RSB can be defined as the robots that are designed to facilitate the simulation of rape. The simulation of rape happens through pre-programmed vocal or bodily reactions of the sex robots that simulate physical resistance or verbal opposition

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[237] Dana Berliner, 'Rethinking The Reasonable Belief Defense To Rape' (1991) 100 The Yale Law Journal, 2705, available at <https://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=7381&context=ylj> accessed 11 August 2019.

[238] Robert Sparrow, 'Robots, Rape, And Representation' (2017) 9 International Journal of Social Robotics p 466.

[239] This is explicable since John Danaher is a legal scholar/philosopher and Robert Sparrow is an ethicist.

[240] Friggid Farrah is arguably a RSB model by the company TrueCompanion, and will be discussed in Section 2.4.

[241] See Chapter 3, Section 5.2. and n 170.

to the user's sexual advances. So far, the only[242] example of such an artefact is arguably Roxxxy, one of the most famous sex robot models, made by the company TrueCompanion. Roxxxy has a personality setting called "Frigid Farrah" which appeared to cater to rape fantasies: the company's website description of "Frigid Farrah's personality used to be the following:

> "if you touch her in a private area, more than likely, she will not be to appreciative of your advance".[243]

After reactions from various media,[244] including the feminist blog "The everyday sexism Project", the company's website withdrew this description, and replaced it with a disclaimer:

> "An Open Letter from the Management at TrueCompanion. We absolutely agree with Laura Bates, campaigner and founder of the Everyday Sexism Project, that "rape is not an act of sexual passion...". Roxxxy, our True Companion sex robot is simply not programmed to participate in a rape scenario and the fact that she is, is pure conjecture on the part of others. When our sex robot, Roxxxy, is using her Frigid Farrah personality (note: she uses all of her personalities, rather than simply staying in one), she provides her opinion or feedback, just as any person would on a date. For instance, you would not immediately passionately kiss a person (male or female) that you just met on your first date. Likewise, Frigid Farrah would also tell you that she just met you if you try to "move" too quickly. Frigid Farrah can be used to help people understand how to be intimate with a partner. (...)"[245]

But even if Frigid Farrah is just created to simulate the experience of a first date, where sexual advances are untimely and unwanted, as its manufacturers claim,[246] the issue remains: since sex robots' responses and behaviour are fully customisable, and only limited by the imagination of the software developers who code the corresponding software applications, it is possible that the future might bring cases of sex robots that cater to rape sexual fantasies.

A special category of robots that are designed to simulate unconsensual sex (rape) are CSB, which specifically are designed to simulate child sexual abuse. As was mentioned in Section 2.2, child sexual abuse is, in most European jurisdictions, a separate offence due to the special circumstances of these cases (lack of the legal age of sexual consent, vulnerability of the victim). For this reason, child sex robots [CSB] and robotic child sexual abuse [RCSA] will be discussed in detail in Chapter 5.

3. Why is robotic rape [RR] a legal problem

3.1. Moral wrongness

The prospect of propagation of "Frigid Farrahs" in society is worthy of attention and reflection from legal scholars for several reasons. To begin with, RR is an act that is morally controversial, as the morality of it is questioned both in public and in

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[242] This is the only example of a RSB that received publicity.

[243] Beth Timmins, 'New Sex Robots Have 'Frigid' Setting Which Allows Men To Simulate Rape' (*The Independent*, 19 July 2017) <https://www.independent.co.uk/life-style/sex-robots-frigid-settings-rape-simulation-men-sexual-assault-a7847296.html> accessed 28 February 2019.

[244] Laura Bates, 'The Trouble With Sex Robots' (*The New York Times*, 2017) <https://www.nytimes.com/2017/07/17/opinion/sex-robots-consent.html> accessed 6 August 2019.

[245] 'Frequently Asked Questions (FAQ)' (*Truecompanion.com*) <http://www.truecompanion.com/shop/faq> accessed 28 February 2019.

[246] Beth Timmins, 'New Sex Robots Have 'Frigid' Setting Which Allows Men To Simulate Rape' (*The Independent*, 17 July 2017) <https://www.independent.co.uk/life-style/sex-robots-frigid-settings-rape-simulation-men-sexual-assault-a7847296.html> accessed 31 March 2019.

academic discussions. For instance, in January 2018 a British Member of the Parliament, Jo Swinson held a debate on ethical issues to Artificial Intelligence, where RR was mentioned as one of the morally concerning issues of AI.[247] Furthermore in the academic world, Robert Sparrow characterises RR as unethical, because according to him, it can lead to an increase in rape rates, it is derogatory for women and it shows a character defect of the perpetrator.[248] Even if we take RR as a harmless demeanour ("pure" RR, as John Danaher calls it), the fact that RR is morally controversial, is enough, according to scholars that subscribe to the theory of legal moralism, to warrant discussions about possible legislative intervention. Public morality still plays a role in legal-political debates, even though this role is diminished compared to the past.[249] Morally controversial behaviours that do not have a specific identifiable victim have historically been the subject of legal regulation, such as laws against gambling, alcohol, prostitution and drug use.

3.2. Extrinsic effect

In connection to moral wrongness, almost as a specification of it, RR is concerning because of the possibility that this phenomenon is not actually harmless. Sex robots could have some kind of extrinsic effect to real sexual violence. This extrinsic effect could be positive, meaning that the existence of sex robots that mimic forced sex decrease the rate of sexual violence crimes, or negative, meaning that the existence of those robots increase the rate of real rapes in society. There is also the possibility that there is no significant extrinsic effect of these rape robots regarding real sexual violence.[250] Currently there is no sufficient scientific evidence for the extrinsic effects of RR, because sex robot technology is nascent;[251] the first sex robot, Roxxxy, was only unveiled in a 2010 exhibition.[252] These artefacts have only been used by their buyers for a few years, not enough time to make research possible. Furthermore, the number of people who own sex robots, is relatively small and the percentage of people who may have engaged in RR is even smaller. There is no adequate sample to draw conclusions

[247] See the following news sites' articles:
Caron Lindsay, 'Jo Swinson Debates Ethics And Artificial Intelligence – And Suggests The Lovelace Oath" (*Liberal Democrat Voice*, 19 January 2018) <https://www.libdemvoice.org/jo-swinson-debates-ethics-and-artificial-intelligence-and-suggests-the-lovelace-oath-56413.html> accessed 4 April 2019 ;
James Rodger, 'Fears over sex robots with 'frigid' setting to resist sexual advances'(17 January 2018) <https://www.birminghammail.co.uk/news/uk-news/fears-over-sex-robots-frigid-14169717> accessed 4 April 2019.
See the transcript of the recorded debate about Artificial Intelligence and Ethics in the British Parliament: 'Ethics And Artificial Intelligence - Hansard' (*Hansard.parliament.uk*, 17 January 2018) <https://hansard.parliament.uk/Commons/2018-01-17/debates/033B61B9-65CE-417A-91EC-4407B466197F/EthicsAndArtificialIntelligence#contribution-600FCB9E-A9F7-4723-B688-9A5EF7518E89> accessed 4 April 2019.
[248] Robert Sparrow, 'Robots, Rape, And Representation" (2017) 9 International Journal of Social Robotics, p 465.
[249] For instance, adultery used to be criminalised in certain European states, such as Greece, due to its immorality. Now, no European States uphold this criminalisation.
[250] John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.
[251] Chantal Cox-George and Susan Bewley, 'I, Sex Robot: The Health Implications Of The Sex Robot Industry' (2018) 44 BMJ Sexual & Reproductive Health <https://www.researchgate.net/publication/325558553_I_Sex_Robot_The_health_implications_of_the_sex_robot_industry> accessed 4 April 2019.
[252] Tim Hornyak, 'Sex Robot Roxxxy Looking For Action' (*CNET*, 11 January 2010) <https://www.cnet.com/news/sex-robot-roxxxy-looking-for-action/> accessed 4 April 2019.

regarding the effect that their wide use would have in society. Additionally, research on the effects of RR on the rate of rapes is inherently difficult: there are ethical considerations against carrying out a research that can risk increasing sexual violence, and there are practical difficulties of measuring the results of the research, since a percentage of rapes are never solved, or even reported to the authorities by the victims. Although there are no empirical data, some researchers used an argument from psychology to claim that a positive effect of RSB in the real rape rate is improbable; sexual assailants' motivation is not the need to fulfil sexual urges, but the urge to exercise dominance on a living human being, which cannot be satisfied by RR.[253] On the other hand, this could potentially attest to the claim that RSB are not used to enact rape fantasies, but (consensual) sadomasochistic sexual acts. Overall, the general consensus is that reliable data and research on this topic are lacking.

This debate about RR's extrinsic effect is a matter of interest to legal scholars as criminological and sociological research of the future could reveal that sex robots that replicate rape are not in reality harmless, and that would warrant their criminalisation on the grounds of the protection of the public. A matter of interest for legal scholars is also how law should deal now with a phenomenon the social consequences of which are so highly debated and uncertain at present. An added difficulty to the problem is the fact that the speculative claims about the extrinsic effect of sex robots that mimic rape are so diverse: as mentioned, the extrinsic effect could be positive, negative or insignificant.[254] The possible directions that the legislator can follow when dealing with a technology with unpredictable consequences are two: The legislator could either take a preventive approach, for precautionary reasons, or be more risk-tolerant, under the proactionary principle and allow the technology to evolve at liberty until there is scientific evidence about its consequences, as will be explained in detail in Section 4.5 of this Chapter.

3.3. Societal reactions

The story of "Frigid Farrah" tells us that sex robots of this kind will probably face societal disapproval. The shock and criticism that this artefact provoked indicates that a part of the society finds the existence of sex robots that mimic unconsented sex abhorrent and potentially dangerous.[255] The main reason for this backlash is that some people are worried about the possible adverse consequences that unobstructed circulation of these artefacts could have in society, by possibly normalising rape urges and encouraging real rapes to happen. Feminist critics of sex robots have used in their critique the sociological concept of "rape culture", namely the

[253] Federica Facchin, Giussy Barbara, Vittorio Cigoli, 'Sex robots: the irreplaceable value of humanity' (2007) 358:j3790 BMJ.
[254] John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy, <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.
[255] See for instance the following news articles commenting on the story of Frigid Farrah: Eleanor Penny, 'What Are Women For? Sex, Robots & ‘Frigid Farrah' (Medium.com, 21 July 2017) <https://medium.com/@eleanorkpenny/what-are-women-for-sex-robots-frigid-farrah-ccec24b7db28> accessed 31 March 2019; Beth Timmins, 'New Sex Robots Have 'Frigid' Setting Which Allows Men To Simulate Rape' (*The Independent*, 17 July 2017) <https://www.independent.co.uk/life-style/sex-robots-frigid-settings-rape-simulation-men-sexual-assault-a7847296.html> accessed 31 March 2019; Simone Mitchel, 'Sex Robot's 'Frigid' Setting Encourages Simulated Rape' (*Fraser Coast Chronicle*, 21 July 2017) <https://www.frasercoastchronicle.com.au/news/sex-robots-frigid-setting-encourages-simulated-rap/3203077/> accessed 31 March 2019.

sum of the beliefs and attitudes in society that lead to sexual violence.[256] According to feminist critics, rape culture is being reinforced and perpetuated by "rape" settings of sex robots.[257] So, as mentioned before, although in RR there is no human victim, and there is no direct extrinsic harm inflicted upon another person, people are concerned with the possible indirect harm that will be caused by indirect encouragement of crimes that would have human victims. The societal reaction, once these controversial sex robots become more available and present around us, can reach the point of a public petition to ban this type of sex robots by law. This is a plausible possibility, especially if we take into account the fact that there already are voices that request a ban on sex robots in general, such as Kathleen Richardson's Campaign Against Sex Robots.[258] It is noteworthy that other similar technologies such as sex toys are the subject of such bans in some parts of the world, such as in the US state of Alabama.[259] Legal scholars ought to be concerned with the possibility of such a public demand in advance, so that ultimately lawmakers are better informed when making legislative decisions, and not base their decisions entirely on the pressure groups' requests or claims.

4. Theoretical framework that applies to legislative intervention

4.1. The harm principle

RR is an act that is victimless, and causes no direct harm. However, RR arguably[260] causes remote harm, by reinforcing "rape culture", and normalising unconsented sexual intercourse, which could have the long-term adverse consequence of an increase in the rate of rapes. If, hypothetically, we accept and prove that this remote harm exists, then RR could be criminalised under the harm principle. The remote harm that RR could cause is of criminal nature, so this requirement for criminalisation of the act is also fulfilled. The requirement that the act should be imputed to the actor could also be fulfilled, if we take it that it is a citizen's responsibility to contribute to the decrease of social inequality and crime rate. Currently, the act of RR is not proven to have these adverse remote consequences, as the harm principle stipulates. For that reason, RR cannot be criminalised based on the harm principle, as proposed by A. von Hirsch and A.P. Simester.

4.2. The offence principle

RSB would probably be an affront to many people's sensitivities, as reactions to Frigid Farrah show.[261] Some people would find the act of RR distasteful or disturbing, since it is (or it seems that it could be[262]) a representation of a criminal act and in any case, it has a sadist element to it. RR could be indicative of an inclination of

[256] This definition of rape culture is drawn from information in this book: Emilie Buchwald, Pamela R Fletcher and Martha Roth, *Transforming A Rape Culture* (Milkweed Editions 2005).
[257] Laura Bates, 'Opinion: The Trouble With Sex Robots' (*Nytimes.com*, 17 July 2017) <https://www.nytimes.com/2017/07/17/opinion/sex-robots-consent.html> accessed 31 March 2019.
[258] 'Campaign Against Sex Robots' (*Campaign Against Sex Robots*, 2019) <https://campaignagainstsexrobots.org/> accessed 23 February 2019.
[259] Anti-Obscenity Enforcement Act 1998.
[260] As explained in Section 3.2., the possible extrinsic effects of robotic rape, namely its long-term consequences in society are not known but only speculated, because up to this time there is no research done to ascertain them.
[261] See n 245.
[262] It could also be the representation of a consensual sadomasochistic sexual act. It depends on how the perpetrator views it, which is hard to ascertain.

the perpetrator to anti-social (aggressive, cruel) or even criminal (rape) behaviour. Ethicists like Robert Sparrow maintain that RR could probably reveal sexist or even misogynist attitudes of the perpetrator.[263] However, the offended persons can easily avoid the affront, by not visiting websites that sell RSB: the software that facilitates RR can be only used/seen by its buyers (it is not visible in public view). What would be visible in public view, would be the description of the artefact's software in a sex robot commercial website, which is easily avoidable by people who do not want to be affronted with such artefacts. Furthermore the social value of the artefacts is unknown, since there has been no research/evidence regarding their extrinsic effect on sexual violence rates. Last, if we accept von Hirsch and Simester's version of the offence principle, RR and surrounding acts such as their sale cannot be criminalised since there is no evidence on their harmful effects. Overall, it seems that the impact of the affront is not strong enough to justify legal intervention, mainly because the affront with RSB is easily avoidable.

4.3. Legal paternalism

Legal paternalism could justify regulating RSB, on the condition that it is proven that RR has negative effects on the perpetrators, which is at the moment highly debatable. More specifically, paternalism could be justified because the goal of preventing sexual violence crimes from taking place or the goal of protecting the users' mental health is a more important good than the protection of individuals' liberty to use RSB. Furthermore, RSB's consequences for the users' mental health could be negative,[264] which would, in that case, justify a paternalistic intervention of the law, since a fully rational individual would always choose to protect his/her mental health.[265] If RSB are harmful to the individual, there is no other way to prevent that harm than to hamper the use of RSB, which is the least restrictive legislative intervention, in the absence of alternatives. Moreover, interventions on the manufacture, import or distribution of RSB could also be justifiable according to legal paternalism, since often paternalistic laws are imposed on persons other than the ones that the law aims to protect. All that said, legal paternalism requires evidence for the harmfulness of the act, and not just speculations or opinions. Since such evidence does not exist at present regarding RSB, legal paternalism cannot at present justify legal intervention on RR.

