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Sexual Rights, Disability and Sex Robots

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I argue that the right to sexual satisfaction of severely physically and mentally disabled people and elderly people who suffer from neurodegenerative diseases can be fulfilled by deploying sex robots; this would enable us to satisfy the sexual needs of many who cannot provide for their own sexual satisfaction; without at the same time violating anybody's right to sexual self-determination. I don't offer a full-blown moral justification of deploying sex robots in such cases, as not all morally relevant concerns can be addressed here; rather, I put forward a plausible way of fulfilling acute sexual needs without thereby violating anybody's sexual rights.

1. Sexual Rights

Here is a puzzle with sexual rights: "universal positive sexual rights are incompatible with universal negative sexual rights. If A has a positive sexual right, then that means that there is at least one person who would lack negative sexual rights. Namely the person who would be supposed to fulfil A's positive sexual rights. If everybody has negative sexual rights, then everybody has the right to refuse to fulfil A's sexual needs, but then A has no positive right to sexual pleasure" (Di Nucci 2011: 159).

This is, on the face of it, true. Should we then just conclude that there are no positive sexual rights? That would be bad: even though negative sexual rights - such as the right to sexual self-determination: non-interference with one's sexual orientation or sexual practices - are important, it is far from clear that negative sexual rights alone can fulfill human sexual needs. That is because many people need assistance in order for their sexual needs to be satisfied: the severely physically and mentally disabled, for example; but also the many elderly people who suffer from degenerative diseases. For many of them, negative sexual rights won't do much good: what they need is help.¹

The following letter from *The Observer* newspaper (6 April 2003, as cited in Di Nucci 2011 - and before that in Fabre 2006) offers a touching account of the kind of suffering connected to unfulfilled sexual needs:

As a single man who visits prostitutes, I object to being branded... a sad creature who must pay for his thrills. Most clients of these patient, sympathetic and compassionate

¹ In 1999, the *World Association for Sexual Health* (WAS) adopted a *Declaration of Sexual Rights*. Here is the declaration from the WAS website: <http://www.worldsexology.org/resources/declaration-of-sexual-rights/> (accessed on 19.05.14). It identifies 11 different sexual rights and says that sexual rights are fundamental and universal human rights; number 5 on the list is the right to sexual pleasure.

*ladies are, like me, disabled, elderly, disfigured, ugly or socially or sexually inadequate. The prostitute provides the only opportunity for a brief, life-enhancing taste of physical affection. God bless her! (Name and address withheld)*²

One could certainly argue that help can be provided without appeal to positive sexual rights: one may acknowledge, for example, that the sexual needs of the severely physically and mentally disabled are morally important and act upon that without having to necessarily acknowledge that their sexual needs amount to positive sexual rights. This is a simple point: upon hearing that my neighbor has just been made redundant, I may decide to sell my car in order to help her financially; the idea is that I would acknowledge the moral importance of helping my neighbor getting through a very difficult time and prioritize that over my own car; that would obviously not necessarily imply that my neighbor has or had any right to my car or to the financial equivalent of my car.

To acknowledge the moral importance of the sexual needs of the severely physically and mentally disabled is, then, conceptually independent from accepting that they have positive sexual rights. Indeed, against sexual rights one may actually be able to provide an even stronger argument than the one just offered for the case of selling my car in order to help my neighbor. Namely, supposing that as a result of being made redundant my neighbor will no longer have enough to properly feed her children, one will have to admit that food really is one of those things that – if there are rights and positive rights at all – are the appropriate objects of rights. But with sex, one could even argue that, even though people may have a legitimate interest in sex and accept that sex is morally relevant, sex is just not important enough to be the object of rights.

