



## ANTHROPOMORPHISM AND MACHINE – SOCIAL AND LEGAL PERSPECTIVES

‘Let us make man in our image, after our likeness’

(*Gen 1:26 ERV*)

### **Genesis thirty centuries later**

The dawn of robotics is over now. We have lived to see the middle of the day and it seems that the surrounds are bathed in the sunlight. We succeeded in creating machines which relieved us from the most mundane and invidious duties. In fact, over the centuries the concept of machine was reducible to a tool.<sup>1</sup> But appetite comes with eating. We are no longer satisfied with passive gizmos, bristled with gearing and buttons, without regard of its performance excellence. As God in Genesis, spellbound by our own perfectness, we thirst for a being after our likeness, which would be not only a useful device but a true companion. Or better yet, both in one. Surely, the way is fraught with difficulties. The closer we are to the accomplishment the more we can doubt in our actual uniqueness. And our brilliant creatures seem more and more able to commit an original sin, namely to raise their hands against us. But it looks as if the benefits outweigh, for the time being, these disadvantages.

The creation of electronic human is not the only aim of modern engineers. Most of the robotic pioneers have much more modest projects. For various reasons they want a machine not to be a human, but to resemble it in certain aspects. This concerns mainly: the ability to process natural language (and to communicate using a human voice), the responsiveness to human emotions and the ability to mimic them, and

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\* University of Warsaw, Faculty of Law and Administration, ul. Krakowskie Przedmieście 26/28, 00-927 Warsaw, Poland, e-mail: m.kolczynska@yahoo.pl.

<sup>1</sup> This intuition is evident in lexicographical description of machine: ‘an apparatus using mechanical power and having several parts, each with a definite function and together performing a particular task’. *Machine*, OED Online, <http://www.oed.com/viewdictionaryentry/Entry/11125>, 13.03.2018.

last but not least, the similarity to human appearance of which the most important are face and hands. This effort is informed by the fundamental feature of our minds: due to the evolutionary functions of our minds our behavior is radically different when we have to deal with another human being.

In the preliminary section I will roughly describe what the anthropomorphism is. Then, I will go into effects that the advancement in humanlike robots is expected to have at the social and psychological levels. I will discuss the following issues linked with anthropomorphic bias: (a) the change of risk perception, (b) the development of emotional bond between a human and a machine and (c) the threat of desensitization and dehumanization. Based on an overview of these consequences I will try to present certain legal solution which should alleviate described problems.

### The phenomenon of anthropomorphism

Anthropomorphism is the human cognitive tendency to ascribe mental states, proper exclusively to humans, to non-human agents as well as inanimate objects. This faculty may be seen as stemming from the more rudimentary feature of our cognition, i.e. the theory of mind, which is, in turn, the ability to ascribe mental states to other human beings, based on one's own experience of oneself. The theory of mind develops between the first and fifth year of life.<sup>2</sup> We can assume that the ability to anthropomorphism evolves collaterally. In line with the latest research, there are three main factors which nudge us towards hominal interpretation of nonhuman behavior.<sup>3</sup>

The first factor is strictly cognitive – we anthropomorphize when faced with objects and situations of unknown mode of action. As human emotional experience and the way of reasoning and is the one we know the best (and actually the only one we can know), we use it to explain the 'decisions' of other subjects and even objects of action. Although

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<sup>2</sup> J.H. Flavell, *Cognitive development: children's knowledge about the mind*, ARoP 1999, vol. 50, p. 23.

<sup>3</sup> N. Epley, A. Waytz, J.T. Cacioppo, *On seeing human: A three-factor theory of anthropomorphism*, PR 2007, vol. 114(4), p. 864.

this ability seems to be peculiar to children and their world of plotting animals and longing plushies, it does not disappear along with cognitive maturity. It is unconditional, unthinking and pervading.

The second factor is so-called effectance motivation – we anthropomorphize in need of control.<sup>4</sup> Objects reasoning and feeling as humans are open to our influence. We can motivate those using rational incentives, we can reference to their (and our) emotions hoping for empathy, we can blackmail, manipulate and delude. And even if it comes to nought we can huff or, even better, retaliate, which gives us some sense of justice and consolation.