4.4. Legal moralism

4.4.1. Public morality: Devlin-Hart

RR is considered immoral by ethicists and lay people.[266] It is also considered dangerous, as experts have explained the potential (yet unproven) risks of RSB, and people seem to worry about them. These reactions are not currently aggravated because of the low social diffusion of sex robots and rape-simulating software. Moreover, along with the voices that are against RSB, there are others that herald their potential therapeutic or cathartic effect for people who have sexual

[263] Robert Sparrow, 'Robots, Rape, And Representation' (2017) 9 International Journal of Social Robotics, p 466.
[264] As explained in Section 3.2.
[265] See n 164.
[266] As explained in Section 3.1 and 3.3.

aggression urges.[267] Lastly, the immorality of RR is also disputed by some people who view RSB as replication of consensual sadomasochistic fantasies and not as replication of rape, and do not find the aforementioned fantasies immoral.[268]

Since there are already moral concerns about RSB, it is plausible that the proliferation of rape simulating software for sex robots could potentially in the future cause reactions from the majority of people, to the point of threatening societal integrity, as Devlin's public morality theory describes. Contemporary European societies enjoy a high level of diversity and tolerance, especially when it comes to sexual preferences. However, there is increasing sensitivity on gender equality issues, and sexism phenomena, such as "rape culture", which some people claim that would be reinforced by RSB. In practice, sadomasochistic sex toys and imagery is generally tolerated in Europe (even if they are considered distasteful by many people). Only very extreme cases of virtual rape in videogames and, only in some countries, rape pornography, are subjected to prohibitions.[269] The very realistic appearance of RSB could potentially be considered extreme and, as a result, fall outside the limits of the societal tolerance of sexual liberty. Furthermore, RSB are not a new moral issue, since similar issues such as rape pornography and virtual rape in videogames have been debated for many years, and in many cases, restrictively regulated. Based on the above, RSB can be regulated according to Devlin's public morality theory.

According to the additional criteria that Herbert Hart sets for public morality to be used as a rationale in order to restrict an act, RR should not be a subject of legal prohibition. According to him, the law can legitimately impose only a minimum of shared morality that should be defined with critical reason, and not just emotions. A view of RR with critical reason would reveal that the act is not blatantly immoral, as it may be an expression of sadomasochistic sexual preferences and not a desire to commit rape. Furthermore, it is an act that belongs in the sphere of the private life, since it is a sexual practice that happens behind closed doors and only involves the perpetrator, so according to Hart's view on public morality, its prohibition seems unjustified.

4.4.2. Legal moralism: Stephen Wall and Antony Duff

Stephen Wall and Antony Duff defend legal moralism using arguments different than Devlin's ones. They focus, respectively, on the moral harm that RR perpetrators would suffer, that law ought to prevent, and the social function of law as an institution that punishes salient wrongdoing. John Danaher uses their takes on legal moralism,[270] to argue that if one accepts the theory of legal moralism, one should probably also accept the criminalisation of RR, because RR satisfies the criteria they respectively set: it harms the moral character of the perpetrator and it constitutes a

[267] An interesting opinion I heard in a YouTube opinion-video on the topic, is that RSB could be used by people with rape/sexual aggression tendencies to slowly guide them/talk them into more healthy and compassionate sexual thoughts. *This shows that RSB are not considered immoral by everyone, and some people see usefulness in them*.: Unicole Unicron, 'Will Sex Robots Increase Rape? (Robot Series Part 2)', available at <https://www.youtube.com/watch?v=GKnIn8oWCg0&t=29s> accessed 8 November 2019.

[268] See, for instance, this opinion article written by a female journalist.: 'Rape Fantasy Alert' (*Yaledailynews.com*, 2010) <https://yaledailynews.com/blog/2010/02/12/rape-fantasy-alert/> accessed 8 November 2019.

[269] These prohibitions will be discussed in Section 5.

[270] John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.

public wrong, namely an act that is saliently immoral in a way that requires a response by law.

John Danaher argues that RR constitutes an act that a) is harmful to one's moral character, and b) it warrants public response, so, according to the two legal moralism theories that he invokes, RR is an act apt for criminalisation. To substantiate his argument, he calls upon the work of Stephanie Patridge, who discusses the act of virtual rape in the context of videogames (specifically, virtual rape of a videogame character, not virtual rape of another videogame player's avatar). Patridge claims that, in the case of virtual rape, one can make negative inferences for the actor's character, since the actor's inability to grasp the "incorrigible social meaning" of these acts shows that he/she has improperly developed social sensitivity.[271] Danaher claims that Patridge's conclusion applies also in the cases of robotic acts, since in robotic acts, the distance between the act and the virtual representation is reduced, compared to virtual acts. He also calls upon studies which show that humans' emotional responses to immoral acts against artificial objects are related to their emotional responses to immoral acts against humans. These studies, support his argument that immoral robotic acts are harmful to one's moral character, and also are public wrongs (immoral acts) that warrant a public response (by law).[272]As explained by Danaher, legal moralism theories provide justification for the criminalisation of RR, even if we accept that RR is an extrinsically harmless act.

4.4.3. One counter-argument: freedom of thought

RR is an act that is considered by ethicists and lay people as immoral, because it extrinsically looks like a rape simulation by use of a rape robot, so it reveals the perpetrator's desire or at least insensitivity to the crime of rape and the suffering of rape victims. However, the use of a RSB, namely RR, is not necessarily a rape simulation, but it could be a simulation of a consensual sadomasochistic sexual activity. In this case, it is less plausible to argue that the act is immoral. As we can see, the same act (RR) can be either immoral or *not* immoral, based on the perpetrator's thoughts. To punish RR as an immoral act, or to prohibit RSB, would mean that the legislator takes for granted that the thoughts of a RR perpetrator are a desire to rape or an insensitivity to rape. Freedom of thought[273] stipulates that (especially criminal) law should be tolerant to an act that is not immoral per se, but is only immoral if we assume that the perpetrator has specific thoughts or desires. To punish RR on the grounds of its immorality would equal to punishing the act because of the (speculated) immoral thoughts of the perpetrator, which, *if we accept that in RR immoral thoughts are not a given*, would clash with freedom of thought.

4.4.4. Legal moralism: an overall assessment

[271] Stephanie Patridge, 'The Incorrigible Social Meaning Of Video Game Imagery' (2010) 13 Ethics and Information Technology <https://www.academia.edu/5098824/Stephanie_Patridge_2011_._The_incorrigible_social_meaning_of_video_game_imagery._Ethics_and_Information_Technology_13_303-312> accessed 12 August 2019.
[272] Idem.
[273] European Union, Charter of Fundamental Rights of the European Union [26 October 2012], 2012/C 326/02, available at: <https://www.refworld.org/docid/3ae6b3b70.html> accessed 7 November 2019 art 10; Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR) art 9.

According to Devlin's version of legal moralism, if the majority of people think that RR is immoral, and object to it, legal intervention is justified. However, the take-away insight from the Hart-Devlin debate is that, although people's feelings about morality are important, critical reason when examining what is immoral is equally important. According to our best available ethical studies,[274] RR is immoral, *provided that* the perpetrator is fantasizing about actual rape. However, according to the factual proposition that these artefacts may be used by people with an interest in sadomasochistic sexual activities and not rape, not all RR acts will be immoral. Since there is no practical way to ascertain the thoughts of the perpetrator, a criminalisation or prohibition of (only) the immoral instances of RR is not feasible. A criminalisation of all instances of RR would clash with freedom of thought, since the legislator would punish an act because of the immoral thoughts of some perpetrators. All things considered, RR is an ambiguous, controversial, but not blatantly immoral act, and also it is an act of the private (sexual) life, that does not directly affect other people (and any indirect effects are not proven). These elements weaken legal moralism arguments in favour of the RR's prohibition, and lead to the conclusion that RR as an act that cannot be legitimately prohibited on the grounds of public morality.

4.5.The right to respect for private life

RR falls into the sphere of private life, specifically sexual life, that is protected in ECHR and EU CFR. Sexual life is considered a particularly intimate and private aspect of a person's life, and any restriction imposed on it (especially criminalisation of sexual acts) is found legitimate only sparingly (e.g. incest or sadomasochistic sexual activity that causes serious injury).[275] In cases when the ECtHR has decided that limitations imposed on sexual life do not clash with ECHR Article 8, the justification for that involves the fact the act causes some type of harm or risk thereof, except its being immoral (specifically, in the cases Stübing vs Germany and Laskey and others v. The United Kingdom, the justification included, amongst others, public health concerns). In the case of RR, the existence of harm caused to society or the perpetrator is not proven, but only speculated (and contested). For that reason, an outright prohibition or criminalisation of RR would violate the right to private life. Moreover, it is debatable whether the ban on RSB is necessary in a democratic society, as a means to promote good morals, gender equality and combat sexism. Better alternative means to that end would be, for instance, zero tolerance of the law in sexism phenomena in the workplace. Policing sexual fantasies might be disproportionate and probably ineffective, since there is no guarantee that people will stop having these fantasies. In the light of the above, a criminalisation of RSB solely on the grounds of their immorality, while their direct or indirect harm, or risk thereof, is not yet known, is not in line with the right to respect for private life, specifically sexual life, and the relevant ECtHR case law.

4.6. The precautionary principle versus the proactionary principle

The precautionary and the proactionary principles can offer some insights regarding legal intervention to sex robots, which is a nascent technology, the

[274] For instance Robert Sparrow's paper: Robert Sparrow, 'Robots, Rape, And Representation' (2017) 9 International Journal of Social Robotics <https://link.springer.com/article/10.1007/s12369-017-0413-z> accessed 4 August 2019

[275] See *Stübing vs Germany* and *Laskey and others v. The United Kingdom*, n.

consequences of which are not yet studied. In one of the few reports that are available regarding the health effects of sex robots, researchers seem to suggest the proactionary approach for sex robots in general: both the possible advantages and disadvantages of sex robots are mentioned, and the authors are not opposed to the development and market availability of sex robots, provided that scientists conduct research on their consequences in parallel.[276] The same study advocates the precautionary approach for sex robots that simulate rape (or child sexual abuse, as will be discussed in the next Chapter, in Section 4.7.), since as the study explains, the potential dangers from these artefacts' use cannot be balanced against any potential benefits: even if some sexbot users distinguish between reality and fantasy, other sexbot users may not, and may end up sexually assaulting adults or children. Healthcare providers, to which the report is addressed, are strongly advised against the employment of such sex robots, if not as a part of an ethical and scientifically robust experiment for the treatment of pedophilia, as will be discussed in Chapter 5, Section 4.6.

Except the imbalance of potential dangers and benefits, another reason that warrants the precautionary approach for RSB is the fact that the use of such realistic sex robots equals to moving in "uncharted territory" and requires us to "tread with caution". Specifically, RR is an act perpetrated on a sex robot, which is an artificial agent representing and functioning as a human companion. This is an unprecedented phenomenon in human history, since it is the first time that realistic robots that can interact with their users are being manufactured. The robotic nature of the artefacts, and the function they are serving warrants caution, as they are different from a 2D representation of virtual acts, or a mere computer software. For this reason, there should be some attention regarding the evolution of this technology, for precautionary reasons

However, if RSB were to be viewed through the lens of the proactionary principle, it is possible that legal intervention would not be justified. Software that mimics unconsensual sex could be difficult to define in law with precision (and to be distinguished from software that mimicks consensual sadomasochistic sex or even consensual sex in general). This is because, as can be seen by the different definitions of rape, there is not always agreement, especially in society, about what constitutes rape and what the signals of consent are. A drastic criminal prohibition of RSB could potentially limit, at least up to an extent, the manufacture of sex robots in general, as manufacturers might be less certain about what is the threshold of legality regarding their software. For this reason, the proactionary principle does not justify legal intervention to RSB.

A middle ground that would reconcile the proactionary and the precautionary approaches for RSB, by diminishing the risks but also not stifling the technology of sex robots in general, would be the employment of measures to dispel rape connotations of RSB, such as the ones that will be discussed in Sections 6.2.2. and 6.2.3.

5. Legal consistency: Legal intervention in similar phenomena, such as rape depicting pornography and virtual rape in videogames

Rape pornography and virtual rape videogames are two legal problems that are comparable to the issue of RSB. It has been alleged that both phenomena normalise

[276] Chantal Cox-George and Susan Bewley, 'I, Sex Robot: The Health Implications Of The Sex Robot Industry' (2018) 44 BMJ Sexual & Reproductive Health <https://www.researchgate.net/publication/325558553_I_Sex_Robot_The_health_implications_of_the_sex_robot_industry> accessed 4 April 2019.

sexual violence and encourage rapists. A look in the legal intervention in these two phenomena can give us insights about what could be the stance of the legislator in the case of RR, and why. Furthermore, according to John Danaher, as mentioned above, the legal intervention on virtual crimes, such as rape pornography and virtual rape in videogames, present an a fortiori argument in favour of the regulation of robotic crimes, because robotic acts are a more close and accurate representation of a real act ,compared to virtual acts.

Pornography that depicts non-consensual sexual intercourse is referred to as rape pornography. In some regions, namely Scotland[277,278] and Germany[279] rape porn possession, as well as production and distribution is prosecuted, on the grounds that it might incite sexual violence. Targeting the possession of rape pornography is justified for the additional reason that the production often takes place outside the jurisdiction of these countries, so the prohibition of rape porn production does not suffice.[280] It is notable that these prohibitions are enforced although research data on the consequences of rape porn is not conclusive, as can be seen by the contradictory results of the various researches.[281] It is also interesting that in England and Wales, rape pornography possession, production and distribution was criminalised in 2015,[282,283] but according to a January 2019 new Crown Prosecution Service [CPS] Guideline, this prohibition does not include pornography with consenting adult porn actors (rape pornography) and sadomasochism.[284] This change took place after over-a-decade-long free speech campaigns from organisations, such as Backlash.[285]

Virtual rape videogames are videogames that depict the act of rape between the player's avatar and one of the videogame's virtual characters. One example of such a videogame is the 1982 game "Custer's Revenge", which enabled the player to virtually

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[277] Criminal Justice and Licensing Act 2010 (asp 13), s 42 subpara 2 6 c, available at <https://www.legislation.gov.uk/asp/2010/13/section/42>accessed 8 April 2019.

[278] Civic Government (Scotland) Act 1982, c 25, part IV, s 51, available at<https://www.legislation.gov.uk/ukpga/1982/45/part/IV/crossheading/offences-of-annoying-offensive-obstructive-or-dangerous-behaviour>accessed 12 August 2019.

[279] German Criminal Code, section 184a subpara3, available at <http://www.gesetze-im-internet.de/englisch_stgb/englisch_stgb.html#StGB_000P184a> accessed 8 April 2019.

[280] Tanya Palmer, (2018) Rape pornography, cultural harm and criminalization. Northern Ireland Legal Quarterly, 69 (1). p. 37-58. ISSN 0029-3105, available at <http://sro.sussex.ac.uk/id/eprint/74682/> accessed 12 August 2019, p 25.

[281] See for instance two opposing studies: Scot B. Boeringer, 'Pornography And Sexual Aggression: Associations Of Violent And Nonviolent Depictions With Rape And Rape Proclivity' (1994) 15 Deviant Behavior; M. Diamond and A Uchiyama, 'Pornography, rape, and sex crimes in Japan' *22*(1), 1-22 (International Journal of Law and Psychiatry 1999). These studies are not recent (1994 and 1999 respectively, but more recent studies are equally contradictory and inconclusive: Christopher J. Ferguson and Richard D. Hartley, 'The Pleasure Is Momentary…The Expense Damnable?' (2009) 14 Aggression and Violent Behavior <https://www.sciencedirect.com/science/article/pii/S1359178909000445> accessed 12 August 2019; John D. Foubert, Matthew W. Brosi & R. Sean Bannon (2011) Pornography Viewing among Fraternity Men: Effects on Bystander Intervention, Rape Myth Acceptance and Behavioral Intent to Commit Sexual Assault, Sexual Addiction & Compulsivity, 18:4, 212-231, DOI: 10.1080/10720162.2011.625552.

[282] Criminal Justice and Courts Act 2015, subpara 37 2 c , available at <https://www.legislation.gov.uk/ukpga/2015/2/section/37> accessed 8 April 2019.

[283] The publication of rape pornography was prohibited by the Obscene Publications Act 1959 (OPA).

[284] CPS, Legal Guidance 'Obscene publications' <https://www.cps.gov.uk/legal-guidance/obscene-publications> accessed 10 November 2019.