The idea would be that we can't just have a right to anything that would improve our well-being: we have a right (against the state or other people, say) to receive some fundamental things (say food) which make a decisive difference to our well-being and survival without having the right to receive other less fundamental things which make a non-decisive positive difference to our well-being: I guess cars, smartphones, nice shoes and the like would be obvious candidates for the less fundamental side of life.³

This point goes to the heart of the question about the value of sex. It is at least plausible to hold that sexual satisfaction is an important part of a fulfilled life: indeed, the fact that some people renounce it cannot imply that it is not important, and that's not because those people may be just wrong. Hunger strikes do not make food less important just as much as celibate priests do not make sex less important.⁴ This is not the place to have a proper discussion about the value of sex and sexuality: the point is just that it is at least not implausible to hold sex and sexuality to be if not necessary at least important elements in a fulfilled life so that their non-voluntary absence from someone's life would be morally relevant.

² Also see the 2012 movie *The Sessions*. Also, in the UK, the TLC Trust (<http://www.tlc-trust.org.uk/>) does invaluable work helping people with disabilities fulfil their sexuality.

³ For readers who would like some more theoretical background on how to understand rights and rights-talk, I recommend this introduction from the *Stanford Encyclopedia of Philosophy*: <http://plato.stanford.edu/entries/rights/>.

⁴ To be clear, here my argument does not rely on the controversial premise that sex is as important as food – as one could easily object to this on the grounds that the latter, but not the former, is necessary for survival (at least at the individual level).

Having made the point about sex being at least a candidate for membership of the set of things which are the appropriate objects of rights (if there are to be rights at all), let us return to the more pressing point: that it would be good – morally good – to provide sexual satisfaction for the severely physically and mentally disabled does not imply that they have a right to it just like the fact that it would be good - morally good - to provide financial assistance to my neighbor does not imply that she has a right to it.

Once we accept that sex is a plausible object of rights if there are to be rights at all, then we can easily show through our food analogy that we simply cannot generalize about the moral value of sexual satisfaction never amounting to rights claims: food is a very plausible if not the most plausible object of rights claims, but that does not mean that a person has always a right to be fed if she wants to; she also needs to be, in some relevant sense, needy (and the relevant sense of needy will also include a comparison with other needs and other people given limited resources or some such). So even though food is an appropriate object of rights (if there are to be rights at all), that does not mean that it is always the case that when it would be morally good to feed someone, then that person has a right to be fed: so there will be times when my neighbor receiving food would be morally relevant but not enough for her to be entitled to food – think of a simple invite to dinner, for example.

Moving back to sexual satisfaction, once we have accepted that sex too is an appropriate object of rights, then we can't just dismiss the talk of sexual rights by simply stipulating that always, when the need is of a sexual kind, we can at most say that it would be morally good to satisfy that need but we can never say that the needy person is entitled to that satisfaction: if sexual satisfaction is a good enough object for rights talk, then we will have to at least allow for cases where, in principle, sexual need entitles the person to its satisfaction, just like we allow for cases where the need to be fed entitles the person to its satisfaction.

We see that we have already dealt with two arguments against sexual rights: that sexual satisfaction simply isn't an appropriate object for rights talk; and that sexual satisfaction never generates rights entitlements even when it would be morally good to satisfy a sexual need.⁵ Having dealt with these two points, we are now left with the argument with which we started: how can a person possibly be entitled to sexual satisfaction if that would imply that someone else would have a duty to satisfy the sexual needs of that person?

The argument has the well-known structure of a dilemma: if everyone is entitled to sexual satisfaction, then not everyone is entitled to freely choose her sexual orientation, practices, and partners. And if everyone is entitled to freely choose her sexual orientation, practices, and partners, then not everyone is entitled to sexual satisfaction: because some people are physically/mentally incapable of satisfying their own sexual needs and so others would have to help them out, so they would no longer be free to choose their sexual orientations and practices. Firstly, let me mention a formal objection to this dilemma which I think fails: in order to show a way out of the dilemma, someone may point to a possible world where, luckily enough, everyone freely choosing their sexual orientation, practices, and partners happens to lead to satisfying the sexual needs of everybody. This world is very far from ours but it is genuinely possible: we would just need a lot of luck (and maybe even more good will than luck!).

