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Towards (Unilateral) Recognition of "the Technological Other" – Vulnerability, Resistance and Adequate Regard

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Abstract: The aim of the article is to answer the question of whether the theory of recognition can be applied to research on the human-technology relationship and, if so, to what extent. The article assumes that the theory of recognition is a normative theory, and therefore, its moral consequences can certainly be applied to human persons. To use this theory for studying the relationship between humans and technology, shifts in the theory are necessary. These shifts have been reduced to the concept of solidarity with technological artifacts (especially with robots). However, the article constructs an argument that the concepts of vulnerability and resistance may be helpful in justifying the development of recognition in the relationship between humans and technology. The model of recognition discussed in this case is not, however, a model based on mutual relations but rather on unilateral recognition, which is introduced into the theory through the concept of adequate regard.

Keywords: Recognition Theory; technological Other; vulnerability; resistance; adequate regard; Hegel.

I. Introduction

One of the key concepts introduced and developed by G. W. F. Hegel to modern philosophy is recognition. It assumes that the self-development of the subject depends on the two crucial moments – one, establishing a difference between object and subject, and the second, that being a subject must be recognized by the other subject. Recognition [*Anerkennung*] means "to be respected," but even more literally, "to be differentiated" and accepted in this difference. Even if usually connected with master and servant dialectics (Hegel 1977), recognition is not a one, particular moment in the Hegelian system and should be rather understood as a process with different dimensions of recognition (Honneth 1995). The theory of recognition becomes very important for social and political philosophy because, being combined with the "struggle," it empowers different social groups with the emancipatory discourse (Butler 2021a). However, it also influenced the discussion about technology, especially through the fact that master-servant dialectics (translated also as master-slave dialectics) might describe the relation between people

and technologies such as machines, automates, robots or AI (Bryson 2010; Coeckelbergh 2015; Sabl 2001).

In this article, I aim to examine the concept of recognition from a normative perspective (Kloc-Konkołowicz 2015) applying it to research on the human-technology relationship. As it is usually understood, Hegelian recognition can be applied to humans, because only they can have self-consciousness and, in effect, we can expect reciprocity from such beings. However, among the interpreters of this concept, there is no agreement on whether the Other who is being recognized must have consciousness because it might be sufficient to *assume* that they have it (Gertz 2018). Moreover, it is not clear whether the consciousness matters so much, because the expression of normative demands might be enough to be treated as a recognized being (Honneth 1995). This confusion with so well-known concept of recognition turns the attention to the possibility to recognize non-human beings as possibly being respected and differentiated. The recognition of the Other and from the Other is a necessary step towards self-understanding and self-development of the subject. However, when the concept of recognition is applied to the philosophy of technology it is clear, that we begin to speak about "the technological Other." This otherness is non-human, but this non-humanity is not less normatively-oriented than relations between humans are (Floridi et al. 2018; Floridi & Sanders 2004; Verbeek 2011). However, the question that needs to be posed is: can the theory of recognition be applied to research on human-technology relationships, given that classical recognition forms the basis for building social bonds between human persons?

The key purpose of this article is to present how the theory of recognition is possible in the subject-technological Other relation, and more precisely, I will explain how it is possible that people perceive technology as the Other. My argument is based on the concepts of *vulnerability* and *resistance*, which, when combined with human aversion to witnessing the suffering of other living beings (Rousseau 2002), allow us to assert that normative expectations towards non-human beings arise because they themselves evoke in humans a sense of *unilateral recognition*. My argumentation expands on Nolen Gertz's proposal regarding the construction of recognition relations based on building solidarity with robots (Gertz 2018). However, I specifically focus on vulnerability and resistance rather than solely on solidarity. My approach has significant practical consequences since seemingly incomprehensible behaviours of people attributing internal life to technologies do not necessarily have to be perceived as magical thinking (Musiał 2016) but rather as an extension of human care to other entities with the awareness that they do not possess the same kind of life as human life. However, the fact that the "Other" does not necessarily have to be a human to evoke moral obligations in people represents an important shift in thinking about the theory of recognition. As I will demonstrate in the article, *adequate regard* model of recognition (A is recognized by B, but A is not aware of this recognition) (Laitinen 2010; Laitinen 2011; Waelen 2022) also has moral consequences and can be extended to the "technological Other."