[285] Rahul Verma, 'Obscene' Pornography Law Change Is A Victory For Free Speech' (*RightsInfo*, 2019) <https://rightsinfo.org/obscene-pornography-law-change-is-a-victory-for-free-speech/> accessed 8 November 2019.

rape with his/her avatar a native American woman that was tied to a stake. Another example of a virtual rape videogame is the 2006 game "Rapelay", which similarly required from the player to stalk and rape a mother and her daughters. Both videogames fuelled social reactions, which resulted in a ban on the circulation of these particular videogames in most countries.[286]

The various bans on certain virtual rape crimes shows that extreme rape simulating virtual imagery can be banned on the grounds of its immorality and/or potential dangerousness (although not proven with scientific research evidence). However, the extremeness of a specific imagery, material or artefact (such as RSB) is usually decided on a case by case basis, and only some blatantly extreme materials are condemned legally. The aforementioned examples show that usually, the material that is banned is material that includes blatant rape imagery. For instance Custer's Revenge and Rapelay had a clear rape-storyline, and the former had also a racist element. Sadomasochist representations, on the other hand, are typically allowed/tolerated by law in pornography, as shown by the abundance of it on the internet and the scarcity of its criminalisation in Europe (as mentioned, rape porn is only criminalised in few regions).

6. Regulation of robotic rape [RR]

6.1. Current Regulation

RR is currently not regulated in any country. There are no laws that refer to these acts, and there are no reported cases where either the acts of the perpetrator or the acts of the manufacturer of RSB were sanctioned in any way. The complexity of the phenomenon and the conflicting claims about its extrinsic effects have led legislators so far to adopt a "wait and see" stance, although discussions about various forms of regulatory intervention on sex robots are already taking place.

6.2. Proposed regulation

6.2.1. Criminal law

As will be seen in the "Conclusions" (Section 7), from this analysis it is concluded that criminalisation of RR (and the surrounding acts) is not recommended. However, it will be discussed in the brief overview of the proposed legislation that takes place here. The reason for that is that future research on RR could prove its negative consequences, in which case, Criminal law should be employed. Moreover, as will be explained in the next Chapter, Criminal law can be employed in the case of robotic child sexual abuse [RCSA], which can be seen as a special case of RR.

John Danaher, after having made a tentative prima facie argument for the criminalisation of RR (and RCSA), describes some ways of implementing that prohibition and the pertaining rationales, in order to show that the moral or practical cost of implementation does not need to be excessive. Danaher first identifies the possible targets of the criminalisation policy: although usually the target of criminal sanction is the person who performs the wrongful act, he points out the possibility that the target of RR criminalisation are not the sex robots' users but the manufacturers , importers or sellers of sex robots with "rape" settings. The reasons for that may be both

[286] K. Jensen, '11 Video Games That Got Banned And Why - Geek.Com' (*Geek.com*, 8 November 2018) <https://www.geek.com/games/11-video-games-that-got-banned-and-why-1645406/> accessed 8 April 2019.

practical and moral: a) practical because the perpetrators may be hard to identify, since the fact that someone bought a robot with a "rape" setting feature amongst its multiple other features, does not guarantee that he/she intends to use the robot in this particular way, b) moral because maybe we should feel sympathy for the users of those robots who could be suffering from a paraphilia or sexual disorder, and could be trying to channel these urges in a "harmless", as they may perceive it, way. Suppliers on the other hand could be held primarily or exclusively liable, on the grounds of facilitating or encouraging these acts, as is the case with other crimes facilitating "personal vice", such as the distribution of illegal drugs.[287] Another both moral and practical obstacle to the criminal targeting of the user is that it requires surveillance of the users in the sensitive private sphere of sexual life, which may massively compromise the right to privacy. According to Danaher, this hurdle can be overcome: from a practical perspective, monitoring will not be difficult in the era of internet connectivity and the internet of things, since probably most sex robots will be connected to the internet, for instance via applications in the user's phone. From a moral perspective, Danaher contends that privacy concerns might not be prohibitive for the criminalisation of the RR perpetrator's acts, since nowadays privacy is generally greatly compromised and people are aware and maybe tolerant of that. This, however, may not be true in the European Union [EU], as strict data protection regulations such as GDPR[288] have been adopted and people, as well as governments, are becoming increasingly aware of the importance of data protection. All things considered, Danaher is more sympathetic to the targeting of suppliers by Criminal law, if Criminal law is chosen as the appropriate regulatory tool. Furthermore Danaher explores the different criminal sanctions that could be attached to RR, linking the volume of usage and the future evidence about its extrinsic effects to the severity of the sanction: Imprisonment will likely be a disproportionately severe sanction, so Danaher mentions fines, in the case of the suppliers, and obligatory sex therapy, in the case of the users, as more proportionate alternatives. It should be noted that the proportionality of the sanction depends greatly on the culture. For instance sex toys are legal in Europe, but illegal in certain Arab countries such as Saudi Arabia[289] and The United Arab Emirates, so proportionality stipulates that the European legislation should be on the tolerant side regarding sex robots too, by not imposing, for instance, imprisonment.[290]

6.2.2. Mixed regulatory intervention: Industry + Top-Down

Criminal law is not the only way of regulating RR. British MP Jo Swinson proposed the establishment of an oath, modelled after the Hippocratic oath of doctors, that would be taken by AI software developers as a prerequisite to practising their profession. In her words:

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[287] John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.

[288] General Data Protection Regulation (EU) 2018.

[289] See a news article about a Sharia Law compliant sex shop, which does not include sex toys: 'MUSLIM WORLD: Business Flourishes At Sex Shops Abiding By Islamic Standards' (*Latimesblogs.latimes.com*, 2010) <https://latimesblogs.latimes.com/babylonbeyond/2010/06/arab-world-muslim-sex-shops-.html> accessed 12 August 2019.

[290] See a news article about an expatriate woman in Dubai that was interrogated for buying online a sex toy.: Senior Reporter Bassma Al Jandaly, 'Dubai Customs Seize Sex Toys Ordered Online' (*Gulfnews.com*, 2010) <https://gulfnews.com/uae/crime/dubai-customs-seize-sex-toys-ordered-online-1.721785> accessed 12 August 2019.

> "Every doctor who enters the medical profession must swear the Hippocratic oath. Perhaps a similar code or oath of professional ethics could be developed for people working in AI—let me float the idea that it could be called the Lovelace oath in memory of the mother of modern computing—to ensure that they recognise their responsibility to embed ethics in every decision they take. That needs to become part and parcel of the way industry works." [291]

This way of regulation would help to create more social awareness for the ethics of developments in technology such as sex robots, especially in people who work on the field, and would have to swear the oath. This mixed regulatory intervention combines top-down regulation (the obligation to swear the oath) and industry-regulation, since software developers who work on the industry would be more aware and constrained by ethical boundaries. As James Young says:

> "We may not know what part sex robots will play in out lives in the future, but we do know AI in general is here to stay. But whether that will be a force for good of a force for ill, depends on large part on who is programming it."[292]

This would be a useful modality of regulation, but it would probably not be sufficient to solve the issues entirely. Ethics can be collective beliefs upon which there is generally agreement, but they can also be a subjective, personal matter, where people have different points of view. Moreover, sex robots are often artefacts manufactured and imported from other countries, with different cultural and ethical standards. For example, in the BBC Documentary "Sex Robots and Us", the Japanese sex doll designer Hiro Okawa, when asked whether there was any legal issue regarding the childlike models he manufactured, he replied:

> "Yes, it's fine. But I presume there are many ways of perceiving this issue, so we only sell this model within Japan"[293]

However, as will be discussed in Chapter 5, Section 2.6., child sex dolls from Japan are being sold to Europe by various companies. Japan is also said to be a society that is particularly positively predisposed to robots in general, for cultural reasons, thus less concerned about the dangers: according to animism, an element of the Shinto faith that was prevalent in Japan before Buddhism, and still remains an influential component of the country's culture, all objects have a spirit, even inanimate man-made objects.[294]

6.2.3. Techno-regulation via robotic consent

Some scholars have proposed that sex robots should be required to consent to sex, as a way to solve the problem of RR through techno-regulation. This means that the ability to consent should be built in the sex robots' software, so that connotations of sex robots with sex slavery or rape are dispelled.

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[291] Caron Lindsay, 'Jo Swinson Debates Ethics And Artificial Intelligence – And Suggests The Lovelace Oath' (*Liberal Democrat Voice*, 19 January 2018) <https://www.libdemvoice.org/jo-swinson-debates-ethics-and-artificial-intelligence-and-suggests-the-lovelace-oath-56413.html> accessed 4 April 2019.

[292] Jon Eastman, *Sex Robots And Us* (BBC 2018), available at <https://topdocumentaryfilms.com/sex-robots-us/>accessed 12 August 2019

[293] Jon Eastman, *Sex Robots And Us* (BBC 2018), available at <https://topdocumentaryfilms.com/sex-robots-us/>accessed 12 August 2019

[294] See a few articles that discuss Japanese people's positive disposition towards robots: Naho Kitano, 'Animism, Rinri, Modernization; the Base of Japanese Robotics', the Graduate School of Social Sciences, Waseda University ; Christopher Mims, 'Why Japanese Love Robots (And Americans Fear Them)' (*MIT Technology Review*, 12 October 2010) <https://www.technologyreview.com/s/421187/why-japanese-love-robots-and-americans-fear-them/> accessed 12 August 2019 ; Selma Sebanovic, 'Regarding Robot Cultures' (*Japan Society*) <https://www.japansociety.org/page/multimedia/articles/robot_cultures> accessed 12 August 2019.

Lily Frank and Sven Nyholm argue that a sex robot's consent to sex with a human is "conceivable, possible and desirable".[295] First, it is conceivable. Even if we accept that consent requires consciousness, as John Danaher claims,[296] the level of future sophistication of AI may create artificial consciousness, which means that the robot's "thought" will have a sufficient degree of autonomy, in a way similar to human thought. Furthermore, if we define consciousness as "the ability to report verbally what one has perceived", some sex robots already possess consciousness. Last, even if we define consciousness as the ability to have subjective feelings and experiences (qualia) which are unique to humans, consent is still possible for robots, since consent may not necessarily require consciousness, but free will. Free will does not necessarily require the capacity for subjective feelings, but instead it only requires the capacity to take decisions based on information, reasoning and goals. Second, Frank and Nyholm claim that consent of sex robots is possible, as it is probable that technological advances will eventually allow their Artificial Intelligence to reach the level of mental capacity to make reasoned choices. Third, Frank and Nyholm contend that consent of sex robots is desirable, especially if robots are recognised as artificial agents. There are several reasons for that: First, if robots are granted legal personhood, but at the same time RR is allowed, this contradiction could give the impression that law condones the set of beliefs that is referred to, by some sociologists, as "rape culture". Second, the more human-like robots are, the more people will tend to associate them to human beings, and possibly treat human beings in the same way that they treat robots. These arguments in support of the desirability of robotic consent are also put forward by other scholars like John Danaher,[297] Sinziana Gutiu,[298] and Patrick Lin.[299]

In sex robot industry, there has been so far one attempt to integrate the notion of consent into the sex robots' software: Sergi Santos, the manufacturer of the sex robot model Samantha revealed in June 2019 that he added a feature, via which Samantha goes on lifeless, unresponsive mode when she senses aggressiveness by the user. This means that Samantha does not consent to sex prior to it, but she can "retract her consent" in case the user is violent towards her. However, even if Samantha retracts her consent, the user can still have sexual intercourse with the robot, but the robot will not be responding verbally or physically. Another option would be a Siri-like automated consent prior to sex, as it would signal to the user that consent is a prerequisite to sexual intercourse. The incorporation of consent in the software of sex robots seems like a solution to the legal conundrum of RR, especially regarding that the notion of consent and lack thereof takes a large part in the ethical and legal critique of both sex robots in general, and RSB in particular.[300]

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[295] Lily Frank and Sven Nyholm, 'Robot Sex And Consent: Is Consent To Sex Between A Robot And A Human Conceivable, Possible, And Desirable?" (2017) 25 Artificial Intelligence and Law.

[296] John Danaher, 'Robotic Rape And Robotic Child Sexual Abuse: Should They Be Criminalised?' (2014) 11 Criminal law and Philosophy <https://link.springer.com/article/10.1007/s11572-014-9362-x> accessed 1 March 2019.

[297] John Danaher and Neil Mc Arthur, *Robot Sex: Social And Ethical Implications* (The MIT Press 2017), p 58.

[298] Sinziana Gutiu, The robotization of consent in: Calo R et al (eds), Robot law (Edward Elgar Publishing), p 22.

[299] Noel Sharkey, Aimee van Wynsberghe, Scott Robbins and Eleanor Hancock, Our Sexual Future with Robots (The Hague, Netherlands: Foundation for Responsible Robotics.2017) available at<http://responsiblerobotics.org/wp-content/uploads/2017/07/FRR-Consultation-Report-Our-Sexual-Future-with-robots_Final.pdf>, p 27.

[300] For instance, see the critiques of Rob Sparrow and Kathleen Richardson.

7. Conclusion

7.1. Summary

Legal intervention on RSB can be justified based on the precautionary principle, but not to the point of an outright ban or criminal prohibition, since this would be disproportionate and maybe stifle the technology of sex robots. The harm principle, the offence principle and legal paternalism could be employed to justify intervention (even criminalisation) on RSB, on the condition that RR's harmful consequences would be proven by research. Legal moralism could be used as a rationale to support regulation (even criminalisation) of RSB, on the condition that we accept that every robotic rape act has reasonable reasons to be considered as immoral, which is, *in my view*, debatable: not all RR acts indicate a desire/pleasure in actual rape. A comparison of RR to similar phenomena that were the subject of legal intervention in the past, tends to not justify legal intervention on RR, since these phenomena are usually only regulated in their extreme forms, and RSB, if viewed as sadomasochistic sexual aids with no proven harmful consequences, are unlikely to fall into the "extreme" category.

More analytically:

Legal intervention on RSB can be justified based on the precautionary principle, since the effects of enacting violent sadomasochistic fantasies on hyper-realistic artefacts is an entirely new phenomenon and has unpredictable effects, so the risks should be mitigated. However, criminalisation of RR or the surrounding acts (RSB sale or manufacture) is not justified, since it may be a disproportionate measure that would end up stifling the technology of sex robots in general.

The harm principle and legal paternalism cannot at the moment be employed to justify RSB' regulation, since these theories stipulate that the onus of proof for the act's harmfulness is on the legislator, and they require serious evidence for that harm. In the case of RR, there are some indications that the act may be harmful to the perpetrator and to society as a whole, through the increase of rape rates or sexism and inequality. However, these arguments are only theoretical, as there are no empirical evidence to support them. Furthermore, counter-arguments regarding potential beneficial effects, or no harmful effects of RSB are being expressed. According to some scholars, these counter-arguments are less persuasive and less probable than the arguments claiming negative effects, but there are no definitive evidence of either side, and due to difficulties in researching these possibilities, it is possible that for the near future there will be no such clear evidence.

Legal moralism is not a solid base for RR's criminalisation of regulation. Morality should be only used as legal grounds to prohibit acts only in cases of blatant immorality that is assessed with critical reason. It is not necessary that RR falls into that category, since its immorality depends on the thoughts and fantasies of the perpetrator: some people may indeed fantasize about rape, but others may be fantasizing about consensual sadomasochistic sexual acts. Furthermore, criminalising an act that is or is not immoral, depending on the perpetrator's thoughts would violate freedom of thought.

Rape porn and virtual rape in videogames has been the subject of legal intervention in some countries, on the grounds of legal moralism, since there are no conclusive evidence of harmfulness of these phenomena. However, the prohibition of rape porn is scarce in Europe and also virtual rape in videogames have been banned when their storylines consisted of extremely blatant rape acts. Robotic acts are more impactful on the person and subsequently the society than virtual acts, but it is debatable whether RR reaches the level of blatant extremity of, say Rapelay or Custer's Revenge.

For these reasons, there would be no legal consistency issue, in case RSB were tolerated by Criminal law.

7.2. Reflections and some recommendations

RSB are an artefact that is worthy of legal attention, caution and regulation, but this regulation, based on the existent data, should not reach to the point of RR's criminalisation. The theoretical framework for legal intervention on RSB, namely the precautionary principle, warrants regulatory interventions in order to mitigate the technology's risks. The legislator should choose the most effective and proportionate means of ensuring that the technological possibilities that sex robots offer are used responsibly and with caution, without stifling the technology, like a criminalisation might do, due to difficulties in precisely defining RR. For instance, a proportionate means of dealing with sex robot technology in Europe is by taking steps to instill an ethical code in the development of AI, such as the "Lovelace oath", or the integration of a "robot consent" feature in RSB. In the meantime, research on RR's consequences should be definitely encouraged, so that more informed legislative choices can be made in the future.