⁵ Admittedly, here I have not offered a conclusive argument for the existence of positive sexual rights but rather just tried to make plausible the idea that positive sexual rights cannot be dismissed out of hand as a matter of principle.

I don't think that this possible world shows a way out of the dilemma, though: and that's just because such a world would amount to everybody's sexual interests and needs being satisfied but it would not amount to everybody being entitled to such satisfaction. This is a simple point: in general, that everybody's interests and needs are satisfied does not imply that everybody is entitled to the satisfaction of their interests and needs; and this is just because the former is an *is* statement while the latter is an *ought* statement. If we were lucky enough to live in that world, then, we may not be as pressed to act on the issue of sexual needs as we are while living in our world, but we would be as pressed to establish whether there is such a thing as sexual rights as we are in our world.

2. How could we solve the dilemma?

I am not here to offer a formal solution to the dilemma, because I think it is a genuine one. But actually, I can do even better than a formal solution, as I think that there is a practical solution to it: sex robots (Levy 2007; Levy 2012; Whitby 2012; Danaher 2014)⁶. Before discussing what sex robots are and how they would offer a way out of the dilemma, let us build up to it by looking at ineffective ways of solving the dilemma. First of all, masturbation will not do: this is just because we are talking of individuals with serious physical or cognitive problems, many of which will either not be in a position to masturbate or will not be in a position to even understand the practice of masturbation. To put it brutally, if masturbation were the solution to the problem, then we wouldn't have had a problem in the first place because those people would also have been in a position to seek and interact with sexual partners. Admittedly, one can imagine individuals which may for whatever reason not be in a position to seek and interact with sexual partners but who will be in a position to masturbate. I grant this point and am happy for those individuals: but obviously the issue is that we cannot assume that all of the severely physically and mentally disabled and the elderly with degenerative diseases will fall under this category.

So masturbation is out as a possible solution; but I would like to say something about what kind of solution masturbation would have been had it been an effective one. I take it that masturbation would have been a legitimate solution, namely one that would have not interfered with the negative sexual rights of anybody (and obviously those who oppose masturbation – for example on religious grounds – do not have any rights entitlements about other people not masturbating) while at the same time providing some sexual satisfaction for the needy.

Granted, one could try to argue that a life in which the only sexual satisfaction comes from masturbation is not as fulfilling as a life which involves more diversity in the forms of sexual interaction. But this is no argument against masturbation: some food is better than no food (and some kinds of food are also tastier than some other kinds) just as some sexual satisfaction is better than no sexual satisfaction. So that emphasizing the limited nature of

⁶ You may have for example already heard of *Roxxy*, which has been claimed to be the first sexual robot. For more information you may start from this recent Guardian article: <http://www.theguardian.com/science/brain-flapping/2014/apr/07/robots-and-sex-creepy-or-cool> (accessed on 15.5.14). Also, for ethical discussions on the use of robots in healthcare more in general see, for example, Coeckelbergh 2010 and Sharkey&Sharkey 2012. Please note that when I say 'practical' I don't mean to offer a solution for the here and now but only to contrast my solution with a pure formal solution to the dilemma. See also Ruddick 1975; Vallor 2011; Sullins 2012; and Seibt et al. 2014.

masturbation as a way of satisfying sexual needs does not in any way invalidate this as a possible solution to our dilemma: but, as we have seen, there are more practical problems with it.

Someone wanting to provide a principled argument against masturbation as a solution to the dilemma would have to put forward a much stronger and less plausible claim, namely the claim that masturbation is not sex and that therefore the kind of satisfaction it can provide is not of a *sexual* nature. One may for example argue that sex necessarily involves two or more individuals or persons and that a practice that involves less than two individuals or persons is, however pleasant it may be, not a sexual practice. As it should be clear by now, what is at stake here is no longer just masturbation – since we have already argued that it would not solve the dilemma it wouldn't be a problem for our argument if all that was at stake here was only masturbation. What is at stake here is, more importantly, what will qualify as sexual satisfaction and more generally what will qualify as a sexual practice – and that is relevant to an argument about sex robots fulfilling sexual rights entitlements.