In the first part, I will reconstruct the main assumptions of Axel Honneth's theory of recognition, as his theory, in the broadest sense, is applied to the philosophy of technology (Waelen 2022; Waelen & Wieczorek 2022). Primarily in this section, I draw attention to the fact that Honneth's theory is much more oriented towards perceiving intersubjectivity as a relationship between humans, which also means that Honneth conceives the theory of recognition as a normative theory, not simply as a theory of epistemic recognition of humans (Butler 2021b) and other forms of being. This is crucial because Honneth's theory cannot be transferred in its entirety to the philosophy of technology without certain extensions and supplements. The need for a certain "adaptation" to the requirements of the philosophy of technology becomes evident in the second part of my article.

In the second part, I demonstrate how the concept of solidarity, drawn from Honneth's theory, has been utilized by Nolen Gertz to interpret the relationship of soldiers with EOD (Explosive Ordnance Disposal) robots, particularly in situations where a human risks their life to save a robot due to a sense of connection. Gertz emphasises the concept of solidarity because, in Honneth's theory of recognition, it is linked to respect for social roles, professions, and human labour, allowing for the exploration of functional equivalence between humans and robots. As I argue in the article, Gertz makes important observations and interesting theoretical shifts, but in my view, the key argument should not be built on solidarity but on a more fundamental sense of recognition expressed by vulnerability and resistance of "technological Other."

In the third part, I explore how the concepts of vulnerability and resistance help understand the relations between humans and non-human beings and how these arguments can be applied to the theory of recognition. I demonstrate that recognition does not have to be mutual to have a normative character (Laitinen 2010), and examples of contemporary technologies, such as artificial intelligence, raise the problem of unilateral recognition (the vector of this relationship may be directed towards humans or towards technology, however, it is never mutual in both directions simultaneously).

In the conclusions, I summarize the key findings of the article and suggest possible paths for further exploration of the issues examined.

II. The Theory of Recognition

The theory of recognition, first formulated within the tradition of German idealism by J. G. Fichte and further developed by G. W. F. Hegel, constitutes a significant conceptual field for modern social and political philosophy. Particularly through the connection of classical German philosophy with psychology and psychoanalysis by Axel Honneth, and subsequently the expansion of this theory to issues of identity and politics by Charles Taylor (Taylor 1994), as well as issues of gender, race, and language by Judith Butler (Butler 1999; Butler 2021a), the theory of recognition appears, on the one hand, quite developed and well-elaborated, and on the other hand, it remains relevant as various

forms of "struggles for recognition" continue to take place in different societies and states.

A key aspect of the theory of recognition is that it defines the conditions under which the formation of the subject occurs, both individual and collective. The fundamental assumption of the theory of recognition is that no one becomes a subject in the movement of self-development without the presence of other people. On the contrary, from the very beginning of its existence, an individual must be recognized as a member of the human community, and subsequently as a subject with specific needs and rights guaranteed by others. The theory of recognition, therefore, posits that while the subject shapes itself in the process of development, these developmental trajectories are determined by intersubjective relations.

The theory of recognition is, therefore, thoroughly humanistic, even anthropocentric. At its core is the subject, which, in relation to other subjects, shapes its understanding of itself and of other subjects. This process leads to the development of specific conditions for mutual respect, the guarantee of equal rights, and the building of solidarity in relationships. In the theory of recognition, most comprehensively developed by Honneth, three forms of recognition can be distinguished: love, law, and solidarity. In the realm of love, which establishes belonging to the family, the subject shapes self-confidence strengthened by care practices expressed by other family members. Love allows the construction of a sense of self at the most fundamental level, as it is based on satisfying the needs of another person, assuming that these needs are justified and even necessary. In legal relationships, the subject is perceived through cognitive respect, signifying that individuals possess rights equal to other people but are also seen as subjects capable of taking responsibility for their actions. The fact that, in legal relationships, the subject is considered in their autonomy of thought and action leads to the development of self-respect. Finally, in relationships based on solidarity or showing respect for others, social esteem is emphasized as the subject gains recognition in social relationships based on their unique abilities or contributions to the community. Additionally, the subject acquires the ability to reflect on the positions of other people in society, leading to the building of bonds of solidarity with others when we show respect for people's work, profession, or social activity.