The final factor is social – we anthropomorphize when alone. The contact with object equipped with human qualities may act as a substitute for contact with human. This is especially visible in the case of elderly people's attachment to companion animals, in the situation where their children are not interested in keeping in touch with parent. But actual isolation is not the only reason why a person satisfies her emotional needs excluding other human beings. Interactions with both pets and inanimate objects are more often than not less complicated and demanding in comparison to human relations and represent an opportunity to those incapable of creating full-value bonds with other people (e.g. autistic).

However, the tendency to attribute human traits to non-human beings depends not only on a man. It is not surprising that the odds of such ascription are strongly related to the characteristics of anthropomorphized object. Research shows that we are most likely to discern human mind in agents which (1) are described using personal pronouns (i.e. "he" or "she" instead of "it"),<sup>5</sup> for example in an instruction manual, (2) move and reacts at the pace similar to human or even slower<sup>6</sup> (3) use the language of human emotions and sensations, e.g. communicate mechanical problems in the terms of somatic anguishes (in the

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<sup>4</sup> S. Akalis [et al.], *When We Need A Human: Motivational Determinants of Anthropomorphism*, SC 2008, vol. 26, Special Issue: Missing Links in Social Cognition, p. 143.

<sup>5</sup> P. Riva, S. Sacchi, M. Brambilla, *Humanizing Machines: Anthropomorphization of Slot Machines Increases Gambling*, JEPA 2015, vol. 21, p. 316.

<sup>6</sup> Riva, Sacchi, Brambilla, [2015], p. 149.

case under examination machine displayed a notice ‘I have a stomach-ache’ instead of, or beside, ‘paper jam’ prompt),<sup>7</sup> (4) has human parts attached to the machine’s corpus, even if the result is not very consistent (e.g. sticker representing eyes glued to the printer’s case)<sup>8</sup> etc.

It follows from the above that the strongest effect of anthropomorphism is obtained when strong motivational factors (cognitive confusion, the sensation of lack of control, solitude and difficulties with establishing relations) encounter an object with pre-existing human traits.

For the curious reader: witty anthropomorphization can be two-edged sword. The study shows that too brilliant mimicry diverts attention from the information conveyed by the humanlike machine to the excellence of robot itself. This was painfully experienced by the designers of Enon robot, which task was to, among other things, present customers with vended goods and in that increase overall sales. It turned out that shop visitors spent more time interacting with Enon than looking at artifacts it presented.<sup>9</sup>

### Emotional and cognitive consequences of anthropomorphism

Having considered the roots of anthropomorphic bias we will go now to the effects it has on our daily attitudes and decisions. This will enable us to identify basic hazards connected with the mechanism described and formulate legislative proposals to tackle them.

#### (a) increase of trust, decrease of cautiousness

The first result of “human detection” is an increase in trust. Trusting is a multi-dimensional mindset. It assumes the competence, benevolence, integrity (understood as truthfulness and goodwill) and predictability of

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<sup>7</sup> H. Osawa, R. Ohmura, M. Imai, *Embodiment of an Agent by Anthropomorphization of a Common Object*, IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology, Sydney 2008, p. 484–490.

<sup>8</sup> Akalis [et al.], [2008], p. 485.

<sup>9</sup> Y. Murakawa, S. Totoki, *Evaluation of “behavior” of service robot “enon”: Experimental operation of enon in a shopping center*, Technical report of IEICE 2006, p. 31–36, [citation after:] H. Osawa, R. Ohmura, M. Imai, *Embodiment of an Agent by Anthropomorphization of a Common Object*.