The question is then less whether masturbation is a form of sex and more whether sexual practices necessarily involve two or more individuals or persons; this is crucial to our argument about robots as the only robots that we will consider are non-persons, just because obviously robotic persons would pose the issue of whether their own negative rights to sexual self-determination would be violated by someone's positive right to sexual satisfaction.

First of all, I think that the burden of proof is on those who want to argue for a non-liberal view of what counts as sexual satisfaction or what counts as a sexual practice: on the face of it, nothing speaks against a liberal view of sexual satisfaction in particular and sexual practices in general which allows individuals to decide what they consider to be *sexual* satisfaction or a *sexual* practice: on what grounds are we going to deny the *sexual* nature of some odd fetish, for example?

Indeed, maybe such a liberal view of sex is the only account which does not violate negative rights to sexual self-determination: it is difficult to imagine that some authority wanting to enforce conceptual legislation on what should count as a sexual practice and what ought not to count as a sexual practice would not be in violation of sexual rights to self-determination, but I will not push this point any further since it is not essential to my argument.

Secondly, one can easily distinguish between pleasurable practices involving less than two persons which are related to traditional sexual practices (involving at least two persons) and pleasurable practices involving less than two persons which are not related to traditional sexual practices: so that for example we can easily distinguish between masturbation on the one hand and reading a Russian novel on the other hand; and at least one obvious difference between these two different kinds of pleasurable practices is that only one of them, the former, is intrinsically related to traditional sexual practices. Again, this does not mean that we cannot distinguish between different sexual practices; but we do not need that much: all we need is to show that a practice can be of a sexual nature even if it involves less than two persons; while at the same time we can easily admit that, say, sexual practice A is better (whatever that means, more pleasant for example) than sexual practice B.

Thirdly, one could object that a human person cannot have sex – in any meaningful sense anyway – with an animal non-person⁷; and then quickly extend that argument to robotic non-persons. I think that this claim is ambiguous: it is plausible to say that we can never – in a truth-preserving way – describe a human person and an animal non-person as “having sex” (in the plural) as in “they are having sex”: it may be that for that description to be true you need to have at least two sentient individuals or persons (and maybe even more: maybe both must be conscious or willing or have consented or some such condition, more below; also, here see Migotti’s chapter in this volume). But this does not mean that the only human person involved is not having a sexual experience which provides sexual satisfaction: the human person may not be “having sex” and still *her* experience may be a sexual one. Once we apply this point to robots, we can just say that since we are exclusively talking about robots which do not qualify for personhood, the point about robots satisfying the sexual needs of humans is certainly not the sexual satisfaction of robots but only the sexual satisfaction of the humans involved, so that the above picture is enough for our purposes.

The above argument deals with a possible objection to sex robots as a solution to our dilemma, but actually it also opens up a possible problem which is potentially much more serious: we must be careful that we do not define sex so liberally so as to include rape in our definition of what counts as a sexual practice; and emphasizing that a mutual experience or interaction is not necessary for sexual satisfaction or for something to count as a sexual practice does run the risk of allowing rape to be considered a sexual practice. I think that this would be an unwelcome consequence of this account, but one that we can avoid in the following way: we cannot talk of rape in terms of “having sex” because one person is unwilling or has not consented; at the same time we can admit that rape can generate sexual pleasure for the perpetrators: that is part of what makes rape particularly horrendous. Its sexual nature makes it worse, so that we can and should concede that it may constitute a sexual experience for the perpetrators.