<table>
<tr><th colspan="4">ROBOTIC RAPE: A table overview of the different rationales and their outcomes</th></tr>
<tr><th><u>Rationales</u></th><th colspan="2"><u>Insights</u></th><th><u>Legal Intervention</u></th></tr>
<tr><td>The Harm Principle</td><td colspan="2">• harm for society due to increased rape rates, sexism, but not proven with empirical evidence</td><td>Unjustified</td></tr>
<tr><td>Offence Principle</td><td colspan="2">• easy avoidability of the affront
• unknown social value
• lack of proven harm caused</td><td>Unjustified</td></tr>
<tr><td>Legal Paternalism</td><td colspan="2">• harm to one's mental health, increased possibility of committing crime, but not proven with empirical evidence</td><td>Unjustified</td></tr>
<tr><td>Legal Moralism-Devlin</td><td>• some people find RR immoral
• it is plausible that RSB will be considered extreme, because of their rape connotations combined to their resemblance to a human being</td><td rowspan="2">• in a balancing exercise between these arguments, it is not justified to criminalise a controversial (not blatantly immoral) act of the private life
• criminalising an act on the grounds of immorality, while immorality is not inherent in the act but depends on the thought of the perpetrator clashes with freedom of</td><td rowspan="2">Unjustified, if we accept that not all instances of RR are immoral</td></tr>
<tr><td>Public Morality-Hart</td><td>• not necessarily reasonable to consider all RR acts as immoral
• RR is a private life act</td></tr>
</table>

		thought	
Legal Moralism-Wall	• harm to moral self		
Legal Moralism-Duff	• public wrong warranting public response		
The Right to Respect for Private Life	• Sexual life restrictions need serious reasons, e.g. plausible harm risk • Sadomasochism is only restricted when there is harm risk, according to ECtHR case law		Unjustified
The Precautionary Principle	• Nascent technology that entails risks for human mental health and harm for society	• Criminalisation would stifle sex robot technology in general, since it is a severe sanction that would cause a chilling effect in sexbot software creation • Potential risks must be mitigated in alternative regulatory ways	Criminalisation Unjustified *and* Other forms of regulation (mixed regulatory intervention, nudging) Justified
The Proactionary Principle	• New technology that entails some risks, but also potential benefits, and its evolution should not be stifled		
Regulation of rape pornography	• Only in few countries • Tolerance of law and (European) societies: abundance of rape porn on the internet		Unjustified
Regulation of virtual rape in videogames	• The existing examples are cases when rape storylines were blatant and extreme		Unjustified

CHAPTER 5
ROBOTIC CHILD SEXUAL ABUSE: STARING INTO THE DARK

"It may be only small injustice that the child can be exposed to; but the child is small, and its world is small, and its rocking-horse stands as many hands high, according to scale, as a big-boned Irish hunter."[301]

Phillip Pirrip (Pip)-(fictional character)
From Charles Dickens' "Great Expectations"

1. Introduction

1.1. A new sex aid for pedophiles

Let us delve into one of the most emotionally charged and ethically controversial aspects of sex robots, and try to untangle the legal Gordian knot of robotic child sexual abuse [henceforth RCSA[302]]. Shocking as it may sound, childlike sex robots, namely child-resembling sex dolls with robotic movement, and/or artificial intelligence [Child Sex Robots or CSB[303]],[304] are being manufactured to be used as sex toys, catered mostly to people with pedophilic predilections.[305,306] The manufacture of sex aids catered to pedophiles is not something new: child pornography and virtual child pornography are two phenomena that have greatly concerned the legislators in most countries, and fuelled public discourse. The advent of sex robots creates new questions to be answered by society and law, since another sex aid targeted to pedophiles, different from all we have seen up to this point, namely CSB, has been conceived and materialised. Even though CSB are a recently emergent phenomenon, the debate regarding the legal regulation of CSB is already intense and heated as all arguments surrounding the tragic[307] actuality of pedophilia, because of the strong underlying values at play, such as the protection of children, sexual autonomy, individual liberty, freedom of expression, the right to protection of private life, and the treatment of people with mental disorders. The following analysis will attempt to dispassionately and rationally describe the legal rationales that apply to CSB, and try to assess what the legislative response to CSB could be, in a European legal context.

1.2. The outline of this Chapter

This Chapter will discuss RCSA in the following way:

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[301] Charles Dickens, *Great Expectations* (first published 1861) 87, available at <https://www.planetebook.com/free-ebooks/great-expectations.pdf> accessed 15 August 2019.
[302] Acronym: RCSA: Robotic Child Sexual Abuse.
[303] Acronym: CSB: Child Sex Bots.
[304] More information on the differentiation between dolls and robots, is given in the Second Chapter "the Technology" Section 4.4., and in this Chapter, in section 2.4.
[305] The reasons why I speculate that these robots are catered for a predominantly pedophilic target group will be explained in Section 2.4.
[306] See these news articles reporting these incidents.: Baxter Dmitry, 'Amazon Caught Selling Child Sex Robots To Pedophiles' (*News Punch*, 2017) <https://newspunch.com/amazon-robots-pedophiles/> accessed 5 July 2019. ; John Simpson, 'Child Sex Dolls For Sale On Ebay And Amazon' (*Thetimes.co.uk*, 2017).
[307] I use the word tragic because pedophilia is an overall unfortunate phenomenon that can potentially destroy the lives of children that can be victims of child sexual abuse and the lives of the pedophiles, whether or not they commit child abuse related offences.

i. First of all, CSB and RCSA will be defined, so that the exact subject of the analysis, and the basic concepts (child sexual abuse, RCSA and CSB) are clear.
ii. Afterwards, a short explanation of why CSB are a legal problem will be provided: a clarification of why CSB are concerning for the law is necessary, but since the reasons are the same that were discussed regarding RR, the relevant section in this Chapter will be less analytical.
iii. Next step in the analysis will be to assess how various legal theories can be applied in the case of CSB. In case the outcome of the assessment is favourable to legal intervention, this can either have as subject the act of the CSB user or the manufacturer/seller. This intervention can happen by means of Criminal law, fines or other forms of regulation, according to the possible kinds of regulation discussed in the previous Chapter, in Section 6.2.
iv. Subsequently, virtual child pornography and the relevant legislation will be discussed, since it is a closely related phenomenon, the regulation of which can offer valuable inferences for CSB.
v. Afterwards, there will be an overview of the existing legislation on CSB, which provides us with insights on how CSB have been already legally assessed in some countries. As explained in the introduction, it is important to look at existent sex robot regulation of the USA, Canada and Australia, even though the focus of the thesis is the legal context of the European Union. Since there is still so little existent legislation on sex robots in general, and CSB in particular, it is useful to examine the existent legislation, especially since the non-European countries discussed, namely USA, Canada and Australia, happen to share the western culture and the values of liberalism and tolerance, so useful insights can be drawn for the European context. Important note here is that the presentation of CSB legislation will be concise, because the focus will be on the rationales behind the regulation.
vi. The Chapter concludes with an estimation and synthesis of the findings.

2. Definition of robotic child sexual abuse [RCSA]

2.1. Relation between robotic child sexual abuse [RCSA] and child sexual abuse

First, it is important to clarify the relation between child sexual abuse and RCSA. RCSA is an act essentially different from child sexual abuse, because in RCSA there is no human victim. The act of RCSA is perpetrated on an inanimate object,[308] namely a sex robot (or doll, as will be later explained in Section 2.4.). Consequently, potential harm caused by the robotic act can only be indirect harm and the very presence of harm is actually contested;[309] this uncertainty regarding the presence of harm creates complication and controversy regarding the need for regulatory intervention. On the opposite, child sexual abuse has a human victim and it constitutes a crime in all European jurisdictions.

While RCSA is essentially different and potentially less morally wrong than child sexual abuse, it is an act that is related to child sexual abuse in many ways: first, RCSA constitutes a simulation or representation of child sexual abuse. Second, both acts challenge the sexual autonomy and dignity of children.[310] Third, the European legal

[308] Furthermore, sex robots are not considered moral agents, as explained in the Chapter 2, Section 4.5.
[309] This will be discussed in Section 3.
[310] In the case of robotic child sexual abuse, this is contested, since the actual harm caused by the act is debated, as will be explained in Section 3.

framework for the protection of children against sexual abuse can give us insights on the European legislator's aims, which in turn can be useful in determining what the stance of the legislator should be, in the case of RCSA. Since child sexual abuse is a big part of the discussion and the analysis of RCSA, it is important to start with the definition of child sexual abuse.

2.2. Definition of child sexual abuse

Child sexual abuse is a crime in all European jurisdictions. The constituent elements of the crime, such as the legal age of sexual consent, are slightly different in different countries, depending on what the Criminal Code of each country stipulates. However, the definitions of child sexual abuse in the jurisdictions of the EU Member States have been approximated with a) the Council of Europe Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (henceforth the Lanzarote Convention) in 2007 and b) the Directive 2011/92/EU on combating the sexual abuse and sexual exploitation of children and child pornography (henceforth Directive 2011/92/EU). The Lanzarote Convention is signed and ratified by all the member-states of the Council of Europe, which include all the EU member-states, and the Directive 2011/92/EU binds all the EU member-states. Both documents stipulate the criminalisation of child sexual abuse, for which they give similar definitions. First, they both define child as any person under the age of 18 years.[311] Then, Article 18§1b of the Lanzarote Convention defines child sexual abuse as:

> "...engaging in sexual activities with a child who, according to the relevant provisions of national law, has not reached the legal age for sexual activities".

Article 3§4 of the Directive 2011/92/EU, entitled "Offences concerning sexual abuse" reads:

> "4) Engaging in sexual activities with a child who has not reached the age of sexual consent shall be punishable by a maximum term of imprisonment of at least 5 years."

Furthermore, both in the Lanzarote Convention and in the Directive 2011/92/EU, sexual activities with children, where there is coercion, threats, force, abuse of a position of trust (e.g. a child's teacher), or abuse of the child's vulnerable situation (e.g. a disability) are considered to be child sexual abuse, irrespective of whether the child has the legal age of consent. Moreover, the Directive 2011/92/EU adds in other paragraphs of Article 3 other specific offences that constitute child sexual abuse, such as Art 3§2

> "Causing, for sexual purposes, a child who has not reached the age of sexual consent to witness sexual activities, even without having to participate, (...)"

As seen in the above mentioned legislation, in European law, any sexual activity with a child below a certain age that is defined in the Criminal Codes of the member-states, namely the age of sexual consent, constitutes child sexual abuse. The rationale behind this law is that a young child does not have the capability to grant meaningful and valid sexual consent. Furthermore, as mentioned above, children, namely people younger than 18 years, that are old enough to be able to grant valid consent, are still protected from child sexual abuse that happens via coercion, threat, force, abuse of a position of trust or abuse of vulnerable situation. The ratio legis of this extended children's protection, is that children are a particularly vulnerable population group, as they are not physically and mentally mature, thus they do not have fully developed critical ability, and they are also not financially and legally independent. For all these reasons, children are protected

[311] Lanzarote Convention, art 3a ; Directive 2011/92/EU, art 2 b.

as a matter of principle, in an international,[312] European and national level. This protection is especially strong regarding their sexual autonomy and dignity, because of the scientific undisputed fact that child sexual abuse can cause severe, potentially lifelong lasting bodily and/or psychological trauma to the victims.[313]

2.3. Definition of robotic child sexual abuse [RCSA]

RCSA is the use of a childlike sex robot (CSB) for the purpose of sexual gratification. Expressed in a different way, RCSA can be defined as the simulation by means of a CSB of the offence established in Article 18 of the Lanzarote Convention and Article 3 of the Directive 2011/92/EU, namely child sexual abuse. Engaging in sexual activities with a child that has not reached the legal age of sexual consent can be simulated with a CSB or childlike sex doll that looks like a young child. Furthermore, sexually abusing a child that has reached the legal age of sexual consent by means of coercion, threat, force, abuse of a position of trust or abuse of vulnerable situation, can be simulated with a CSB, for instance a CSB that can look or sound sad or afraid.

John Danaher mentions the possibility that RCSA is perpetrated on a child robot that was not intentionally designed to be used for the purpose of sexual gratification, but it is nevertheless used in that way.[314] This is theoretically a possibility, but there are three reasons why this possibility will not be included in the present analysis. First, CSB that are intentionally designed and sold as such, can be regulated in other ways except criminalisation of the act of RCSA: there can be sanctions or restrictions on the manufacturers, sellers or importers of CSB. On the contrary, in RCSA that is perpetrated on a child robot that was not intentionally designed as CSB, only the act of the perpetrator can be legally assessed and maybe regulated. Second, the sex robots that exist currently and for the foreseeable future are not moral agents,[315] so there is no consideration about moral rights, which would justify discussing about RCSA perpetrated on any robot, whether it was intentionally designed as CSB or not. Last but not least, currently and for the foreseeable future, there are no known real-life instances/cases of robots or dolls that can be used or that are used as CSB without being designed for that. Consequently, this discussion is of little or no practical value. For these reasons, the following analysis will only refer to CSB that are specifically and intentionally designed as such.

2.4. Definition of child sex robots [CSB]: a category of childlike sex dolls

A CSB is a childlike sex doll with the addition of robotic movement and/or Artificial Intelligence. Like childlike sex dolls but often to a greater extent, CSB resemble children in appearance, as they can have childlike height, weight, body dimensions, facial characteristics and attire. They can resemble prepubescent or

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[312] UN General Assembly, *Convention on the Rights of the Child*, 20 November 1989, United Nations, Treaty Series, vol. 1577, available at <https://www.refworld.org/docid/3ae6b38f0.html >accessed 7 July 2019, p 3; Declaration of the Rights of the Child 1959 ; Universal Declaration of Human Rights; International Covenant on Civil and Political Rights art 23 and 24 ; the International Covenant on Economic, Social and Cultural Rights art 10.

[313] David P.H. Jones, 'The Traumatic Impact Of Child Sexual Abuse: A Conceptualization' (1986) 10 Child Abuse & Neglect.

[314] John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review.

[315] As clarified in Chapter 2, Section 4.5.

pubescent children, even though, the older the child that a robot depicts, the more difficult it is to prove that the robot actually aims to depict a child and not a young adult.[316] Moreover, CBS, unlike childlike sex dolls, can act like children: they can have robotic movement, such as the ability to move their head or change facial expressions, and Artificial Intelligence, which can include childlike voice audio, voice recognition, software that allows them to make a dialogue with their users, and bodily responses to stimuli, such as the touch of their users. CSB are generally more sophisticated versions of childlike sex dolls, since they are often more anatomically correct in appearance, and more lifelike due to their robotic features. CSB, like sex dolls, are designed and used for the purpose of sexual stimulation and usually have orifices in their vagina, anus and mouth that can fit an adult penis.[317]

It is noteworthy that the literature discusses CSB and childlike sex dolls at the same time, since the arguments that apply to childlike sex dolls apply also to CSB. In the case of CSB and RCSA, the robotic nature of the artefacts plays a less important role, since the use of a childlike sex doll and the use of a CSB are essentially the same act. This is because the crucial element in RCSA is the childlike nature of the artefacts, and not the existence or not of robotic features. The sole importance of robotic features in CSB is that they create greater resemblance of CSB to actual human children, thus arguments regarding childlike sex dolls apply a fortiori in the case of CSB. But even this importance is limited, due to the fact that the differentiation between dolls and robots can be difficult:[318] nowadays sex dolls can be as realistic looking as robots, and most importantly, sex dolls can have the same function/significance as sex robots, namely they can be seen by their users, not only a as sexual aid, but also as a representation and substitute of a human. In that case, the lack of Artificial Intelligence and robotic movement does not play a crucial role. As John Danaher explains, CSB and childlike sex dolls are rightly discussed on the same terms, since they belong in the same ontological category, namely the same "type", and only differ in the "degree".[319] On the contrary, in rFobotic rape, the differentiation between dolls and robots matters more: the act of RR itself is made possible because of the robotic nature of the sex robots, and because of their ability to simulate rape by means of their special software. As a result, the literature regarding RR refers to sex robots, but the literature regarding RCSA refers to both sex dolls and sex robots. For the remainder of this Chapter, the subject of discussion will be CSB, but the arguments presented are applicable to childlike sex dolls as well. Also, where childlike sex dolls are discussed, the insights drawn from this discussion apply to CSB too.