Honneth's key argument is that recognition holds normative significance because, on the one hand, it points to the presence of customs, social practices, and values in the process of shaping the subject. However, on the other hand, reciprocally, it constructs and sustains a normative relationship between subjects by acknowledging themselves as entities with specific needs and rights.

> (…) Hegel merely wants to say that every philosophical theory of society must proceed not from the acts of isolated subjects but rather from the framework of ethical bonds, within which subjects always already move. Thus, contrary to atomistic theories of society, one is to assume, as a kind of natural basis for human socialization, a situation in which elementary forms of intersubjective coexistence are always present. In so doing, Hegel is quite clearly taking his lead from the Aristotelian notion that there is, inherent in human nature, a

> substratum of links to community, links that fully unfold only in the context of the polis (Honneth 1995, 14).

Honneth derives this conclusion from Hegel's theory, more precisely from *Jenaer Realphilosophie* (Hegel 1983), the period in which the German idealist laid the foundations of his system but eventually resigned from this project in his later work, such as the *Phenomenology of Spirit* and other writings (see Honneth 1995; Habermas 1974). Honneth emphasizes that for Hegel, social bonds are implicitly established, following the model of the Aristotelian *zoon politikon*, as otherwise social relations would not be possible. However, social relations are not initially based on social or political equality but rather on existential equality – this is best expressed by the construction of the struggle for recognition as a situation in which subjects confirm their right to a particular property while acknowledging that the other subject asserts their other claims too. This leads to a struggle for life and death, but simultaneously, this situation highlights that there is an existential bond connecting the subjects.

> For Hegel's statements can also be understood as asserting that it is only with the anticipation of the finitude of the other that subjects become conscious of the existential common ground on the basis of which they learn to view each other reciprocally as vulnerable and threatened beings. (…) through the reciprocal perception of their mortality, the subjects in the struggle discover that they have already recognized each other insofar as their fundamental rights are concerned and have thereby already implicitly created the social basis for an intersubjectively binding legal relationship (Honneth 1995, 49).

The very act of initiating the struggle is thus a confirmation that we recognize the other subject as having certain rights, for we would not be in conflict with them if, at a fundamental level, they were not acknowledged by us as equal to us in some respect. This leads Honneth to emphasize that the struggle for recognition from *Jenaer Realphilosophie* has a completely different resonance than the later one from the *Phenomenology of Spirit*, where the consequence of the struggle is a master-servant dialectic. In *Jenaer Realphilosophie*, the struggle is linked to the concept of ethical life, with the conditions of social integration determined by culture and mutual respect among members of a community attributing themselves specific rights (Honneth 1995, 58–59). In the *Phenomenology of Spirit*, however, the struggle for recognition is reduced to the moment of the formation of self-consciousness, where the normative dimension of building social relations takes a back seat, yielding to the practice of labour and the self-shaping of the subject in the internal movement of self-development (Honneth 1995, 62–63).

Emphasising the normative dimension of recognition, Honneth not only identified the affirmative character of this intersubjective relationship (affirmation of one's subjectivity, freedom, autonomy, and mutual respect among individuals) but also highlighted the significant role of misrecognition in shaping the individual and social relations. This involves situations where the physical and psychological integrity of individuals is violated, instances of physical and institutional violence, lack of legal representation and

legal security, or a sense of social isolation. In other words, if recognition has a significant impact on self-confidence, self-respect, and the sense of human uniqueness, the absence of recognition has a colossal influence on fundamental aspects of being human and functioning in human communities.