The horror of rape emphasizes further how important it is to solve the dilemma in a legitimate way so as to avoid violation or abuse of negative rights to sexual self-determination. This also raises a difficult but interesting question which, luckily for us, we do not need to answer in order to defend our argument: are the two horns of the dilemma of equal moral value or should one be prioritized over the other in case no solution were at hand? Luckily we have a solution, but the question about the comparative value of the positive right to sexual satisfaction on the one hand and the negative right to sexual self-determination on the other hand is still legitimate and interesting. Here I will not provide an argument but I will say that I would tend to prioritize the negative right to sexual self-determination over the positive right to sexual pleasure (and this independently of whether one thinks that negative rights should always be prioritized over positive rights; also let me here mention without discussion the possibility of thinking that one cannot prioritize one right over another without thereby giving up the latter right).

This concludes my argument against the worry that robots cannot provide sexual satisfaction on the grounds that sexual satisfaction can only be provided by practices involving at least two persons.

⁷ I specify “animal non-person” as opposed to just “non-human animal” in case someone thinks that, say, chimpanzees may qualify for personhood.

3. Robots and Sexual Self-Determination

Clearly one could object on other grounds to my proposal of deploying robots for the sexual satisfaction of the severely physically and mentally disabled and the many elderly people who suffer from degenerative diseases. Let us distinguish between two different kinds of counterarguments: on the one hand, one can object on the grounds that robots would not really solve the dilemma about rights; on the other hand, one can object that the deployment of robots would be morally problematic in respects that are independent of the dilemma. Let us start with the first kind of objection.

So far we have discussed objections to the claim that robots can provide sexual satisfaction; but one could also object to robots as a solution to our rights dilemma on the grounds that robots would violate negative rights to sexual self-determination. It is indeed clear that the use of simple objects or instruments for sexual satisfaction does not make any difference to the question of rights violation, so that if one thought that the sexual satisfaction of the severely disabled would violate someone's right to sexual self-determination, then whether or not such sexual satisfaction would be obtained by employing some object or instrument would make no difference. But robots are not simple objects, and it is to emphasize this point that we have been speaking the whole time about sex robots rather than just about sex machines: the idea is that the former but not the latter could be deployed in a way so as to force no person into unwelcome or unwilling sexual interactions (for example with the severely mentally and physically disabled).

Certainly, sex robots will have been designed by persons; their deployment will have been decided upon by persons; their performance will be monitored – more or less directly - by persons; but the crucial point is that these kinds of interactions between the designing, deciding, or monitoring persons and the sex robots will not be themselves *sexual* interactions, so that in turn there will be no sexual interaction between the bearers of rights to sexual satisfaction and those persons who indirectly satisfy these rights by designing, deploying, and monitoring sex robots, so that the rights to sexual self-determination of those persons designing, deploying, and monitoring sex robots are not violated.

It is then important that the robots which will be deployed be sophisticated enough: simple instruments or machines would not guarantee a solution to the dilemma. Let us be clear about the kind of sophistication we are talking about: given the intimacy and difficulty of the tasks involved, the sensoric, for example, will have to be of very high quality; also, the algorithms will have to grant a degree of independence and responsiveness to the environment which will have to be sufficient so that human healthcare professionals will only have to monitor and not directly participate in the tasks.

Because of this one may point to the following possible difficulty: on the one hand, sex robots must not be too sophisticated, so as to make sure that nobody in their right mind would argue that the robots themselves be bearers of sexual rights. On the other hand, sex robots must be sophisticated enough so as to make sure that they mediate between those whose right to sexual satisfaction is being fulfilled and those designing, deploying, and monitoring the robots whose rights to sexual self-determination must not be violated. I appreciate this possible complication, but I think that this is, if anything, a technical difficulty rather than a normative difficulty. Decisions about the design, deployment, and monitoring

of sex robots will be important and difficult decisions, which have to be studied in detail and with care from both a technical point of view and an ethical point of view – and this is not the place to discuss these issues in any great detail. But I do not think that this is a principled difficulty.