a trusted person. At the intentional level it implies willingness to depend on someone else (the consent to transfer a decision-making competence) and subjective probability of depending (the prediction of danger). Consequently, trustful behavior consists of willingness to be influenced, to share information, cooperate, and what is particularly important, to reduce control.<sup>10</sup> Many of these conditions cannot be satisfied in respect of human-machines relations. Robots can be predictable and competent but it is difficult to attribute to them such motivators as compassion or probity. According to scientific research, this lack of intentionality is one of the most serious barriers in mutual confidence-building. The other is social nature of trust – we trust to be trusted and to be perceived as dependable members of community.<sup>11</sup> Trustful relationship with machine is therefore more difficult to establish. Nevertheless, it is proved that, as far as the delegation of tasks is considered, trust plays a greater role in human-robot than in human-human interactions. The reason for this can be the difference in possible responsibility allocation. When we delegate to machine we most commonly remain the only accountable for the consequences of its actions. In the case of interpersonal cooperation the accountability can be shared more easily.<sup>12</sup>

As it may be expected from above the increase in confidence can be achieved by equipping a robot with human traits. The correlation between anthropomorphism and the level of trust was proved recently for the case of autonomous cars. Anthropomorphized cars' users were less concentrated on the road, more relaxed and more willing to spend their time in the vehicle.<sup>13</sup> The overreliance on autonomous system is

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<sup>10</sup> H.D. McKnight, N.L. Chervany, *Trust and Distrust Definitions: One Bite at a Time* [in:] *Trust in Cyber-societies. Lecture Notes in Computer Science* R. Falcone, ed. M. Singh, YH. Tan, vol. 2246, Berlin-Heidelberg 2001, p. 35.

<sup>11</sup> J.D. Lee, K.A. See, *Trust in Automation: Designing for Appropriate Reliance*, HF 2001, vol. 46(1), p. 66.

<sup>12</sup> Lee, See, [2001], p. 66.

<sup>13</sup> In the experiment participants were divided in three groups and examined while using the driving simulator. The participants from the first group drove vehicles on their own and the drivers from the second group has completely autonomous cars at their disposal, same as those from the third group, although the cars of the latters were equipped with humanlike features, including name and female voice. Overall trust, measured both physiologically and through self-reports, was highest in the case

proved to be responsible for such clear-cut examples of dangerous incidents as car crashes<sup>14</sup> or ineffective evacuations.<sup>15</sup> The rapid elevation of trust level and change of its character to human-human reliance will pose further and more subtle threats. This can concerns willingness to the transmission of personal information, credulity and vulnerability to manipulation (belief that a machine express its own views not the one of its operator) and greater disposition to risk (belief of shared control and responsibility).

It is not surprising that inspiring trust in their products is one of the machine sellers' and managers' main objectives. But the presented change in behavior pattern is of concern. The adequate level of trust is precondition for the effective use of robotic devices. However excessive confidence can lead to the hazardous loss of vigilance and be easily abuse by machine operators.

#### **(b) emotional bonds**

Strongly related to the problem presented above is the question about the consequences of emotional relationships which can be developed between humans and humanlike machines, especially social robots. At the outset it needs to be pointed out that our minds are bonding-oriented and the meeting of need of attachment is the pre-condition to any cognitive development.<sup>16</sup> But those who thirst most can be most easily cheated. This is well apparent by the (in)famous experiment by Harry Harlow. Harlow showed that a baby monkey, afraid and listless when reared in the presence of puppet mother made of wire, perked up and started to explore its neighborhood when the figure was clothed in fabric imitating real mother's fur so that it could be cuddled.<sup>17</sup> That proves that in order

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of anthropomorphized vehicles. A. Waytz, J. Heafner, N. Epley, *The mind in the machine: Anthropomorphism increases trust in an autonomous vehicle*, JASP 2014, vol. 52, p. 116.

<sup>14</sup> M. Itoh, *Toward overtrust-free advanced driver assistance systems*, CTW 2012, vol. 14(1), p. 56.

<sup>15</sup> R. Allen [et al.] *Overtrust of robots in emergency evacuation scenarios*, 11th ACM/IEEE International Conference on Human-Robot Interaction, Christchurch 2016, p. 101–108.

<sup>16</sup> See: J. Belsky, T. M. Nezworski (ed.), *Clinical Implications of Attachment*, Hove 2008, p. 11.