It is precisely this negative aspect of the theory of recognition, namely misrecognition, that is the subject of research in the field of the philosophy of technology. Modern technologies, especially artificial intelligence (AI), may rely on and perpetuate various forms of social misrecognition. Artificial intelligence can erroneously categorize and misidentify people, leading to errors in technology usage and broader forms of exclusion, and even repression of individuals incorrectly assigned to specific social groups or, in some cases, to a class not of human subjects but non-human entities (Waelen 2022). Furthermore, various technologies may manipulate people in a way that, while suggesting the satisfaction of human needs, *de facto* limits the scope of human interaction with other people (Brinck & Balkenius 2020). The above examples of applying Honneth's theory suggest, however, that the problem in the human-technology relations in the context of recognition lies in an epistemic error, either in the technology's incorrect recognition of the subject's qualities or in the human's mistaken interpretation of the technology's function. Honneth himself would not agree with the argument that recognition in the sense of "recognizing" [*erkennen*] is equivalent to normative recognition [*anerkennen*] (Honneth 2021, 23). Therefore, to use his theory for research on the human-technology relations, certain categorical shifts and extensions of his theory with additional elements are necessary.

Moreover, the conceptual strength of the struggle for recognition and its connection with the more widely known *Phenomenology of Spirit*, beyond *Jenaer Realphilosophie*, however, leads to the research on technology associating it with the later dialectics of mastery and servitude, and, somewhat contrary to Honneth's own intentions, with his theory of recognition. This unwarranted, yet intriguing, merger yields practical effects, revealing the conceptual framework that accompanies discussions on the theory of recognition in the philosophy of technology, which I will examine in the second part of the article.

III. Solidarity with Robots or… ATM

Nolen Gertz in his article "Hegel, the Struggle for Recognition, and Robots" raises the problem of the significance of the Hegelian theory of recognition for the analysis of human-technology relations – "what it means to recognize that humans engage with technologies in such a dialectical relationship" (Gertz 2018, 139). His main thesis is that this engagement with technologies is based on the experience of solidarity (Honneth 1995) because of the functional equivalence of social roles which we delegate to technologies and through which we understand ourselves. The fact that we can see ourselves in technology

arises from two assumptions – the first relates to an epistemological assumption that technologies mediate our ethical and political lives (Gertz 2018, 140), the second is connected to ontological assumptions based on relationism, which assumes that humans enter into a relationship with technology, and understanding of both what is human and what is technological is shaped through this relationship (Ihde 1990). Therefore, Gertz extends Hegel's theory of recognition to the postphenomenology of technology and as a result, he also expands Honneth's theory itself with new interpretations of its key terms.

However, to include technology in the dialectics of recognition Gertz has to make "a seemingly illicit move" – he has to focus rather on that how in the Hegelian process of recognition the first moment of confrontation between self-consciousnesses looks like. The emphasis here is on the fact that the Other has to "appear to be a consciousness" and not necessarily "to be a consciousness" (Gertz 2018, 142). This move is justified if we look at the struggle for recognition as a method to confirm subjectivity as subjectivity. This movement is also possible if we go beyond the *Jeaner Realphilosophie* and delve into the *Phenomenology of Spirit*, where the struggle for recognition constitutes a significant moment in the development of self-consciousness. In this moment, self-consciousness does not know itself and has to confirm who it is. To do this it needs another self-consciousness, but first of all, it has to recognize this Other as a self-consciousness. The moment of recognition answers rather the problem of "who we are" than "who the other is" (Gertz 2018, 155), so it is based on the projection of own desires and needs of a self-consciousness onto the Other. The abovementioned "illicit move" can be accepted as a starting point for the process of recognition but seems to be difficult to be kept in the revealing of this process. One of the key aspects of recognition is a struggle to the death, so the horizon of mortality is an important factor in discovering self-consciousness. Gertz, however, makes a transition from the problem of mortality to the problem of morality. To do this he turns to Axel Honneth and the quotation:

> The reference to the existential dimension of death seems to be completely unnecessary. For it is the mere fact of the morally decisive resistance to its interaction partner that makes the attacking subject aware that the other had come to the situation harbouring normative expectations in just the way that it had itself vis-á-vis the other. That alone, and not how the other asserts its rights, is what allows subjects to perceive each other as morally vulnerable persons and, thereby, to mutually affirm each other in their fundamental claims to integrity (Honneth 1995, 48–49).