Let us take stock: so far we have proposed a solution to the sexual rights dilemma – the deployment of sex robots – and have argued against objections according to which sex robots offer no way out of the dilemma; specifically, we have rejected objections according to which sex robots do not offer a way out of the dilemma because they cannot offer *sexual* satisfaction; and we have rejected objections according to which sex robots do not offer a way out of the dilemma because they do not guarantee that nobody’s right to sexual self-determination is violated. But, as we anticipated, one may object to the deployment of robots for sexual satisfaction on grounds that are independent of the sexual rights dilemma. Here I shall discuss two such objections.

4. Responsibility and Vulnerability

Here are two objections to the deployment of robots for the sexual satisfaction of the needy:

- 1) Who is going to be responsible for what the robots do? Who will be held accountable when something goes wrong? If nobody can be held accountable, then we should not deploy robots;
- 2) Robots are dangerous: how can we possibly accept their interaction with some of society’s most vulnerable people? The disabled and the elderly should be protected and that is why they should be kept away from robots.

I will address these two objections in turn. The first is a classic objection to the deployment of robotic technology in sensitive contexts, such as for example war or health. This objection has come to be known as the so-called “responsibility gap” in the literature on autonomous drones or other robotic military technology (Sparrow 2007). Sparrow’s argument is that there is no plausible candidate for the bearer of responsibility (say for war crimes – here I discuss the issue of the supposed responsibility gap in a way that is admittedly less than exhaustive, but please see Di Nucci & Santoni de Sio (2016) for more).

For reasons that we will look at below, Sparrow argues that the programmer is not a plausible candidate; that the commanding officer is not a plausible candidate; and that the machine itself is also not a plausible candidate: “...the impossibility of punishing the machine means that we cannot hold the machine responsible. We can insist that the officer who orders their use be held responsible for their actions, but only at the cost of allowing that they should sometimes be held entirely responsible for actions over which they had no control” (Sparrow 2007: 74).

This issue about a possible responsibility gap in the deployment of autonomous robots has already generated its own stream of literature and it is becoming a debate in itself.⁸ I cannot

⁸ See, for example, Matthias 2004; Champagne & Tonkens 2012; Schulzke 2013; Roff 2013; and Johnson 2015.

hope to do justice to this whole debate in a discussion of sexual rights, but I do want to say something about this problem at least as it applies to deploying robots for the sexual satisfaction of the disabled and elderly. Let us emphasize that the problem is relevant to our suggestion, and that it is possibly particularly important when it comes to sex robots as opposed to military robots, as one could imagine that the degree of responsiveness to the environment, flexibility, and autonomy that a sexual robot will require in order to provide sexual satisfaction may be even more significant than that of an efficient military robot: good sex is, in a slogan, probably more difficult than effective killing (technically speaking anyway; even though this point should not be exaggerated, as some cases of sexual satisfaction will be pretty straightforward, much more so than some military operations). On the other hand, in moving from military ethics to healthcare ethics something which is crucial for Sparrow's argument may go missing, namely Sparrow's *ius in bello* premise according to which we must have a bearer of responsibility for everything we do in battle – in what follows I shall grant this particular premise for argument's sake; so that we will accept that if there were no bearer of responsibility for what sex robots do, that would be morally problematic.

First of all let us agree with Sparrow that the machine itself cannot be the bearer of responsibility: this is all the more so in our case as we have stipulated that only robots which are not themselves persons will qualify as solutions to the sexual rights dilemma (while one may not necessarily have to stipulate that the robots used in war ought not to be persons). Let us also agree with Sparrow that there will be at least some cases where the programmers cannot be made legitimately responsible for what has gone wrong, either because they had actually mentioned the risk to the decision makers or because the failing could not reasonably have been predicted by programmers.