CSB are mainly catered for people with pedophilic predilections. Of course it is possible that CSB are used by people who are not predominantly pedophiles, but have a relevant fetish or wish to experiment with sexual deviations.[320] We should bear in mind that not all child sexual offenders are pedophiles, so there is the possibility that not all people who commit RCSA are pedophiles either. However this is a slim possibility for the following reasons. First, most people are intensely repulsed by the concept of child sexual abuse, so it is less likely that someone who is not a pedophile would have an

[316] As explained in Section 2.2 of this Chapter, according to the Lanzarote Convention and the Directive 2011/92/EU, a child is a person younger than 18 years.
[317] Rick Brown and Jane Shelling, *Exploring The Implications Of Child Sex Dolls* (Australian Institute of Criminology 2019).
[318] As discussed in the Chapter "the Technology", Section 4.4.
[319] John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review, p 5.
[320] John Danaher mentions this possibility in his paper: John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review, 16.

interest in buying such an artefact, namely an artefact that is used to simulate child sexual abuse.[321] Second, unlike for instance child pornography, due to the high cost of CSB,[322] it is less likely that they would be purchased by individuals who are not pedophiles, but only wish to experiment with that sexual deviation. In support of these arguments, the manufacturers of CSB or child sex dolls seem to have in mind pedophiles as a customer target group, claiming curative potential of their products.[323]

2.5. Current examples of child sex robots [CSB]

Currently there are no CSB in the market, since none of the childlike sex dolls that are being sold have robotic movement or Artificial Intelligence. Nevertheless, the subject of CSB is worthy of legal scrutiny for two reasons. First, because hyper-realistic child sex dolls are already in the market and, as discussed in Section 2.4., realistic childlike sex dolls and CSB are very similar artefacts. Second, because sex robots' companies that mainly produce adult looking sex robots/dolls, still offer the possibility of customisation of the sex robot and its software to match the customer's preference, so there is the possibility for sex robot companies to produce CSB upon demand, by customising the height, body measurements and voice. One example of customisable sex robot that was suspected of trying to mimic a minor was Roxxxy from the company TrueCompanion. One of the personalities of this sex robot model that customers could choose, was "Young Yoko". "Young Yoko" was being advertised with the phrases "oh so young (barely 18)" and "waiting for you to teach her".[324] Right now, the website of TrueCompanion clarifies that this sex robot personality refers to a young adult, namely a woman over 18 years.[325] This company's claim could be untrue, since it is noticeable that some of the sex robot and doll companies are discreet in their advertisement when it comes to childlike robots and dolls, possibly because they want to avoid legal problems and social backlash.[326] In any case, either Young Yoko is a CSB or not, since sex robots' customisation is technically unlimited, sex robot technology

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[321] Indicative of this is the fact that the vast majority of both male and female respondents in this survey rated sex robots with a human child form as inappropriate.: Mattias Scheutz and Thomas Arnold, 'Intimacy, bonding, and sex robots: Examining empirical results and exploring ethical ramifications' (Unpublished manuscript, 2017), available at <https://hrilab.tufts.edu/publications/scheutz2017intimacy.pdf>accessed 18 October 2019.

[322]. For instance, a childlike doll from the company Trottla costs 6.700 USD, plus shipping, for instance 1.020 USD for shipping to the Netherlands. See the Trottla information page: 'TROTTLA' (*Trottla.net*, 2019) <http://www.trottla.net/eOverseasexport.html> accessed 8 July 2019.

[323] See Ashitha Nagesh, 'Shin Takagi Starts Trottla Child Sex Doll Company For Paedophiles | Metro News' (*Metro.co.uk*, 14 January 2016) <https://metro.co.uk/2016/01/14/man-claims-child-sex-dolls-will-stop-paedophiles-from-abusing-children-5621856/> accessed 5 July 2019.

[324] This description of "Young Yoko" does not exist in the TrueCompanion website anymore, but has been documented in old news articles about sex robots, such as this one: 'New Sex Robots With 'Frigid' Settings Allow Men To Simulate Rape' (*Re-wo.eu*, 2019) <http://re-wo.eu/index.php/editoriali/autori/new-sex-robots-with-frigid-settings-allow-men-to-simulate-rape> accessed 14 July 2019.

[325] See the website of TrueCompanion, and the current description of the "Young Yoko" sex robot personality.: 'Frequently Asked Questions (FAQ)' (*Truecompanion.com*, 2019) <http://www.truecompanion.com/shop/faq> accessed 14 July 2019.

[326] For instance, in this website, the childlike sex doll pictures are blurred on the breast, genitals and face : 'Buy 100Cm Japanese Life Size Sex Dolls Lifelike Real Silicone Flat Chest Doll With Oral Sexy Love Toys For Men Free Shipping From Www.Sexdollonline.Com' (*Sexdollonline.com*, 2019) <https://www.sexdollonline.com/100cm-real-sex-dolls-japanese-adult-mini-lifelike-oral-love-dolls-full-vagina-pussy-big-breast-young-sex-doll-458.html> accessed 12 July 2019.

constantly advances and their popularity increases, the prospect of child sex robots' proliferation is highly probable and worthy of legal assessment.

2.6. Currently sold realistic child sex dolls

Realistic childlike sex dolls are available to European customers for purchase via the Internet.[327, 328] These artefacts are usually manufactured outside Europe, but can be shipped to Europe on customers' demand.



Picture of one childlike sex doll, by the company Urdolls. This artefact costs $719.01.[329]

One notable example of a sex doll company that makes very realistic looking childlike dolls, is the Japanese company Trottla, owned by the self-confessed pedophile Shin Takagi, who states:

> "I am helping people express their desires legally and ethically. It's not worth living if you have to live with repressed desire."[330]

The company exports dolls to customers in many countries, including most European countries. In Trottla's website, there are pictures of very realistic child dolls, dressed in

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[327] See this news story about child sex dolls being sold on eBay and Amazon: John Simpson, 'Child Sex Dolls For Sale On Ebay And Amazon' (*Thetimes.co.uk*, 2017) <https://www.thetimes.co.uk/article/child-sex-dolls-for-sale-on-ebay-and-amazon-5rr3xsxqq> accessed 11 July 2019. ; Also see this childlike sex doll being sold online: 'Round Face Cute Tanabe Reiko Japanese Girl 100CM Flat Chest TPE Doll' (*Urdolls.com*, 2019) <https://www.urdolls.com/flat-japanese-cute-doll-100cm-p-98.html> accessed 12 July 2019.

[328] See for example these companies; They primarily manufacture adult-looking dolls, but the customisation options can be set in a way that would result in a child-looking doll, for instance short height (1 meter), flat chest, childlike attire.: 'Hot Sale Mini Japanese Sex Dolls Elaine 100Cm' (*Sex Doll*, 2019) <https://www.sexdoll.co.uk/shop/flat-breast-small-japanese-sex-dolls-susana-100cm/> accessed 12 July 2019; 'Hot Selling 100 Cm Sex Doll Flat Chest Love Doll Japanese Loli Sex Doll - Buy 100 Cm Sex Doll,Japanese Loli Sex Doll,Flat Chest Love Doll Product On Alibaba.Com' (*www.alibaba.com*, 2019) <https://www.alibaba.com/product-detail/Hot-Selling-100-cm-Sex-Doll_62042861091.html?spm=a2700.7724857.normalList.282.65e73438YEpMf3> accessed 12 July 2019.; 'Most Realistic Love Doll Skinny Little Girl 122Cm -Adrienne' (*Fansdolls.com*, 2019) <https://www.fansdolls.com/most-realistic-love-doll-skinny-little-girl-122cm/> accessed 12 July 2019.; 'Round Face Cute Tanabe Reiko Japanese Girl 100CM Flat Chest TPE Doll' (*Urdolls.com*, 2019) <https://www.urdolls.com/flat-japanese-cute-doll-100cm-p-98.html> accessed 12 July 2019.

[329] The photo is taken from Urdolls website: 'Round Face Cute Tanabe Reiko Japanese Girl 100CM Flat Chest TPE Doll' (*Urdolls.com*, 2019) <https://www.urdolls.com/flat-japanese-cute-doll-100cm-p-98.html> accessed 12 July 2019.

[330] See Ashitha Nagesh, 'Shin Takagi Starts Trottla Child Sex Doll Company For Paedophiles | Metro News' (*Metro.co.uk*, 14 January 2016) <https://metro.co.uk/2016/01/14/man-claims-child-sex-dolls-will-stop-paedophiles-from-abusing-children-5621856/> accessed 5 July 2019

"sexually suggestive" outfits (lingerie) or completely nude, and posing in "sensual" ways. However, the Company is quite unrevealing when it comes to the use of the artefacts it sells; in the corner of the webpage there is even the following note, in fine print:

> "Please note, our dolls are not for practical use. Please note, our products are not sexual toy dolls."

This statement is quite peculiar, given the sensual attire of the dolls, the indications that people who buy or intend to buy these artefacts do in fact use them for sexual gratification,[331] and last but not least, statements of Trottla's founder suggesting that these dolls can be used however the customer chooses:

> "The purpose of the doll differs with each customer and the customer is free to use the doll in any way they wish."[332]

Shin Takagi clarifies the confusion, saying that the customers can use the dolls however they like at home, but he warns against the dolls' use as sexual toys because they could be mistaken for real children, for example in a porn video.

> "This (Author's Note: Takagi is referring to the dolls' use as sex toys) is the customer's choice. However, we do prohibit the dolls being used as sexual objects commercially, as they are very realistic and could be mistaken for real children. We pray for the security of our customers, and they may be put in danger if they do not treat the doll with caution."[333]

Furthermore Takagi contends that his dolls do not have "sexual functions" (namely, anatomically correct orifices) and that he does not intend to add them because, in his words, "children do not perform sexual intercourse".[334]



Picture of a childlike doll by the company Trottla. It costs 6,700 USD plus shipping cost, which differs per country.[335]

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[331] See for instance this Reddit forum post of a user who apparently would like to buy a childlike Trottla Doll, to use for sexual gratification: 'I JUST Discovered What "Trottla Dolls" Are. (DON't LOOK THEM UP! PLEASE!) If I Had >$6,000 To Spare, I'd Have Ordered One Already' (*Reddit.com*,2017).<https://www.reddit.com/r/casualiama/comments/4xxulv/i_just_discovered_what_trottla_dolls_are_dont/> accessed 8 July 2019.

[332] The quotes are taken from a Shin Takagi interview, in the website Vice. Chloe Cross, 'This Guy Makes Life-Size Child Dolls Wearing Lingerie' (*Vice*, 21 February 2013) <https://www.vice.com/en_us/article/wdpa3x/japan-trottla-dolls-lifesize-lingerie> accessed 11 July 2019.

[333] Idem.

[334] Idem.

2.7. A physical manifestation of an ideal

In the BBC documentary "Sex Robots and Us",[336] the British BBC presenter James Young was moved to tears after seeing a childlike sex doll on one of the benches of Hiro Okawa's sex robot factory, in the suburbs of Tokyo.[337] The reporter, describing his experience commented:

> "Seeing such a young looking doll felt different and horrific. I just had to get out of there. Its seems almost, not harmless, but less serious when you see one doll (Author's note: James Young is referring to an adult doll here) in isolation because it seems somehow like that's something that someone might have who's a bit funny. And then, I walked into that place, and you see them all sort of laid down in these positions. And it becomes really apparent, like, even more so than normal, where you just think, you're just immediately like, that's a female form and it's just being printed out and ready to be used however or abused. And then you see the child body. And it suddenly doesn't feel quite the same." [338]
>
> (...)
>
> "It seems like they (Author's Note: James Young is referring to sex robots) kind of have the potential to bring out the worst things in us. It's kind of a platform of physical manifestation of an ideal. But for men it's actually something you can actually interact with and enact fantasies on, which seems potentially risky. Psychologically, we don't really know the impact of this kind of thing." [339]

The limitless physical reproduction of ideas that may be harmful has unknown effects. The experience of interacting with sex robots swings between fantasy and reality and can turn the worst fantasies into a physical reality. It is not certain that people will be able to distinguish between reality and fantasy,[340] or that they will not be in any way negatively impacted, mental health-wise.

3. Why is robotic child sexual abuse a legal problem: immorality, offensiveness, extrinsic effect and societal reactions

RCSA has concerned legal scholars and legislators,[341] even though it appears to be a victimless, harmless act, because of its controversial morality and offensiveness. First, CSB, like with other sexual aids targeted to pedophiles, such as blow up child dolls, child pornography or virtual child pornography, are considered morally wrong, since they reveal the user's defective moral character. According to the theory of legal moralism, an immoral act can be criminalised, even without being

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[335] The photo is taken from the website of Trottla: 'TROTTLA' (*Trottla.net*, 2019) <http://trottla.net/gallery-kakonotop.html> accessed 14 July 2019.

[336] Jon Eastman, *Sex Robots And Us* (BBC 2018), available at <https://topdocumentaryfilms.com/sex-robots-us/>accessed 12 August 2019.

[337] Charlotte Davis, 'Disturbing Child-Size Sex Robot Reduces BBC Presenter To Tears In SHOCKING Footage' (*Express.co.uk*, 10 April 2018) <https://www.express.co.uk/news/science/944015/Sex-robot-doll-realistic-child-BBC-Three-news-documentary> accessed 28 February 2019.

[338] Jon Eastman, *Sex Robots And Us* (BBC 2018), available at <https://topdocumentaryfilms.com/sex-robots-us/>accessed 12 August 2019.

[339] Idem.

[340] George C Cox-,S. Bewley, 'I, Sex Robot: the health implications of the sex robot industry' (2018) 44 BMJ Sexual & Reproductive Health, 161-164, p 2.

[341] Legal scholars that have written about robotic child sexual abuse are amongst others John Danaher, Marie Helen Maras, Lauren R. Shapiro and Litska Strikwerda. A well-known example of a legislator who proposed a bill regarding CSB is the US Congressman Dan Donovan who sponsored the CREEPER Act.

harmful or offensive. Second, CSB fall into the category of offensive artefacts, as it seems that many people find them unsettling or repugnant, so their criminalisation could be considered under the offence principle.

The main reason why CSB are worrying to the legal world, is that it is speculated that maybe RCSA can have extrinsic harm, namely an extrinsic effect on the child sexual abuse rates. CSB's regulation could be discussed under the harm principle, since CSB are arguably harmful to children: CSB users are arguably more likely to commit child sexual abuse, and also other people who may repeatedly encounter these artefacts could gradually become tolerant of the sexualisation of children. CSB are also arguably harmful to the user, since these sexual aids strengthen his/her immoral urges, so according to the theory of legal paternalism, law should intervene to protect the user by this self-inflicted harm. The problem here is that all these predictions are sheer speculation, as there is no scientific research on the topic.[342] There are even counter arguments, claiming that CSB might decrease the rate of child sexual abuse, as CSB would be a victimless outlet for pedophilic urges. Moreover, the research that exists on similar phenomena like virtual child pornography does not help, because it is diverse and inconclusive as to their effects on child abuse rates.[343]

These facts about CSB, combined with the legal theories mentioned, warrant discussions regarding the regulation of CSB. Moreover, societal reactions requesting (but also opposing to)[344] the regulation of CSB are already taking place, which also creates a question that legal scholars and ultimately legislators need to answer: is legal intervention on CSB justified?

4. Theoretical framework that applies to legislative intervention

4.1. The harm principle

The harm principle is usually brought up to argue against regulation of CSB, especially criminalisation, the most severe form of regulation that can lead to a deprivation of liberty sentence. According to the harm principle, as formulated by Andrew Von Hirsch and Andrew P. Simester,[345].RCSA cannot be criminalised at present, because its extrinsic harmful consequences are not proven. The reasoning is the following. RCSA is a victimless act, so there is no direct harm caused to any person. In the case of RCSA, there could potentially be remote harm, namely a surge in real child sexual abuse instances due to the normalisation of children's sexualisation. This remote harm would be of criminal nature, as child sexual abuse is a criminal act. Lastly, this consequence would be imputable to RCSA perpetrators, as every citizen is responsible to contribute to children's protection. However, according to the harm principle as described by Hirsch and Simester, the burden of providing evidence for the existence of remote harm in an act should be on the legislator. Up to now, there is no definitive evidence regarding CSB negative extrinsic effects in raising child sexual abuse rates, so CSB according to the harm principle cannot be criminalised.