The above quotation explains that "morally decisive resistance" is enough to be perceived as a "morally vulnerable person" demanding recognition. Gertz highlights here that some technologies might have moral vulnerability as it has been proved in the postphenomenologically oriented philosophy of technology (Ihde 1990; Verbeek 2011), but also examined by ethicists (Singer 2010). The most suggesting example here is EOD (explosives ordnance detonation) robots with whom American soldiers built a very strong bond during the war in Iraq. They treated these robots as "buddies," partners, or

members of a team, and this strong relationship between human and non-human actors has raised the problem of recognition again. Are robots recognized as equal to humans if they are rescued by soldiers in war? Should they be treated equally as humans having the same privileges?[1] How is it possible that a human being could risk a life for a machine?

Gertz answers these questions through the concept of solidarity introduced by Honneth and the alterity-relation in the postphenomenology of technology. Solidarity with robots is possible when people see that robots replace their functional role in society and because of that human beings can see this equivalence between themselves and a machine. "Solidarity then is the basis for the political demand that members of the military – whether human or robotic – be treated not as worthy of replacement, but as worthy of respect" (Gertz 2018, 151). As it is explained by Gertz, the recognition of the Other speaks more about us, and not about the Other – seeing equivalencies between a human being and a robot it is possible to build an emotional bond with a machine based on the projection of the instrumental attitudes of people to each other.

Alterity relation is a description of a situation when technology behaves as a quasi-Other or a quasi-human being. It happens when technology focuses human attention on itself and we can cooperate with the machine as if we have the assistance of a human being. A good example of this is robots, but even less sophisticated ATMs are also a technology that replaces a person from a bank counter, and up to the moment when this interaction fulfils our instrumental needs it can be accepted and satisfactory. Quasi-Other literally can be treated as a projection of the skills and behaviours of humans, which could even lead to thinking about this otherness as quasi-me (Ihde 1990, 107).

Is it not too far to say that we should respect ATMs because they are a functional replacement for a bank assistant? There are a lot of problems with the example of EOD robots used by Gertz to justify his thesis because in this case, the emotional bond with a robot could be explained differently than as an expression of solidarity – it could be a feeling of huge stress and looking for some protecting behaviours which help us to control our life circumstances, of feeling loneliness, of having respect to the weapon which generally protects soldiers, etc. If we replace this EOD robot with an ATM it is highly improbable that there would be anyone who would like to risk their life to protect an ATM feeling bond with it. That is why, in my opinion, the concept of solidarity does not help to justify the thesis of Gertz, but the other concepts introduced by him do it – they are *vulnerability* and *resistance*.

IV. On Vulnerability, Resistance, and Adequate Regard

As I have recapitulated above, the concept of vulnerability has been introduced by Honneth and has related to resistance and morality. If someone or something can express

1 Some robots were given their EOD badge, their name, the others had been held a funeral, etc.

"morally decisive resistance to its interaction partner" it simultaneously expresses the necessity to be recognized as a person. However, in this statement, there are two problems. The first one is connected with the fact, that Honneth writes here not about the *Phenomenology of Spirit* and master-servant dialectics, but about *Jenaer Realphilosophie*, where the concept of struggle and recognition was mainly understood as a rivalry between the interests of different families and their properties. Even if some of these assumptions are repeated by Hegel in his mature *Philosophy of Right* (Hegel 1991), they are not applied to the *Phenomenology of Spirit* that is why there could be no solidarity in the master-servant dialectics. Moreover, Honneth writes here about "persons," a concept from the Philosophy of Right (and law). "Person" means someone who can be represented by the law, and that is why in Honneth's gradation of recognition we see three moments: love, right, and solidarity. Solidarity, however, is built on previous natural recognition of people in their families and on legal recognition of people as citizens in society. Solidarity, in this sense, cannot be treated as possibly applied to all beings, but only persons, so, in order to justify any solidarity with robots, we should first need to justify that they are persons (Darling 2014; Gunkel 2018; Peeters et al. 2021). Since my argument in this article abstracts from solidarity and focuses on vulnerability, resistance, and adequate regard I will now proceed to analyse these concepts which, as I will demonstrate, allow to discuss the theory of recognition without resorting to the category of person.