What is left is the decision maker (Sparrow's Commanding Officer). And indeed I think that here is where Sparrow's argument is at its weakest, especially with relation to sex robots. Sparrow argues that the commanding officer – the healthcare decision-maker in the context of sex robots - cannot be held responsible for everything the machines will do because "the autonomy of the machine implies that its orders do not determine (although they obviously influence) its actions" (Sparrow 2007: 71).

First of all, this principle - understood as a necessary condition on responsibility according to which a commanding officer or decision maker can only be responsible if its orders determine the relevant actions which will carry them out – is implausible. Firstly because whether we live in a deterministic or indeterministic world, orders alone will never determine actions, whether of humans or robots. So the kind of determination meant cannot be that of the thesis of causal determinism; but even taking the principle to rather mean something about orders being a proximate cause in a reliable chain leading to action, the principle would remain implausible because it would negate responsibility in most cases of ignorance, negligence, and bad luck. So Sparrow's principle is, as a general necessary condition on responsibility, way too weak. But let us now look at it in the particular context of robots which is relevant here.

One thing should be obvious: in itself, that the commanding officer will not be responsible for everything that the machine does is not a problem, because one may clearly also accept a pluralist view according to which sometimes the programmer is responsible, sometimes

the commanding officer, etc. So Sparrow's claim is more general: sometimes the commanding officer is not responsible and no one else is and that is the problem.

Having clarified this point, I think that even if one accepts that the machine's orders do not fully determine its actions, that in turn does not imply that sometimes the commanding officer will be – for exactly that reason – not responsible. For example, it may be that the simple fact that the commanding officer is aware of this problem will be enough for an attribution of responsibility (if other conditions also apply). And further it is plausible to suppose that the decision makers are obliged to inform themselves on exactly these kinds of risks. Here I think that the context of deployment may make a difference. Namely, in the case of the military chain of command we may be unwilling to make the commanding officer responsible for the malfunctioning of a machine despite her awareness because the commanding officer is herself subject to orders.

This may be different in a health context, specifically when it comes to sexual satisfaction. There will be policy makers and then bureaucrats making general deployment decisions and drawing up guidelines; then there will be doctors, social workers and psychologists making particular deployment decisions and monitoring the consequences of those decisions; at most stages of these often complicated processes the relations of authority are not comparable with those in the military, and at all stages not complying with the tasks set by a manager cannot be compared – at least in terms of consequences – to not complying with military orders.

With this difference in mind, we can say that at least in the health context we may very well make the decision makers responsible for possible malfunctioning of sex robots, exactly because the decision makers must inform themselves about the levels of flexibility and responsiveness to the environment of the machines and about possible malfunctioning related to this. In making their deployment decisions at the different levels, decision makers are or should be aware of this and take responsibility over the consequences of their deployment decisions – at least those that could have been reasonably foreseen, where obviously this condition is more challenging when it comes to autonomous robots than with simple instruments or machines.

So there is no responsibility gap⁹ – at least in the case of sex robots – because the decision makers (or the carers or the programmers depending on the case) will be held responsible for all the malfunctioning and unpredicted functioning that could have been reasonably predicted – where admittedly what would have been reasonable to predict is, in this case, possibly more challenging than in more traditional health-related decision-making. Here let me say that even though I think and have argued that there isn't – in principle – a responsibility gap, I do think that matters are extremely complicated and that future courts and legislators may have a very hard time with malfunctioning cases.

Firstly, though, some of this complication is not new and should therefore not be overstated in the case of sex robots: take for example decision-making chains. Even if robots or

⁹ Let me clarify that I speak of responsibility gap here (instead of, say, liability gap) because I am not just thinking of who will be liable for damages or compensation in cases of malfunction (there one could imagine strict liability for the healthcare institution involved, for example). I am also thinking of issues of moral responsibility that go beyond liability and damages and would not be settled by such arrangements.

machines are not involved, attributing responsibility within a complicated decision-making chain such as a state or company is already a very difficult thing, and often when it comes to legal responsibility courts do fail due to the sophistication of the decision-making chain. Robots may make this even more difficult but, again, these difficulties are not new and therefore should not be overstated in the case of robots.¹⁰

Secondly, in thinking about the possible difficulties of future legislators and courts in attributions of legal responsibility for the malfunctioning of robots we should also grant that future legislators and courts will have resources that current legislators and courts do not possess: the level of sophistication grows on both sides.