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[342] George C Cox-,S. Bewley, 'I, Sex Robot: the health implications of the sex robot industry' (2018) 44 BMJ Sexual & Reproductive Health, 161-164.

[343] Suzanne Ost, 'Criminalising Fabricated Images Of Child Pornography: A Matter Of Harm Or Morality?' (2010) 30 Legal Studies, p 242.

[344] For example, see this article in the website of a self-proclaimed child protection organisation: "Prostasia Foundation, 'Does Congress Care More About Dolls Than Real Children? - Prostasia Foundation' (*Prostasia Foundation*, 2019) <https://prostasia.org/campaign/does-congress-care-more-about-dolls-than-real-children/> accessed 12 July 2019.

[345] Andrew Von Hirsch and A. P Simester, *Crimes, Harms, Wrongs* (Hart 2011).

4.2. The offence principle

Child sex robots are often characterised as offensive, but as will be explained, the offence principle, as formulated by Joel Feinberg,[346] does not provide a solid argument for RCSA's criminalisation. RCSA does constitute an affront to people's sensitivities, since people who encounter or witness it are repulsed by it, but it is not clear whether the act fulfils the other criteria that Joel Feinberg sets: reasonable unavoidability for the offended person, alternative opportunities for the perpetrator of the act, and lack of social usefulness of the act. People who are offended or repulsed by RCSA can reasonably easily avoid the settings where they could be confronted with such acts, or with CSB: for example they can avoid visiting websites where such artefacts are sold. The perpetrator of RCSA does have "alternative opportunities", namely to follow cognitive therapy suggested for pedophiles, but it is not certain that this therapy would treat the pedophile or prevent him/her from abusing children. Last, the social usefulness of the RCSA depends on the consequences it would have on the rates of child sexual abuse, which are unknown. For these reasons, there cannot be a clear conclusion as to whether RCSA should be criminalised according to the offence principle, because, again,[347] this theory requires evidence (or at least an estimation) of the act's effects, in order to determine whether the act should be criminalised or not.

According to the offence principle, as reconsidered by Andrew Von Hirsch and Andrew P. Simester,[348] legal intervention in the case of CSB on the grounds of offensiveness, is also not justified, because these scholars require harm to others as a prerequisite for an offensive act's criminalisation, and as discussed above, it is not proven that the RCSA is extrinsically harmful. These scholars' reasoning is the following: First, the presence of CSB in the market can be considered as offensive to the public. This means that people who encounter these artefacts are likely to have an unpleasant psychological experience (disgust, anxiety). Second, the act of RCSA is can be considered as insulting, (thus morally wrong): it shows disrespect for children's rights and it is derogatory to them. The third requirement for criminalisation is that RCSA is harmful, in the sense that it can lead to criminal acts, even if these acts are caused indirectly and even if they are not imputable to the perpetrator of RCSA. This third requirement is not fulfilled, as it is not proven that RCSA leads to more incidents of child sexual abuse.

4.3. Legal paternalism

A paternalistic prohibition of RCSA would aim to protect the CSB's users mental health and to help them avoid being triggered to commit child sexual abuse. Such an aim is always pursued by rational individuals, and also the benefit of the prohibition is more important that the liberty that was curtailed, namely the liberty to use a CSB. Furthermore, there are no alternative, less restrictive means to deal with a mental health risk posed by CSB, except their prohibition. This paternalistic prohibition could be imposed on the manufacturers, or other targets, as long as the aim of hampering RCSA was achieved. However, legal paternalism, as defended by Gerald

[346] Feinberg's offence Principle is discussed in the book by Andrew Von Hirsch and A. P. Simester: Andrew Von Hirsch and A. P Simester, *Crimes, Harms, Wrongs* (Hart 2011), p 91.
[347] This was also the case with the Harm Principle.
[348] Andrew Von Hirsch and A. P. Simester build upon the formulation of the Offence Principle of Joel Feinberg. Andrew Von Hirsch and A. P Simester, *Crimes, Harms, Wrongs* (Hart 2011), p 91.

Dworkin[349] is one more theory that requires strong evidence for an act's harmful effects before it can be prohibited. The burden to provide that evidence should be on the legislator. Based on these conditions, it seems that CSB could be the subject of a paternalistic prohibition, if we can prove that the use of CSB whets the appetite for real child sexual abuse. For now, such definitive evidence of RCSA's negative effects does not exist, so paternalism seems to not be justified.

4.4. Legal moralism

4.4.1. Public morality: Devlin-Hart

The shared morality in Europe at the moment seems to be very unfavourable for RCSA, since for most people the idea of CSB is simply unthinkable.[350,351] According to Devlin's explanation of public morality, CSB can be outlawed, since Devlin is interested in what the majority of people in a society feels for an act, and in the case of RCSA, the overwhelming majority finds RCSA morally abhorrent. Furthermore, RCSA is not a new moral issue, since sexual aids for pedophiles, like virtual child pornography, have existed for decades and they are strongly condemned from society.[352]

Hart's view of public morality requires the act to be considered immoral for logical reasons. The reason people find RCSA immoral is that the perpetrator of the act seems to find pleasure in fantasizing about child sexual abuse, thus exhibiting an insensitivity to children's suffering, even if he/she does not intend to commit real child sexual abuse. Unlike RR, where maybe the perpetrator is not finding pleasure in thoughts of rape, but in thoughts of sadomasochistic sexual acts, in RCSA there is no such alternative interpretation, since sexual contact with children is under all circumstances considered abuse. For that reason, RCSA, critically assessed, is an immoral act, since it shows that the perpetrator is finding pleasure in immoral thoughts, namely child sexual abuse. Moreover, RCSA is an act of the private (sexual) life of the perpetrator, but because it is a blatantly antisocial behaviour, it is hard to argue that it should be left up to the individual's private morality.

A balancing assessment of these arguments would result in RCSA's prohibition, since RCSA is an act that is found immoral by the overwhelming majority of people at present time, and also it is considered immoral for good reasons and not only because people find it distasteful. Last, it is a private life act, but in this case, immorality weighs more than the right to private life.

4.4.2. Legal moralism: Stephen Wall and Antony Duff

John Danaher uses Stephen Wall's and Antony Duff's versions of legal moralism to argue that RCSA should be legally regulated. Danaher argues that RCSA would be a wrongful act, thus harmful to the perpetrator's moral self, so it fits into Wall's version of legal moralism. Danaher also maintains that RCSA belongs in Duff's

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[349] Gerald Dworkin, 'Paternalism' (1972) 56 Monist.

[350] I use the word "unthinkable", as John Danaher does, in his paper: John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review, p 2.

[351] In this survey, the vast majority of both male and female respondents rated sex robots with a human child form as inappropriate.: Mattias Scheutz and Thomas Arnold, 'Intimacy, bonding, and sex robots: Examining empirical results and exploring ethical ramifications' (Unpublished manuscript, 2017), available at <https://hrilab. tufts.edu/publications/scheutz2017intimacy.pdf>accessed 18 October 2019.

[352] As will be discussed later, virtual child pornography is criminalised in EU countries.

notion of "public wrongs" that warrant a public response by Criminal law. To substantiate the "harm to moral character" argument, Danaher he calls upon the work of Litska Strikwerda. Strikwerda, based on Alisdair McIntyre's theory of virtue (according to which virtue is accomplished by doing intrinsically good activities) considers RCSA as not virtuous, because it encourages a non virtuous (non consensual) form of sex. To back up the second argument, regarding RCSA being a "public wrong", he points to the work of Stephanie Padridge and the videogame analogy.[353] which he uses to argue that RCSA reveals a moral defect of the perpetrator, namely an insensitivity to children's suffering.

4.5. The precautionary principle, the proactionary principle and the experimentalist approach

As explained in Section 3 of this Chapter, there is no research and no empirical evidence on the extrinsic effect of RCSA. This creates difficulty in applying many of the legal theories that were mentioned above, since a lot of them presuppose that we know an act's remote consequences, or social usefulness. In cases of new technologies, the consequences of which are unknown, the legislator can be assisted by insights from the precautionary and the proactionary principles. In the case of CSB, both those principles warrant restrictive regulation. The precautionary approach requires restrictive regulation when confronted with risks. The proactionary principle warrants being risk-tolerant when the risk-benefit analysis shows balanced risks and benefits, which is not the case regarding CSB. The particularly adverse effects in case CSB prove socially harmful, overweigh the potential benefits of CSB. The normalisation of sexual interactions with minors and the sexualisation of minors are too adverse consequences, given the special protection that children have in law, and cannot be risked for the alleged benefit of stopping some pedophiles from abusing children. Furthermore, the prohibition of CSB would not stifle the technology of sex robots in general, since adult sex robots would continue to grow and evolve as a technology.

John Danaher examines the possibility of an intermediary approach, which is the experimentalist approach. Ronald Arkin suggested at a robotics conference in 2014, that

> "robots designed to look and act like children could be used to treat pedophiles the way methadone is used to treat drug addicts".[354]

Would a careful and regulated, experimentalist employment of CSB, be justified? According to Danaher, it could, but the experiment is not worth the money and effort.[355] The reasons for this are two: first, there is no reasonable prospect of the experiment yielding positive results for CSB, and second, there is no reasonable prospect of the experiment yielding reliable results.

First, it is highly doubtful that the experiment will reveal a positive effect of CSB because there is no plausible psychological mechanism, or other indication that CSB would keep pedophiles from assaulting real children. The current medical practice

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[353] For more information on this analogy, see the previous Chapter "Robotic Rape", Section 4.4.2., or John Danaher's papers : John Danaher 'Robotic Rape and Robotic Child Sexual Abuse: Should They be Criminalised?' 11 (1) Criminal law and Philosophy 71-95, p 82-83; John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review, p 14.

[354] Kashmir Hill, 'Are Child Sex-Robots Inevitable?' (*Forbes.com*, 14 July 2014) <https://www.forbes.com/sites/kashmirhill/2014/07/14/are-child-sex-robots-inevitable/#6a0abb33e460> accessed 14 August 2019.

[355] John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review.

regarding pedophiles is cognitive behavioural treatment or medication that suppresses the sexual drive, and not encouraging pedophiles to act on their urges, even by use of virtual substitutes, like virtual child pornography. A prescription of CSB to pedophiles would be contrary to the practices that have proven to be the most effective until now.[356] Additionally, even though there are no empirical data to prove it, there are plausible medical and psychological theories that indicate that the use of CSB could "whet the appetite" for pedophiles. This is because, according to studies, repetitions of behaviours reinforce these behaviours, as the brain "learns" and adapts by repetition of action. On the opposite, the "cathartic" theory, according to which, venting out unwanted emotions leads to less of these emotions or actions, has been proven wrong in studies.[357]

Second, the experiment would unlikely yield reliable answers, because, in the case of CSB, the epistemic access to reliable results is difficult. Academic institutions and research in Biomedical Science and Psychology have had in the past structural flaws that led to a lot of wrong or misleading research findings, and that have not been fully corrected yet. Some of those problems are: lack of experiment replication culture, methodological differences between researchers that inhibit result comparisons, the prevalence of small researches with unreliable results, publication bias and the "file drawer effect" (which is the reluctance of researchers in these fields to report "negative" findings) and the use of statistical methods to inflate "positive" findings. A lot of these problems are related primarily to incentive mechanisms in academia, and have been reported, but the required changes haven't been fully realised yet.[358] Lastly, the experiment would run into difficulties related to peculiarities of the phenomenon of pedophilia itself: due to its stigma, people who admit to be pedophiles are usually only people who have been caught to abuse children, so the sample in researches is not representative.[359]

All things considered, according to Danaher, the experimentalist approach is not promising, but nevertheless, it could be legally acceptable, as an attempt to find answers, without jeopardising the well-being of children, as the experiment would be low-scale and regulated. The experimentalist approach is also mentioned by George Cox and Susan Bawley as the only acceptable way to implement CSB in healthcare. Cox and Bawley otherwise strongly suggest precaution, and advise healthcare providers against using CSB in healthcare in hope that they would prevent pedophiles from sexually offending children. The reason they present is the risk that some users will not distinguish between fantasy and reality and be incited to assault children, which is a serious risk that should be avoided for ethical reasons according to the precautionary principle.[360]

4.6. The right to respect for private life and freedom of expression

A potential prohibition of CSB would not be incompatible with the right to respect for private life, since this right is balanced against other legitimate aims and restrictions are allowed when they are necessary in a democratic society. In the case of RCSA, the right to respect for private life would be balanced against public safety (safety of children), the prevention of crime (prevention of an increase in child sexual

[356] Idem p 20.
[357] Idem p 20-21.
[358] Idem p 24.
[359] Idem p 26-27.
[360] See George C Cox-,S. Bewley, 'I, Sex Robot: the health implications of the sex robot industry' (2018) 44 BMJ Sexual & Reproductive Health 161-164 available at <https://srh.bmj.com/content/44/3/161.info> accessed 4 August 2019, p 2.

abuse rates), the protection of health (as the use of CSB could harm the user's mental health by exacerbating their pedophilic tendencies) or morals (since RCSA is considered to be an immoral act). It is true that the risk of harm is not backed by evidence, but the importance of children's protection allows the balancing test to favour a CSB prohibition even though the potential harm risk is only hypothesised. Furthermore, a ban on CSB would be a necessary means for the above aims, as it there is no alternative way to mitigate CSB's risks, without in some way banning them and the restriction is proportionate to the importance of the legitimate aims. Similarly, freedom of expression can also be curtailed, because the right to expression through the creation of pornographic representations of children is found less important than the legitimate aim of children's protection against abuse.

5. Legal consistency: Comparison to the similar phenomenon of virtual child pornography

Child pornography, is defined by the Lanzarote Convention as follows:

> "For the purpose of the present article, the term "child pornography" shall mean any material that visually depicts a child engaged in real or simulated sexually explicit conduct or any depiction of a child's sexual organs for primarily sexual purposes"[361]

Virtual child pornography is child pornography which is entirely computer generated. The crucial difference between child pornography and virtual child pornography is that, in the latter, no children were abused to create it. On the contrary, child pornography requires the abuse of children in order to be created, the existence and circulation of the material constitutes a humiliation and revictimisation of real children, and this abuse is furthered by increasing demand for child pornography which leads to more abused children.[362] Directive 2011/93/EU, in Article 2 (c) (iv) defines virtual child pornography as

> "realistic images of a child engaged in sexually explicit conduct or realistic images of the sexual organs of a child, for primarily sexual purposes",

classifying virtual child pornography as child pornography. Furthermore, the Cybercrime Convention also classifies virtual child pornography as a kind of child pornography. Article 9§2 (c), includes in the definition of child pornography

> "realistic images representing a minor engaged in sexually explicit conduct".[363]

Child pornography, as well as virtual child pornography, are criminalised both in the Directive 2011/93/EU and in the Cybercrime Convention. The ratio legis of the criminalisation of virtual child pornography is well explained in the European Parliament Study for the LIBE Committee, entitled "Combatting Child Sexual Abuse Online", which mentions:

> "It is apparent that with the inclusion of the virtual child pornography category the justification for criminalizing this aspect of social conduct has shifted from the 'harm' caused to the child depicted in the pornographic material, and moved away from the protection of children. Here the rationale for criminalization is to denounce a behaviour that might be used to

[361] Council of Europe, Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (Lanzarote Convention) (EC) [2007], art 20 para 2.
[362] Marie Eneman, Alisdair A. Gillespie, Bernd Carsten Stahl, 'Criminalising Fantasies: The regulation of Virtual Child Pornography' (Proceedings of the 17th European Conference on Information Systems, 2009), Department of Applied Information Technology (Gothenburg University), available at <https://gup.ub.gu.se/file/207727> accessed on 31 July 2019, p 5.
[363] Council of Europe, Convention on Cybercrime (EC) [2001], art 9 para 2.

> encourage or seduce children into participating in such acts and hence creating a subculture in which child abuse is accepted."[364]

Another ratio legis for the criminalisation of virtual child pornography is that its existence creates evidence problems in cases of child pornography: virtual child pornography can be so realistic that is indistinguishable from child pornography, which would make it difficult to prove that the owner of pornographic material knew whether this material was virtual or not.[365]

The criminalisation of virtual child pornography presents two arguments in favour of legal regulation of CSB. First, CSB could be used for "grooming" of children, if the owner of CSB exposes children to interaction with CSB in order to manipulate children into imitating CSB. CSB might even be more impressive and influential in the eyes of a child than 2D virtual child porn. Second, CSB could also facilitate the creation of a kind of virtual child pornography, with use of CSB, which could create the same evidence problem that virtual child pornography would create, especially if we take into account that child sex dolls and robots are already very realistic looking.