The fundamental question to ask at this point is about the type of vulnerability we are referring to when attributing it to technology. Liberati and Nagataki (2019) point out that in the case of humans, we are talking about a specific human condition that makes humans inherently vulnerable. Following Butler, they highlight the fact that humans are mortal beings, susceptible to injury, capable of experiencing pain (as well as pleasure), which arises from the fact that we are embodied beings (Butler 2004). The body makes all humans similar to each other in their vulnerabilities, as well as in their abilities to overcome them. Coeckelbergh explicitly states that, existentially, humans are vulnerable and naked (Coeckelbergh 2013). Liberati and Nagataki, drawing on the phenomenological tradition, indicate that it is precisely due to existential vulnerability that humans are compelled to live in community with others. However, this in itself exposes individuals to the gaze of others, a moral confrontation with their faces (Lévinas 1987), which leaves humans not indifferent to the life of others. It also involves encounters with people that demand a response and, reciprocally, shape the subject's relationship to oneself (Sartre 2001). Therefore, humans are vulnerable in two general senses: existentially-physically due to the possession of a fragile and sensitive body, and socially due to the exposure to the necessity of living among other people. So, can these two senses of vulnerability in any way be applicable to technologies?

The dependence of humans on humans, individuals on community, and also other beings on human will, was perfectly captured by J.-J. Rousseau when he said:

> the first and most simple operations of the human soul, I think I can distinguish (…) prior to reason; one of them interests us deeply in our own preservation and welfare, the other inspires us with a natural aversion to seeing any other being, but especially any being like ourselves, suffer or perish (Rousseau 2002, 84).

The above quote indicates that Rousseau perceived human nature as inclined to care for itself while avoiding the suffering of others. However, it is essential to note that Rousseau extends the human capacity for empathy to "any other being," including humans. Thus, he does not assume that only humans are "beings" but rather that humans are included in the category of beings able to suffer or perish. The consequences of Rousseau's statement are significant, as we know that the socio-political theory of this thinker was crucial for German idealism from Kant to Hegel (Church 2010; Neuhouser 2000). If we consistently adopt Rousseau's idea that humans feel a "natural aversion" at the sight of the suffering and death of other beings, then the issue of extending empathy to non-human beings is not so problematic (see also Coeckelbergh 2018). It arises from human sensitivity, which is even prior to reason and rationalization of human behaviour. The question remains about what it means to suffer when we talk about non-human beings. To a lesser extent, this is a subject of controversy in the case of animals and plants, i.e., biological entities, where biology can point to the natural reactions of organisms to pain and thereby prove that despite the difficulty in communicating their suffering to humans, plants and animals undoubtedly feel pain and respond to challenging conditions in a manner analogous to humans, such as stress. However, if we return to the example of soldiers rescuing robots on the battlefield, it is less understandable to extend the capacity for suffering to artificial artifacts created by humans.

As mentioned above, Gertz suggests that this extension of empathetic feelings results from identifying with robots due to their functional equivalence to humans. As I also mentioned, in my opinion, this is not a sufficient argument, and the shift of attention from functional solidarity to vulnerability and resistance seems more justified. Of course, the vulnerability of robots is different from that of humans (Coeckelbergh 2013), but undoubtedly, "vulnerability of the other transforms the subject into an ethical being" (Liberati & Nagataki 2019, 349–340). This means that regardless of what that vulnerability is or where it comes from, it is essential for the subject, and more broadly for social relationships, as it influences the transformation of the subject into a moral agent. This argument, built on Lévinas's theory, corresponds to Honneth's argument. It is not the mortality of the Other that forms the basis for recognition but the ability to influence and evoke morally relevant action. Honneth associates this normative effect of recognition with resistance, which involves the ability to repel an attack, self-defence, or the difficulty of destroying the opponent. If we consider that robots accompanying humans in warfare are not only treated as companions but also resist easy destruction, which requires humans to use violence, they ultimately elicit moral resistance against easily abandoning such a companion even in a life-threatening situation.