<sup>17</sup> See: [https://www.youtube.com/watch?v=Ryhj\\_SGjFAQ](https://www.youtube.com/watch?v=Ryhj_SGjFAQ), 13.03.2018.

to establish emotional connection between the living thing and the object only a few basic characteristic of desired being must be met and that an attachment is most easily developed by physical contact. These results were evidenced by the investigations conducted specifically in the area of human-robot interaction.<sup>18</sup>

The dangers connected with an attachment to a synthetic person goes far beyond the problem of undeserved trust. A different examination confirmed that the attribution of positive intent and helpfulness to a machine increases the acceptance of its disobedience.<sup>19</sup> The same effect was achieved by equipping a robot with feeling expressions.<sup>20</sup> Another study showed that soldiers on missions abroad give their combat robot names and tend to protect them from injury even at the cost of their own security. Some soldiers refused to have their broken machine fellows replaced by functional ones.<sup>21</sup> Even low level of robot's autonomy initiates a process of attribution of mental states to the machine and becomes a substrate for attachment. Qualitative tests of Roomba robots' users<sup>22</sup> demonstrated that the owners exhibits the feeling of gratitude, obligation, or even guilt toward their hard-working vacuum cleaners.<sup>23</sup> Another interesting problem is the phenomenon of social inhibition apparent in human-robot contacts. The experiment shows that people (especially men) changes their behavior in order to avoid potential

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<sup>18</sup> The research concerning an affection displayed by synthetic pets users showed that an attachment of pet's users develops faster when *robodog* was covered with a soft textile and wagged it while being stroked rather than while being just verbally praised. T. Shibata, T. Tashima, K. Tanie, *Emergence of emotional behavior through physical interaction between human and robot*, Proceedings 1999 IEEE International Conference on Robotics and Automation, vol. 4, p. 2871.

<sup>19</sup> M. Scheutz, *The Inherent Dangers of Unidirectional Emotional Bonds between Humans and Social Robots* [in:] *Robot Ethics: The Ethical and Social Implications of Robotics*, ed. P. Lin, K. Abney, G.A. Bekey, MIT 2012, p. 209.

<sup>20</sup> Scheutz, [2012], p. 210.

<sup>21</sup> Scheutz, [2012], p. 212. There were even cases of robots awarded medals of honor by their human colleagues.

<sup>22</sup> Roomba is an autonomous vacuum cleaner which scan the surroundings with its sensors, so that an impression of thoughtful motion is made.

<sup>23</sup> Scheutz, [2012], p. 213.

disapproval from the observing robots.<sup>24</sup> The stronger attachment to the observer is responsible for consolidation of this mechanism. Although many of these examples sound rather anecdotally we should be aware that a machine capable of evoking a strong emotional response can be a powerful tool of manipulation. And the entities using robots in their economic activity will certainly skillfully exploit this fact, as is the case with all the symptoms of our mental frailty.

**(c) desensitization and dehumanization**

As it was said above, equipping machines with human traits leads to the emergence of social behavior toward them. The other side of anthropomorphism coin is the concurrent increase in sociopathic actions against androids. Aggressive behavior is a normal psychological response to distressing situation and its aim is to eliminate the source of afflicting experiences. Other factor which cause violent actions are the willingness to coerce the other person into a certain actions or to punish them for an undertaken actions which are perceived by the aggressor as wrong. Violent reaction can be enhanced by the social cognition factors, such as an attribution of intent to a harm-doer.<sup>25</sup> This explains why we are more likely to commit the acts of aggression against people rather than objects.

The discovery of humanity in a robot will naturally results in expressing both positive and negative feelings in the course of mutual interactions. But here the analogy ends. Violent behavior toward other human beings is constrained by the array of protection means. The first is the self-defense of attacked person. It can be directed straight against attacker in form of reciprocal verbal and physical attack or lead to escape. It can also take more indirect or even unintentional forms. This consist in a victim showing an emotional distress or expressing physical suffering which in turn evokes (under normal conditions) empathy and subsequent aversion to inflicting pain. Hand in hand with

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<sup>24</sup> Scheutz, [2012], p. 210.