6. Laws on child sex dolls (and robots)

6.1. Legal framework on CSB in United Kingdom

In 2017, the UK Crown Prosecution Services [henceforth CPS] prosecuted several individuals for having child sex dolls shipped in the UK after purchasing them online.[366] Up to this day, more than 200 childlike sex dolls have been seized by the UK Border Front.[367] Regarding the importation of the sex dolls, the legal ground that the British CPS used was not a provision that specifically prohibited the importation of childlike sex dolls or robots, but an obscure provision of the 1876 Customs Consolidation Act [CCA] that banned the importation of "obscene" or "indecent" objects.[368,369] As the legal Guidance published by CPS on 27 March 2019 explains, under the currently used legal framework, the following acts concerning CSB are prohibited: a) the importation of childlike dolls, based on the old law mentioned above, in conjunction with section 170(1)(a) Customs and Excise Management Act 1979

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[364] This study is available at <http://www.europarl.europa.eu/RegData/etudes/STUD/2015/536481/IPOL_STU(2015)536481_EN.pdf> accessed 19 August 2019.

[365] Suzanne Ost, 'Criminalising Fabricated Images Of Child Pornography: A Matter Of Harm Or Morality?' (2010) 30 Legal Studies, p 242.

[366] See some of the news articles on two of the incidents 'Man Jailed Over 'Child-Like' Sex Doll' (*BBC News*, 23 June 2017) <https://www.bbc.com/news/uk-england-stoke-staffordshire-40383627> accessed 10 July 2019 ; 'Child Sex Doll An Obscene Item, Judge Rules' (*BBC News*, 2019) <https://www.bbc.com/news/uk-40776622> accessed 10 July 2019. ; 'Briton Convicted Of Importing Child Sex Doll In Landmark Case' (*U.S.*, 2017) <https://www.reuters.com/article/us-britain-crime-doll/briton-convicted-of-importing-child-sex-doll-in-landmark-case-idUSKBN1AG1JS> accessed 10 July 2019.

[367] Alex Chapman, 'New Guidance Issued By CPS About Childlike Sex Dolls' (*HJA London Lawyers*, 29 March 2019) <https://www.hja.net/new-guidance-issued-by-cps-about-childlike-sex-dolls/> accessed 10 July 2019.

[368] Idem.

[369] John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review. 2. ;See the provisions at issue here: Section 42 of the Customs Consolidation Act 1876: <http://www.legislation.gov.uk/ukpga/Vict/39-40/36/section/42#text%2525253Dobscene%25252520import> accessed 10 July 2019. and Table of prohibitions and restrictions: < http://www.legislation.gov.uk/ukpga/Vict/39-40/36/section/wrapper1#text%25253Dobscene%252520import> accessed 10 July 2019.

[CEMA],[370] b) "publishing" (e.g. distributing or selling) a childlike sex doll or having the intention to do so, according to section 2(1) Obscene Publications Act 1959 [OPA][371] and c) sending a childlike sex doll by post according to section 85(3)(b) Postal Services Act 2000 [PSA].[372] Indicative of the fragmentary character of the currently used British legislative framework on the subject is the fact that, paradoxically, the possession of child sex dolls does not constitute an offence. This constitutes a legal lacuna.[373]

Certain details of these provisions are particularly interesting, because they reveal the ratio legis of childlike sex dolls' regulation in the UK. First, according to case law,[374] the meaning of "obscene" or "indecent" objects, both in the provisions regarding the importation of "obscene or indecent articles" (section 42 of CCA) and section 170(1)(a) of CEMA, and also in the provision regarding sending by post an "obscene or indecent article" (section 85(3)(b) of PSA) is clarified as "shocking, disgusting and revolting". Consequently, the ratio legis of the prohibition of "obscene or indecent articles" importation and sending, seems to be the offence principle and legal moralism.[375] Second, the "obscene object" in the provision regarding publishing of obscene objects (section 2(1) OPA) is defined in the Section 1 of the Act as an object that can deprave or corrupt its recipient. In this provision, the rationale is again, public morality, as the aim is the protection of the object's recipients moral character, but also legal paternalism, since the recipients of the obscene article are also protected from self-inflicted harm, namely the use of the object that can potentially corrupt them. Third, the CPS press releases that followed some of the child sex doll importation cases evince an additional different rationale: the acquisition of childlike dolls is an indication that the perpetrator has a sexual interest in children, and it is probable that other child abuse related offences have taken place.[376] Indeed, in a few of these cases, when home investigations in the houses of the perpetrators took place, child pornography material was discovered.[377] However, it is obvious that not everyone who obtains a child sex doll will commit or has committed other child abuse related offences. According to the CPS legal Guidance, this should not be considered a given, but it should be investigated and be taken into account when deciding on prosecution of the perpetrator, along with other factors, such as the age of the doll (the younger-looking the doll, the more clearly obscene, or against public morality it is considered to be).[378]

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[370] Customs and Excise Management Act 1979, available at <https://www.legislation.gov.uk/ukpga/1979/2/contents> accessed 20 August 2019.
[371] Obscene Publications Act 1959, available at <https://www.legislation.gov.uk/ukpga/Eliz2/7-8/66/contents>, accesed 20 August 2019.
[372] See the legal Guidance issued by CPS here: CPS, Legal Guidance 'Sex Dolls-Childlike' <https://www.cps.gov.uk/legal-guidance/sex-dolls-childlike> accessed 10 July 2019
[373] Alex Chapman, 'New Guidance Issued By CPS About Childlike Sex Dolls' (*HJA London Lawyers*, 29 March 2019) <https://www.hja.net/new-guidance-issued-by-cps-about-childlike-sex-dolls/> accessed 10 July 2019.
[374] *Knuller (Publishing, Printing and Promotions) Ltd. and Others v Director of Public Prosecutions* [1972] 3 W.L.R. p 143.
[375] These theories have been discussed in Section 4.
[376] See the following CPS press releases: <https://www.cps.gov.uk/south-east/news/prison-sentencechild-sex-doll-importation>accessed 10 July 2019>; <https://www.cps.gov.uk/south-west/news/plymouth-man-admitted-importingchildlike-sex-dolls> accessed 10 July 2019.
[377] See the news stories cited in n 363.
[378] Guidance issued by CPS: CPS, Legal Guidance 'Sex Dolls-Childlike' <https://www.cps.gov.uk/legal-guidance/sex-dolls-childlike> accessed 10 July 2019.

6.2. Legal framework on CSB in USA

In the USA, there has been recently an attempt to ban CSB, that ultimately did not succeed. The proposed Curbing Realistic Exploitative Electronic Pedophilic Robots (CREEPER) Act [henceforth CREEPER Act] would prevent the distribution or importing of childlike sex dolls or robots in the US. The bill was passed by the House of the Representatives but failed to reach the Senate in the 115th session of Congress. Congressman Dan Donovan who sponsored the CREEPER Act stated:

> "It's a uniquely vile person who preys on children to fulfill horrific pedophilic urges. During my 20 years as a prosecutor, I put away animals who played out their disgusting fantasies on innocent children. What I saw and heard was enough to make anybody sick. Now, as a legislator in Congress, I'm introducing a bill to ban the newest outlet for pedophiles: child sex dolls. They don't belong in our communities."

As seen in the words of Dan Donovan, the rationales behind this proposed law were the protection of public morality and sex dolls' offensiveness. The Section 2 of the Act is also enlightening regarding the Act's rationales:

> "The Congress finds as follows:
> (1) There is a correlation between possession of the obscene dolls, and robots, and possession of and participation in child pornography.
> (2) The physical features, and potentially the "personalities" of the robots are customizable or morphable and can resemble actual children.
> (3) Some owners and makers of the robots have made their children interact with the robots as if the robots are members of the family.
> (4) The robots can have settings that simulate rape.
> (5) The dolls and robots not only lead to rape, but they make rape easier by teaching the rapist about how to overcome resistance and subdue the victim.
> (6) For users and children exposed to their use, the dolls and robots normalize submissiveness and normalize sex between adults and minors.
> (7) As the Supreme Court has recognized, obscene material is often used as part of a method of seducing child victims.
> (8) The dolls and robots are intrinsically related to abuse of minors, and they cause the exploitation, objectification, abuse, and rape of minors."[379]

The emphasis in all these points is the potential harm, namely the danger that CSB pose to actual children in various ways: normalisation of minors' sexualisation, connection of CSB to child pornography, raising the chances that the owner of CSB will commit child sexual abuse. It's interesting that these harm arguments are not based on robust empirical data evidencing that harm, as the legal theory of harm requires. Eventually, it seems that these arguments did not persuade the Senators, as the bill has, up to this day, not been brought to the floor in the Senate.

6.3. Legal framework on CSB in Canada

According to a Canadian Court judgement,[380] child sex dolls and robots are classified as child pornography, so, according to the Canadian Criminal Code,[381] their possession and distribution, are prohibited. The main rationale behind this judgement was the possibility of extrinsic harm to children, as the forensic psychiatrist Dr. Peter Collins testified at the trial that pedophiles can become incited by the use of such artefacts. In news articles covering the trial, it appears that the decisive element in

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[379] 'Text - H.R.4655 - 115Th Congress (2017-2018): CREEPER Act Of 2017' (*Congress.gov*) <https://www.congress.gov/bill/115th-congress/house-bill/4655/text> accessed 16 August 2019.
[380] R. v. Harrisson, 2018 NLPC 113
[381] Criminal Code (R.S.C., 1985, c. C-46) available here: <https://laws-lois.justice.gc.ca/eng/acts/c-46/section-163.1.html>accessed 12 July 2019

establishing that childlike sex dolls constitute child pornography was the forensic psychiatrist's testimony on the possible extrinsic harm caused by childlike sex dolls, so the law on child pornography should teleologically be interpreted to include childlike sex dolls.[382] In Dr. Peter Collins' words:

> "Children are being abused to create child pornography imagery. With a doll no real child is being victimized but there is still potential for the user to go on and abuse other children."
> "We don't want people to fantasize about sex with children because it increases the risk that they will have sex with children."[383,384]

The potential harm to children is, like in the case of the CREEPER Act, evoked, without being supported by evidence. It can be deduced that the aim of children protection is considered an aim important enough to accept lower levels of evidence, even mere speculation, when outlawing certain artefacts that are considered to be dangerous.

6.4. Legal framework on CSB in Australia

In Australia, child sex dolls' importation is prohibited, since they are classed as objectionable goods under the Customs Act 1901. More accurately, according to Customs Act 1901- Sect. 233BAB, child sex dolls and CSB are classified as child pornography.[385] According to these provisions, the child pornography goods of which the importation is prohibited, must be regarded by reasonable persons as being, in all the circumstances, offensive. Furthermore Customs Act 1901- Sect. 233BAB 4(a) reads:

> "The matters to be taken into account in deciding for the purposes of subsections (3) and (4) whether reasonable persons would regard a particular document or other goods as being, in all the circumstances, offensive, include:
> (a) the standards of morality, decency and propriety generally accepted by reasonable adults; and
> (b) the literary, artistic or educational merit (if any) of the material; and
> (c) the general character of the material (including whether it is of a medical, legal or scientific character)." [386]

The legislator tries to reconcile public morality and offensiveness, with freedom of expression (e.g. literary or artistic expression).

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[382]: See the news articles covering the trial: Sue Bailey, 'Child Sex Doll Trial In Newfoundland Raises Issue Of What Constitutes Child Pornography | The Star' (*thestar.com*, 21 March 2017) <https://www.thestar.com/news/canada/2017/03/21/child-sex-doll-trial-in-newfoundland-raises-issue-of-what-constitutes-child-pornography.html> accessed 12 July 2019.; Tata Bradbury, 'Lawyers Make Final Arguments In St. John's Child Sex Doll Case | The Telegram' (*Thetelegram.com*, 2019) <https://www.thetelegram.com/news/local/lawyers-make-final-arguments-in-st-johns-child-sex-doll-case-309127/> accessed 12 July 2019.

[383] See a news article reporting the trial, and quoting the psychiatrist's testimony: Geoff Bartlett, 'Sex Doll Is Child Porn, Psychiatrist Tells Trial Of St. John's Man | CBC News' (*CBC*, 21 March 2017) <https://www.cbc.ca/news/canada/newfoundland-labrador/child-sex-doll-kenneth-harrisson-trial-1.4034066> accessed 12 July 2019.

[384] The accused was found not guilty in this case, as he contended that the doll he meant to order was an adult female doll, which he bought as a replacement for his son, who had died as an infant and would have been around 25 years old at the time. The purchase details at his internet order were indeed referring to an adult doll, but the doll he was sent was a child doll. See this news article: Glenn Payette, 'What's In The Box? Sex Doll Could Be Adult Not Child, Lawyer Says | CBC News' (*CBC*, 2017) <https://www.cbc.ca/news/canada/newfoundland-labrador/sex-doll-child-adult-harrisson-collins-payette-1.4194975> accessed 16 August 2019.

[385] Rick Brown and Jane Shelling, *Exploring The Implications Of Child Sex Dolls* (Australian Institute of Criminology 2019).

[386] Customs Act 1901- Sect. 233BAB 4(a), available here <http://www5.austlii.edu.au/au/legis/cth/consol_act/ca1901124/s233bab.html> accessed 12 July 2019.

Under New South Wales legislation, ownership of sex dolls or CSB is prohibited, since there is case law that classifies these artefacts as child abuse material according to section 91FB of the Crimes Act 1900 (NSW).[387] The objects must be offensive to a reasonable person, and to determine that, section 91FB of the Crimes Act 1900 (NSW) cites the same three criteria that Customs Act 1901- Sect. 233BAB 4(a) also mentions, and that were quoted in the previous paragraph.

In February 2019, the Combatting Child Sexual Exploitation Legislation Amendment Bill was introduced to the Australian Parliament but the bill lapsed at the dissolution of the House of Representatives in April 2019. The proposed legislation would prohibit the possession of childlike sex dolls and it would criminalise their advertisement, as well as sending them by post.[388]

7. Conclusion

7.1. Summary

Legal intervention on CSB is supported by the legal theories of legal moralism and the precautionary principle. Furthermore, the proactionary principle does not seem to apply in the case of CSB. Prohibition of RCSA and the surrounding acts is also warranted by legal consistency with a similar phenomenon, namely virtual child pornography, which is legally and socially condemned in Europe.

More analytically:

Legal moralism, could be employed to prohibit RCSA since this act is harmful to the moral character of the perpetrator, which compromises his/her well-being, and also this act is a public wrong, that society has interest in publically disapproving, even if it's harmless. Moreover, the protection of legal morality as theorised by Patrick Devlin, justifies the act's criminalisation, because it is an act that strongly offends public morality, and could threaten society's integrity.

The criminalisation of CSB is not justified based on legal paternalism and the harm principle, since these theories require strong evidence of an act's harmful effects, before it can be criminalised. Moreover, RCSA cannot be criminalised based on the offence principle, because, again, the social consequences of the act are not yet known.

The criminalisation of virtual child pornography in all EU member-states would create legal consistency issues, in case RCSA was not prohibited. Since CSB are very realistic looking, and given the anticipated technological advances that could make them even more realistic, it is plausible that these artefacts can be used in the creation of virtual child pornography. Moreover, just like virtual child pornography, they could be used for "grooming" of minors.

Last, the precautionary principle warrants legislative caution regarding CSB, because RCSA could have particularly adverse effects on society, and specifically children, which is a very vulnerable part of the society that requires legal protection. Also, the proactionary principle, which is usually employed against the legal intervention on new technologies, in this case cannot be employed, because the potential risks of CSB are so adverse that cannot be weighed or balanced against the potential benefits. On the other hand, the experimentalist approach, even though it

[387] Section 91FB of the Crimes Act 1900 (NSW), available here <http://www5.austlii.edu.au/au/legis/nsw/consol_act/ca190082/s91fb.html> accessed 12 July 2019.

[388] Rick Brown and Jane Shelling, *Exploring The Implications Of Child Sex Dolls* (Australian Institute of Criminology 2019).

requires utmost caution, because of ethical risks and practical difficulties, could be potentially employed to provide a scientific and reliable answer on what the actual consequences of these artefacts are.