In other words, the vulnerability and resistance of robots – on the one hand, the fact that they can be destroyed, but at the same time, their destruction requires humans to use violence, and thus the robot can offer material resistance – evoke certain moral effects in the subject (Cappuccio et al. 2020), regardless of whether robots "actually" feel pain. I abstract at this point from determining whether the fact that technology evokes specific emotions in humans is morally right or not (Brinck & Balkenius 2020), and I assume that the emotions themselves, once they arise, are genuine. Therefore, we evaluate not so much the truth or falsity of their ontological basis but their moral effects. These effects are significant because they reveal the unique role of the Other in shaping the subject. In the theory of recognition, we are accustomed to assuming that recognition must inherently be reciprocal (Brandom 2007). However, what if we replace the Other not only with technology but with technology that does not, in any way, even create an illusion of reciprocity? Will we still be talking about recognition and its normative consequences in that case?

To answer the abovementioned question, I will refer to the interpretation of the theory of recognition in the sense of adequate regard proposed by Arto Laitinen (Laitinen 2010; Laitinen 2011) and developed by Rosalie Waelen. Laitinen observes that the classical concept of recognition assumes that A is recognized by B, which means that A is aware of this recognition and reciprocally attributes the capability of recognizing to B. In this model, the awareness of being recognized is crucial for the emergence of actual recognition. In the second model, proposed by Laitinen, A recognizes B but does not receive recognition from B itself and is not aware of this misrecognition. "The only restriction that the adequate regard suggests for what counts as recognition in the relevant sense is that it must be responsiveness to normatively relevant features" (Laitinen 2010, 326). Laitinen observes that recognition applies not only to specific individuals (as in the reciprocity model) but also to specific qualities and features, which need not only be attributed to human beings but can also apply to artificial legal entities (institutions, states), animals and the broader natural world, as well as works of art. The fact that we recognize in these entities features deserving recognition means that they receive acknowledgment from us. The adequate regard model can be applied to technology because technology can recognize, for example, the subject's needs as essential to fulfil but does not demand recognition of its needs (such as access to electrical energy) as equivalent to humans. On the other hand, technology may also fail to recognize some entities as humans, as in the case of AI used for facial recognition (Waelen 2022), and thus engage in misrecognition towards them. However, Waelen points out that the second model of recognition allows us to indicate two important consequences.

> If we follow the adequate regard account, first of all, it does not matter if the person considers the technology to be capable of recognizing them. All that matters under this understanding of recognition is the effect the system has on the person's self-development. (…) Moreover, if an individual perceives facial recognition, or any technology for that matter, as an entity capable of giving them

respect or esteem, the failure of this technology to do so can also harm their self-development (Waelen 2022).

Regardless of whether it involves recognizing technology as equal to humans, as is the case with soldiers rescuing robots, or being identified by AI as a human, as happens with facial recognition technology, it is crucial, firstly, that such non-human beings evoke specific effects on a person's self-development, and secondly, that technology is capable of showing respect to humans, influencing their self-perception. In other words, non-human beings are moral entities because they evoke moral consequences in the subject (Cappuccio et al. 2020). Importantly, I do not resolve at this point whether non-human beings should be considered as persons in the legal sense but undoubtedly, one cannot easily ignore their co-shaping of normative relationships with humans (Laitinen 2016). Due to the social consequences of building relationships with technology, updating the theory of recognition in this context is crucial. In the subject literature, social robots are often discussed as builders of bonds with humans, capable of creating pseudo-recognition (Cappuccio et al. 2020). However, as I have shown, the theory of recognition is broader than just real or "pseudo" or "illusional" mutual relationships. To be associated with recognition, technology does not necessarily have to be in a conscious relationship with a human, and conversely, recognizing consciousness in technology is not necessary for it to influence the recognition relationship with humans (Laitinen 2010, 326).