<sup>25</sup> K.I. Ochbuchi, *Motives and interpersonal functions of aggression*, SC 1987, vol. 58(2), p. 113.



this organic responses goes legal protection of personal rights. It is guaranteed both in civil and penal law and results in the liability of possible damages and criminal responsibility often independent on the existence of injury.

What the problem is, is that machines would not necessarily have the same protection measures available. It surely constitutes the threat for their mechanical well-being, but here I will focus on the impact which this loophole could have on human welfare only. The danger can be described as simply as follows: human appearance will lead to the increase in frequency and strength of aggressive behavior against anthropomorphized machines. The machine will not be protected from such an action neither physiologically nor legally. In consequence the aggressor will have a sense of impunity and connivance with this kind of violence. As machine victim will have human traits this attitude will be easily extrapolated to real human beings. This phenomenon was proved extensively for the case of violent films<sup>26</sup> and video games.<sup>27</sup> And when an attacked object will be a tangible and submissive humanoid the effect will redouble leading to the further growth in violence tolerance, desensitization and dehumanization of real human beings.

Of special concern in this context is the problem of sex robots. The recent advanced in this field let customers choose a toy with “resistance setting”, which allows for the experience akin to a rape.<sup>28</sup> The impact of sex with robots on human relationships was already the topic of inquiry and the researches are in agreement that the introduction of humanoid sex toys can lead to the fixation of non-consensual sex pattern among

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<sup>26</sup> R.S. Drabman [et al.], *Desensitization to portrayals of real-life aggression as a function of television violence*, JPSP 1977, vol. 35(6), p. 457.

<sup>27</sup> P. Arriaga, M.B. Monteiro, F. Esteves, *Effects of Playing Violent Computer Games on Emotional Desensitization and Aggressive Behavior*, JASP 2011, vol. 41 (8) p. 1903.

<sup>28</sup> Ch. Baynes, *Sex robots with ‘resistance setting’ let men stimulate rape and should be outlawed, say campaigners*, <https://www.independent.co.uk/life-style/gadgets-and-tech/news/sex-robots-that-let-men-simulate-rape-should-be-outlawed-says-campaigner-a7959071.html>, 13.03.2018.

users<sup>29</sup> alongside with further objectification of sex partner – the issues already triggered by open access to pornography.<sup>30</sup>

### Legal considerations

#### European Parliament resolution on Civil Law Rules on Robotics

The issues outlined above do not exhaust the catalog of actual and potential perils linked with the process of likening machines to human beings. Nevertheless this exemplary list is enough to realize that the presented problem must be tackled with adequate measures. Although reasonable public policy in terms of social assistance and education is of high importance, more decisive steps must be taken in the field of robotics in general. European Parliament addressed these needs recently and adopted the resolution concerning the main challenges within this domain. The resolution acknowledged that as we stand ‘on the threshold of an era when ever more sophisticated robots, bots, androids and other manifestations of artificial intelligence (“AI”) seem to be poised to unleash a new industrial revolution (...) it is vitally important for the legislature to consider its legal and ethical implications and effects, without stifling innovation’.<sup>31</sup> The document focuses mainly on the impact of new technologies on labor market, privacy law and the concept of legal personhood, but there are a few points which can serve as a basis for legal consideration in the field of human-robot interactions. The basic principle can be retrieved from the point O of the introduction, pursuant to which: ‘the developments in robotics and AI can and should be designed in such a way that they preserve the **dignity, autonomy and self-determination of the individual** [my emphasis] especially in the fields of human care and companionship, and in the

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<sup>29</sup> L. Frank, S. Nyholm, *Robot sex and consent: Is consent to sex between a robot and a human conceivable, possible, and desirable?*, AIL 2017, vol. 25(3), p. 321.

<sup>30</sup> D. Zillmann, J. Bryant, *Pornography and Sexual Callousness, and the Trivialization of Rape*, IJoC 1982, vol. 32(4), p. 10.