Finally, we should say that one point which will be relevant to the issue of responsibility is which level of risk is going to be judged to be tolerable. And in this respect sex robots may be judged differently from military robots: first of all because isolated one-in-the-lifetime-of-the-machine malfunctioning will be much more dangerous if a machine is heavily armed than in a health context. Secondly because in the evaluation about risk tolerance levels possible malfunctioning will have to be weighed against the great health and well-being benefits that those sex robots will bring to the severely mentally and physically disabled.

This brings us to our last issue: aren't the disabled and the elderly simply too vulnerable to be exposed to robots in such a sensitive context as sexuality? The issue of vulnerability may be cashed out in at least two ways: first, the severely disabled are particularly vulnerable, especially in a delicate context such as sexuality; so the idea of providing sexual satisfaction to them (especially in the cases of severely mentally disabled individuals and those suffering from degenerative diseases in an advanced phase) is just too dangerous no matter their needs: the risk of abuse and the uncertainty about their willingness, it may be argued, make this a no go – and all this independently of any talk of robots. As I have dealt with these kinds of objections elsewhere (Di Nucci 2011), I will not repeat those arguments here and only focus on the issue of vulnerability as it relates to the deployment of robots.¹¹

On vulnerability in general I just wish to clarify my position in two important respects: I am not saying that all severely physically and mentally disabled people will have sexual needs nor am I saying that it will be legitimate to satisfy the sexual needs of all who do have some. All I am arguing for is the satisfaction of some sexual needs for some severely mentally and physically disabled people.

As to the question of a supposed increased danger or vulnerability due to the deployment of robots, I think that the opposite is actually the case: vulnerability is an argument in favour of deploying robots for sexual care instead of human sexual carers, because robots can be programmed so as to minimize if not eliminate the risk of abuse; because robots can be

¹⁰ Let me stress here again that I am using examples from legal responsibility and liability as an analogy for the kind of issues that may arise also for moral responsibility, but that I do not think that, when it comes to sex robots, moral responsibility issues are reducible to liability.

¹¹ On general issues of vulnerability related to sex and disability (or dementia) see also Appel 2010 and Tarzia et al. 2012. Very briefly on my arguments from Di Nucci 2011: both protecting patients' welfare and consent requirements are obviously paramount even before getting into the issue of sex robots; but we must be careful that, in exercising prudence about patients' welfare and consent requirements, we do not lose sight of what healthcare is there for, namely care – and in this case sexual care. So for example denying sexual care to all patients with mental/learning disability may end up erring on the side of caution.

controlled and monitored more effectively than human carers; because – as we are talking of pure sexual care rather than psychological support or other kinds of assistance – one can imagine that robots could be designed to be more effective performers than human carers in all sorts of respects (see the earlier remarks about the kind of sensoric and algorithms that would have to be involved). The vulnerability of the severely disabled is of paramount importance and must be protected at all cost – but that is true whether we deploy human carers or robots.

In conclusion, let me say that there are indeed many serious concerns relating to satisfying the sexual needs of severely mentally and physically disabled individuals – and here I could not do justice to all of them (I have hardly spoken of consent, for example), because I have done so elsewhere (Di Nucci 2011 and Di Nucci forthcoming) and because this discussion focused only on the possible future deployment of sex robots. I do want to conclude with a more general point though: the serious concerns and the very many delicate issues related to the sexual needs of severely mentally and physically disabled individuals should move us to increased and enhanced attention to the issue and its many problems, rather than scare us away just to avoid the many risks: the latter may be the *safer* option for us, but it would not be the *just* one for anybody.

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