7.2. Reflections and some recommendations

Europe is a stronghold of tolerance and pluralism in the modern world, but, as John Danaher notes, "tolerating the manufacture, distribution and use of child sex robots will probably strike many as a step too far".[389] The legal framework for the prohibition on CSB is legal moralism and the precautionary principle. These theories have been used in the case of virtual child pornography, and have resulted in the pan-European ban of this type of pornographic material. Similarly, a uniform global approach in the regulation of CSB is recommended, as it would serve the purpose of effectiveness, facilitation on inter-state cooperation to battle this phenomenon, and avoiding the risk of forum-shopping: namely the manufacture or sale of CSB in countries where CSB are legal, and their subsequent diffusion in other countries. Last, it could be legally tolerable to allow the experimentalist approach. After we have empirical data on the consequences of CSB, this normative discussion can be repeated, in the light instead of in the dark. After all, the consequences of a phenomenon or practice can change the stance of society and law towards it more drastically than any theoretical argument.

<table>
<tr><th colspan="4">ROBOTIC CHILD SEXUAL ABUSE: A table overview of the different rationales and their outcomes</th></tr>
<tr><th><u>Rationales</u></th><th colspan="2"><u>Insights</u></th><th><u>Legal Intervention on CSB</u></th></tr>
<tr><td>Harm Principle</td><td colspan="2">• CSB could cause harm to children by increasing the rates of child sexual abuse, but it is not proven</td><td>Unjustified</td></tr>
<tr><td>Offence Principle</td><td colspan="2">• CSB are offensive, but this may be counteracted by their social usefulness which is unknown</td><td>Unjustified</td></tr>
<tr><td>Legal Paternalism</td><td colspan="2">• CSB could "whet the appetite" of a pedophile, but it is not proven</td><td>Unjustified</td></tr>
<tr><td>Legal Moralism-Devlin</td><td>• Opposition to public morality, threat to the integrity of the society</td><td rowspan="4">• Balancing of these arguments leads to justification of RCSA prohibition because of its blatantly immoral and antisocial character</td><td rowspan="4">Justified</td></tr>
<tr><td>Public Morality-Hart</td><td>• RCSA has good reasons to be considered immoral
• However RCSA is an act of the private life</td></tr>
<tr><td>Legal Moralism-Wall</td><td>• Harm to the moral self of the perpetrator</td></tr>
<tr><td>Legal Moralism-</td><td>• Public wrong that</td></tr>
</table>

[389] John Danaher, 'Regulating Child Sex Robots: Restriction Or Experimentation?' (2019) Medical Law Review, p 12.

Duff	society has interest in censuring		
Precautionary Principle	• CSB risk normalisation of the sexual representation of minors	• Both principles justify CSB's prohibition	Justified
Proactionary Principle	• The ethical risks are too important to be weighed against any potential benefits		
Regulation of virtual child pornography	• Virtual Child Porn is criminalised based on harm, offensiveness and immorality arguments. Lack of evidence about the extrinsic effects is counterbalanced by the importance of children's protection for the legislator • Legal inconsistency in case CSB are not criminalised		Justified
Existent regulation on child sex dolls (and robots)	• Criminalisation of child sex dolls, based on harm, offensiveness and immorality arguments. Lack of evidence about the extrinsic effects is counterbalanced by the importance of children's protection for the legislator		Justified

CHAPTER 6
CONCLUSIONS: THE SEARCH CONTINUES

"Homer was wrong," wrote Heracleitus of Ephesus. "Homer was wrong in saying: 'Would that strife might perish from among gods and men!' He did not see that he was praying for the destruction of the universe; for if his prayer were heard, all things would pass away." These are the words on which the superhumanists should meditate. Aspiring toward a consistent perfection, they are aspiring toward annihilation. The Hindus had the wit to see and the courage to proclaim the fact; Nirvana, the goal of their striving, is nothingness. Wherever life exists, there also is inconsistency, division, strife."[390]

From Aldus Huxley's "Spinoza's Worm"

1. The outset of the thesis

This thesis dealt with the uncanny subject of sex robots, from a legal point of view, analysing one of this technology's legally questionable aspects, namely the sex robot facilitated simulation of unconsensual sex. The analysis focused on two forms of unconsensual sex, namely rape and child sexual abuse, and attempted to answer whether or not legal intervention on the sex robot facilitated simulations of these acts is justified, specifically in Europe. The existent literature on the topic focused on legal moralism and legal paternalism, so a study of all the basic rationales that can apply to these phenomena was missing.

The quest to answer these questions started with a familiarisation with sex robots, by investigating what exactly these artefacts are and what the past, present and future of this technology is. After looking at the descriptions of sex robots, the science behind them, their rich evolutionary history as a concept, their transition from technologically primitive to sophisticated artefacts, and projections of the market in the future, it became plausible that these artefacts are going to increase in popularity in the next decades, and that their legal implications are worth our research.

The next Chapter explored different legal philosophy theories that are used when determining legal intervention on an act or phenomenon. Harm, offensiveness, harm to oneself (paternalism) and immorality are the basic concepts that are used when arguing on an act's prohibition. The immorality of an act, however, is rarely used as the sole grounds for an act's prohibition (only in certain, uncontroversial cases, such as the prohibition of corpse desecration[391]), but it is usually combined with other arguments (e.g. harm). The precautionary and the proactionary principle are used in debates about regulation of new, mysterious and potentially disruptive technologies. Also, fundamental human rights such as freedom of thought, freedom of expression and the right to respect for private life are also useful in normative discussions, since any new legislation should not clash with fundamental human rights. The aim was to clarify which theories are used in the thesis, what each theory stipulates, how they are connected to each other as a consistent normative framework and how they are used in the present analysis.

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[390] Aldus Huxley, Spinoza's Worm in *Do What You Will*, (Watts &Co 1937), available <https://ia601609.us.archive.org/16/items/in.ernet.dli.2015.78656/2015.78656.Do-What-You-Will-Essays_text.pdf> accessed 21 August 2019.

[391] See n 172 and n 173.

2. Robotic rape [RR]

The next Chapter was devoted to the phenomenon of RR. Since sex robots' software and thus, behaviour, is fully customisable, the possibility of the manufacture of RSB is present, and a legal assessment of this scenario was deemed necessary. After recounting the story of Frigid Farrah (arguably a rape setting in a famous sex robot model), and defining RSB, the analysis proceeded on exploring the legal theory that is applicable in the case of RR. The theories used were the harm principle, the offence principle, legal paternalism, legal moralism, the precautionary principle and the proactionary principle. After examining what are the requirements that each of these theories sets for legal intervention, according to some of these theories' most prominent proponents, the justifiability of legal intervention was assessed. The findings of the analysis are in support of the legal intervention on the phenomenon of RR through nudging and risk mitigation, whereas Criminal law prohibitions are not justified.

Analytically, the theories of the harm principle, the offence principle and legal paternalism and cannot be employed because they require evidence regarding the harmful effects of RR, which at the moment are lacking. Legal moralism, also, does not justify a criminal (or other) prohibition of RSB, since RR is not necessarily an enactment of fantasies for actual rape, but RSB can just be targeted to people with sadomasochist fantasies. Freedom of thought stipulates that an act should not be prohibited, on account of immoral thoughts by some of the perpetrators while it is not itself an immoral act. These arguments are strengthened since similar phenomena such as simulated "rape" pornography have been very sparingly legally condemned in European countries based on legal moralism, but on the contrary are generally tolerated by law. Furthermore, bans in virtual rape videogames have taken place only in blatant, extreme cases of rape storylines.

According to the precautionary principle, the risks that RR brings warrant legislative caution. On the contrary, according to the proactionary principle, the technology of sex robots should be allowed to evolve without legal interference that would risk stifling the technology. Both these theories constitute an important part of the argument and of the answer that will be given. Sex robots are actually artefacts unlike what has existed until now, due to their astonishing realism and their ambitious purpose of substituting human companions. They are more powerful than any other virtual representations we have seen in the past. This means that potential risks, such as the risks that RR entails, are deeper than the ones we have encountered so far, and they warrant the precautionary principle. However, the technology of sex robots itself may be a useful technology, that appears to have a target group of people, the lives of which sex robots may benefit. It would not be fair to stifle the technology, before seeing what the future of the technology might bring. For that reason the precautionary principle should be employed in a way that is proportionate and that mitigates the risks of sex robots, particularly RR, without stifling the evolution of sex robots in general, as an outright (e.g. Criminal law) prohibition of RR might do, due to possible difficulty in precisely defining rape. A proportionate intervention could be, for instance, the imposition of an ethical oath that programmers would take, so that morality is, at least, taken into account by the creators of the artefacts. The notion of robotic consent could also be added to RSB, to signal that consent is a necessary prerequisite in sexual acts. In parallel, research and scientific experiments on RSB in order to ascertain the consequences of RR on various levels (the perpetrator and the society) should be promoted, on condition that the experiments would be ethically and epistemically

sound, so that we can maybe one day have the full picture regarding RR and its consequences.

3. Robotic child sexual abuse [RCSA]

The next Chapter dealt with RCSA. Lifelike child sex dolls and robots have been reported to be sold online, and the social outrage that this caused should provoke legal research on it. The Chapter commenced by dissecting the phenomenon of RCSA, defining the act, and the artefacts that are used in it (child sex robots, or CSB). Then the analysis proceeded to use the main theories that are applicable in RCSA, as tools in assessing how the legislator should respond to the phenomenon. These theories were the the harm principle, the offence principle, legal paternalism, legal moralism, and the precautionary-proactionary principles.

After discussing the theories, it was established that legal paternalism, the offence principle and the harm principle cannot provide solid arguments for legal intervention on RCSA, because these theories require evidence regarding the act's consequences, which are not available at present, since no relevant research has been conducted. On the contrary, legal moralism theories can provide arguments to legally hinder this phenomenon, since RCSA is a blatantly immoral act, with adverse consequences for the moral character of the perpetrator, and a public wrong that is worthy of a legal response.

Moreover, virtual child pornography, which is a similar phenomenon, is criminalised by European law, because of the harm it causes to children, by being used as a tool for the "grooming" of minors, and for creating evidence problems, since it can be so realistic that it is indistinguishable from child pornography. CSB can also be used for grooming, and for the creation of virtual child pornography, so its prohibition could be imposed for the same reasons that virtual child pornography is prohibited.

Lastly, the precautionary principle stipulates that the law should restrict a technology that entails severe risks, especially when these risks threaten the most vulnerable members of the society, namely children, that are protected as a matter of principle on a European level. In the case of RCSA, the proactionary principle cannot be employed, because the risks that stem from the possibility of minors' sexualisation cannot be weighed against the alleged potential benefits of some pedophiles' using CSB to stay away from children. However, some scholars have mentioned the possibility of the experimentalist approach, as a possible legally tolerable option, on condition that the experiments conducted would be ethically and epistemically robust. The experimentalist approach might cast some light on a question that is central on the debate of CSB, namely, what are their consequences.

The prohibition of CSB could take place through Criminal law, or through fines, prohibition of their import, sale or possession. It is important that, as with virtual child pornography, the legislation is uniform in Europe, or on a global scale, so that the restriction is more effective and the possibility of forum shopping is avoided.

4. Comparing the findings in RR and RCSA

As seen in the preceding paragraphs, RR and RCSA, although they are similar phenomena (RCSA can even be viewed as a special case of RR), they were assessed with different outcomes. Legal moralism was found to be a justification for the criminalisation of RCSA, whereas it was found to be insufficient grounds for the criminalisation of RR. The reason for that was that RR was considered to be an act that

is not necessarily immoral, namely it does not necessarily indicate the perpetrator's insensitivity to the crime of rape, as the perpetrator may have other interests and motives (such as an interest in consensual sadomasochist sex acts). On the other hand, RCSA, was considered to be an act that is always immoral, as it always indicates an insensitivity of the perpetrator to child sexual abuse; there can be no plausible alternative meaning of the act.

In connection to that, a prohibition of CSB was deemed an effective, necessary and stricto-sensu proportionate restriction of CSB users' liberty (the right to respect for private life and freedom of expression) for the legitimate aim of mitigating the risk of an increase in sexual violence against children, On the other hand, the prohibition of RSB was considered probably ineffective, unnecessary, and stricto-sensu disproportionate restriction of RSB users' liberty for the purpose of combatting sexual violence against women and sexism. Other, more effective and proportionate ways to combat sexual violence against women and sexism, is to criminally and otherwise sanction the real life instances of these phenomena, as opposed to controversial fantasies. For instance, rape could be redefined in law, so that it is substantiated only with the lack of a person's consent, instead of the "resistance" requirement that exists right now in most jurisdictions.

In both RR and RCSA, the experimentalist approach was found to be a very useful step in understanding these phenomena and legislating more fairly and efficiently. However, in RR, it was suggested that RSB are allowed in the market, while in parallel running experiments on the artefacts' effects, whereas in RCSA it was suggested that CSB are not allowed in the market (or for use by sexologists and psychiatrists to help their patients) until reliable evidence about them are obtained and their beneficial effects are proven with robust scientific evidence. The different assessment of RR and RCSA is justified by RCSA's more frightening risks, which completely overweigh any potential benefits in a risk-benefit analysis. However, scientific experimentation is the cornerstone of informed decision-making, so it should be legally allowed in both cases.

5. Importance of the findings

This thesis was an attempt to provide an answer regarding whether or not legal interventions on RR and RCSA are justifiable in Europe, given the lack of empirical data on these phenomena's consequences. Legal moralism played a central role in this debate. In the case of RCSA, it was concluded that the act can/should be criminalised, which is the most severe sanction in a democratic society, just because it is an immoral act. This may sound as exaggerated to some devoted liberals. However, moralist arguments are abundant in law-making in Europe, even though an act only rarely (*but not never*) is prohibited merely on the grounds of its contrast to public morality. For that reason, in this thesis, a balancing exercise between moralist and liberalist arguments was performed (where moralist arguments were reconciled with liberalist ones), in an effort to use the notion of public morality according to the European legal standard. It is also obvious to me that harm, offence and paternalism arguments weigh more than morality ones. History has proven that, with the multiple examples of perfectly moral (by today's standards) acts that were subjected to societal oppression and criminalisation in the not-so-distant past. However, public morality is a useful concept, since it can be interpreted by Courts according to the contemporary (at any given point in time) morals, (as public morality is an ever-evolving concept), and serve as an open-ended general upper limitation of human liberty. In a society where the

respect for human rights safeguards human dignity and exorcises oppression, it is less likely that public morality will be used abusively, as has been done in the past. Moreover, as shown by the discussion on sex robots, certain extreme immoralities are closely linked with the risk of extrinsic harm (e.g. surge in crime rate), harm to oneself (through the corruption of moral character) and offense, which presents one more argument regarding the value of legal moralism in normative discourses on present or future technologies that challenge public morals.

6. Limitations of the research and future research needed

This thesis can provide some legal guidelines to European policy-makers and legislators regarding how they can confront the phenomena of RR and RCSA. These guidelines leave quite a broad margin of discretion, as to the exact measures taken: In RR it is concluded that precautionary measures to mitigate RSB's risks are warranted, but not to the point of Criminal law prohibitions. In RCSA it is concluded that precautionary measures could legitimately include Criminal law sanctions, although which ones and why is not discussed adequately. Future research needed on the topic includes a more in depth look on the different means of regulation, and the different theories and rationales that could aid a legislator. Furthermore, since the evolution of technology (and society) is constant, this discussion ought to be revised or enriched with new insights, every time there are new data on sex robots in general, or RSB and CSB in particular. After all, we are still at the dawn of AI and robotics, so the current discourses may only be an introduction to the debates and challenges that next decades will bring.

LIST OF ABBREVIATIONS

AI: Artificial Intelligence
CCA: Customs and Consolidation Act
CCA: Customs Consolidation Act 1876
CEMA: Customs and Excise Management Act 1979
CREEPER Act: Curbing Realistic Exploitative Electronic Pedophilic Robots Act
CSB: Child Sex Bots
CSP: Crown Prosecution Service
CFR: EU Charter of Fundamental Rights
EU: European Union
HRI: Human-Robot Interaction
OPA: Obscene Publications Act
PSA: Postal Services Act 2000
RCSA: Robotic Child Sexual Abuse
RR: Robotic Rape
RSB: Rape Sex Bots
STD: Sexually Transmitted Diseases
UK: United Kingdom
USA: United States of America
USC: United States Code

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