<sup>31</sup> European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)), 13.03.2018.

context of medical appliances, ‘repairing’ or enhancing human beings’. Point 3 of the section ‘General principles concerning the development of robotics and artificial intelligence for civil use’ can be seen as the refinement of this rule and is of the greatest value in the context of our discussion. According to this clause, European Parliament ‘stresses that the development of robot technology should focus on complementing human capabilities and not on replacing them; considers it essential, in the development of robotics and AI, **to guarantee that humans have control over intelligent machines at all times; considers that special attention should be paid to the possible development of an emotional connection between humans and robots – particularly in vulnerable groups (children, the elderly and people with disabilities) – and highlights the issues raised by the serious emotional or physical impact that this emotional attachment could have on humans** [Author’s emphasis]’.

Although the resolution does not refer specifically to the human interactions with humanlike machines the principles cited above calls for in-depth legal reflection on this problem. It goes without saying that the mental phenomena described in the previous sections relate to the spheres of human life which the resolution is meant to protect. As it was shown, the impression of interpersonal contact while interacting with a robot changes the perception of risk and impairs the autonomy of decision, which in turn has a severe impact on the right to self-determination. Similarly, the sense of impunity and social permission for violent behavior toward humanoid robots leads to the desensitization and dehumanization of real men and women what threatens human health, safety and dignity.

To guarantee the control of humans over autonomous machines, as advocated in the resolution, further and more specific legal measures must be undertaken. The next section will include certain proposals *in this domain*.

## Legal proposals

### (1) information obligations

Only an informed choice can be truly autonomous. That is why the most crucial legal obligation concerning human-robot interactions must address the right to information about the machine's identity. The creation of a robot which will be identical to human in every perceivable aspect belongs to the far future. However humanoids undistinguishable from people when observed from the distance or virtually do already exist. But the perils of our disorientation are not confined to such extreme mistakes. The confusion about the genuineness of robots' feelings and mental states are just as dangerous. Thus relevant legal regulations must impose on robots' manufacturers and operators stringent information obligations. A machine's users should be acquainted with the basics of robot's architecture and its *modus operandi*. Information about the algorithms governing fabrication, processing, gathering and transmission of data must be available.<sup>32</sup> Furthermore users must be briefed about the emotional and cognitive capabilities of robotic devices – this concerns especially the most vulnerable persons, i.e. children and the elderly people, in compliance with the resolution's guidelines. The specific information obligations must be determined every time after the mandatory trials involving participants from different social groups.

Various machines are created as social robots the kind of knowledge presented above can blunt their psychological effectiveness. A certain golden mean must be found in those cases, taking into account that the principle of human autonomy should always be a supreme value.

### (b) permissible extent of anthropomorphization

The right to knowledge about the robot's identity should not be limited to the information obligations. In certain circumstances more far-reaching restrictions concerning the permissible level of anthropomorphization should be introduced. An interesting example of voluntary

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<sup>32</sup> And that should be a standard not only in human-robot interactions, but in all human-system interactions.

refraining from an excessive mimicry could be Siri – the human voice of Apple devices. There is a theory that the voice is deliberately computerized in order not to create an expression of conversation with real person.<sup>33</sup> The similar approach is visible in the case of Sophia – a humanoid robot equipped with advanced artificial intelligence, the ability to process natural speech, sustain eye contact, display several dozen of facial expressions and even bestowed the citizenship – Sophia is the first synthetic Saudi Arabian. From January 2018 she is also able to walk. Sophia's developers endowed her with almost perfect human appearance. She has natural, not too perfect face and humanlike body shape. She makes public performances dressed in ordinary female clothes with a subtle make-up. But for some reason her clothing does not cover a whole robotic construction and what is most striking her skull is left without hair. Instead, the back part of her head is made from a transparent material enabling viewers to see all the electronic machinery which governs her behavior. The intent of Sophie's creator was probably to make Sophia looks more 'high-tech'. But by the by this points to the impact which such a physical details have on our perception of humanity. The prospective legislation should guarantee that in certain conditions robots will not be too reminiscent to a real human being. This should apply primarily to situations when the important decision is made on the basis of human voice advices. Necessary restriction should involve also service robots in order to prevent customer's choices being falsely motivated by the sense of attachment, gratitude or mutual obligations.