Behaviours of people rescuing robots can be explained by virtue ethics or elements of the theory of recognition (Cappuccio et al. 2020), such as solidarity with robots (Gertz 2018). However, in such cases, the explanation boils down to indicating the moral motivations behind human actions. If we look at the theory of recognition from a technological perspective, we will notice, firstly, that technology can influence recognition, for example, the self-perception of an individual when experiencing being recognized by technology as a representative of a particular social group. This recognition can have both elevating and diminishing characteristics depending on the situation. Importantly, recognition occurs unilaterally here – technology recognizes a person as X, but the person does not necessarily have the conditions for a reciprocal reaction to such recognition (e.g., in facial recognition technologies). Secondly, technology can "get recognition" (Laitinen 2010, 326) in the eyes of a human as an entity susceptible to destruction and resistant to violence. This, again, is not solely the result of a mutual bond with a human but can be an expression of respect for the capabilities that technology offers in various situations, including the protection of human life, access to knowledge and communication, or human mental and physical development.

Therefore, the advocated, in this article, perspective of relationality in the approach to technology, considered from the standpoint of vulnerability, resistance, and adequate regard, allows for the simultaneous recognition of the normative foundation of the human-technology relationship rooted in human sensitivity and the ability to empathise even with technological artifacts (Coeckelbergh 2018). It also highlights the moral consequences of

unilateral recognition of humans by technology and of technology by humans.

V. Conclusions

In this article, I have demonstrated that the theory of recognition, as a normative theory based on building social relations between humans and the "Other," does not necessarily have to be reciprocal in principle to evoke moral consequences. The question I posed in this article is whether technology can take the place of the "Other" in the recognition relation and whether such a relation would still be considered recognition. In response, I first reconstructed Honneth's theory and its limitations in studying interpersonal relations, revealing that it is not straightforward to extend this theory to the study of technology. However, if one were to narrow the understanding of the "Other" and assume that it does not have to be understood as self-awareness, the consequences of such a categorical shift yield interesting research results.

Gertz attempted to diagnose the human-technology relationship in the context of recognition theory based on Hegel, Honneth, and Ihde. However, his key argument was built on the concept of solidarity with robots performing functionally equivalent social roles to humans. In this argument, humans effectively identify with a social role rather than the robot itself. Therefore, following the paths suggested by Gertz, I proposed delving into the concepts of vulnerability and resistance. These concepts allow us to indicate that the human ability to empathise with technological artifacts is not an isolated phenomenon but rather a human capacity to extend sensitivity to non-human beings.

Vulnerability and resistance in technology are clearly different from those in humans. However, the fact that humans are capable of recognizing in technology not only a partner for interaction but also inherent value, represents an expansion of previous understandings of the human-technology relationship. Furthermore, following Liberati and Nagataki, I emphasized that the vulnerability of the other influences the shaping of the subject, meaning that how we treat other entities has morally significant implications for ourselves. The fact that technology can be the object of human concern raises the question of what type of recognition is involved in this relationship, and whether it can be labelled as recognition at all.

Following Laitinen and Waelen, I point out that recognition does not necessarily always entail a situation of reciprocity, and for technology studies, the key is the effect it produces on human behaviour in relation to the specific technology. Such a relationship, although non-reciprocal, brings about certain moral outcomes. Firstly, technology can recognize a person as X, which may be perceived as a positive dimension of recognition or as a form of misrecognition. Secondly, a person may recognize technology as X, leading to a desire to protect it and engage in practices of care, or adopting a neutral-instrumental attitude towards technology. Here, too, we can, in a sense, inquire whether some forms of relationships built with technology are based on proper recognition or misrecognition.

Until now, researchers have attempted to label the substitution of technology in place of the "Other" as an "illicit move" (Gertz 2018) or "pseudo-recognition" (Cappuccio et al. 2020). However, for further research, it is crucial to note that an increasing number of relationships built by humans have the character of relationships with or through technology. Therefore, it is not sensibly possible to avoid questioning recognition because, regardless of how broadly we intend to apply this concept (whether only to interpersonal relationships or also to relationships between humans and technology), it is necessary to revitalize the assumptions of this theory and explain how it can operate in the world of modern technologies capable of shaping satisfying relationships with humans and influencing their behaviour.

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