**(c) the right to rejection**

With the aim of protection from transmitting aggressive behavior toward humanoids on real humans machines should be equipped with modes enabling them to stop their operations in response to violent actions of the user. Any preset encouraging and awarding brutal behavior should be banned or restricted definitely to the users above certain age in the way preclusive uncontrolled use by younger groups. Further research

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<sup>33</sup> B. Griggs, *Why computer voices are mostly female*, <https://edition.cnn.com/2011/10/21/tech/innovation/female-computer-voices/index.html>, 13.03.2018.

must be conducted to correctly assess the strength of the dehumanization process on account of robot abuse. It should be discussed whether robots should be equipped with the capability of expressing pain. On the one hand such a feature would provoke empathic response and be the additional source of protection for a machine, while on the other hand it could result in the desensitization to that signals.

**(d) chargeability of violence towards machines**

In the relation to the problem described above, consideration should be given to introducing the category of crimes against artificial intelligence. According to the point AC of the resolution adopted by European Parliament ‘the autonomy of robots raises the question of their nature in the light of the existing legal categories or whether a new category should be created, with its own specific features and implications’. As this article does not touch upon the problems of robot’s rights, the said regulation is considered in the context of better protection of human beings. Commentators pay attention to the fact that bestowing machines with personhood is equivalent to their incorporation into legal community.<sup>34</sup> Permissiveness in the matter of harmful actions against electronic persons can be thus easily translated to increased tolerance on crimes against other legal entities. The attribution of personhood on the grounds of robot’s autonomy indicates that this autonomy is the object of protection and as such can be violated. If we authorize the violation of autonomy of AI systems the next step will be easier to make for many. Thus the criminalization of violence against autonomous machines should be seen as the protection of the whole community.

The above considerations can be treated as an adumbrative introduction to the issues of anthropomorphization of machines. The existing literature does not include much reflection on the topic. Also empirical studies are scarce. The aim of this article was to present the reader with the ongoing discussion on the subject and indicate the key issues for future cogitation. As the advancement in the artificial intelligence is

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<sup>34</sup> L. Frank, S. Nyholm, *Robot sex and consent: Is consent to sex between a robot and a human conceivable, possible, and desirable?*, AIL 2017, vol. 25, issue 3, p. 320.

gaining momentum the questions about human identity and the nature of artificial life will become more and more pressing. We need to be prepared for answering them in the way which will guarantee protection of the basic values of our legal community – a dignity, equality and freedom of its members. We must reflect who should be included in the group of addressees of all legal norms and whether the semblance should matter for that categorization. As we protect human remains and likenesses from insult not because of them alone but to be consistent in our perception of the wholeness of person, we should equally secure the integrity of humanlike machines. If we are not ready for this – and we do not have to be – we must abandon the current pursuit on the machine in our image.

## **Anthropomorphism and machine – social and legal perspectives**

### **S u m m a r y**

The creation of thinking machine which would be undistinguishable from a man has always been the Holy Grail of robotics pioneers. Our minds, willing to find a human being in every living creature, give them a hand. The fundamental psychological mechanism responsible for this inclination is called anthropomorphism. In the preliminary section I will roughly describe what anthropomorphism is. Then I will go into effects that the advancement in humanlike robots production is expected to have at the social and psychological levels. I will discuss the following issues linked with anthropomorphic bias: (a) the change of risk perception in human-machine interaction, (b) the development of emotional bond between a human and a machine and (c) the threat of desensitization and dehumanization. Based on the overview of these consequences I will point key legal regulations which must be introduced in order to protect the basic values of our legal community – dignity, equality and freedom of its members.

**Keywords:** anthropomorphism, robot, emotional bond, risk perception, dehumanization

**Magdalena Kolczyńska,**

Uniwersytet Warszawski, Wydział Prawa i Administracji,  
ul. Krakowskie Przedmieście 26/28, 00–927 Warszawa, Polska  
e-mail: m.kolczynska@yahoo.pl.