HUMAN AFFAIRS 27, 155–165, 2017 DOI: 10.1515/humaff-2017-0014

(MILITARY) HUMAN ENHANCEMENT – ETHICAL ASPECTS[1]

LUKÁŠ ŠVAŇA

Abstract: The article deals with the philosophical and ethical implications of transhumanism and human enhancement techniques. It considers how enhancement and therapy are two different types of biomedical intervention. It then looks at the implementation of these ideas in the military sector. It analyses various standpoints and views on transhumanism, the benefits and risks of using newly acquired scientific knowledge to improve and alter naturally deficient human nature. The need for ethical reflection and argumentation is emphasized; new scientific discoveries can dramatically change our experience of the world around us and may present a huge risk to mankind if left unchecked and not critically discussed. The article reflects on the dangers and risks of human enhancement and its possible consequences on the battlefield as well as the broader contexts and implications. The article also considers which criteria would be suitable to ensure beneficial and less controversial enhancements are carefully selected and to enable these to be distinguished from more dangerous practices that change the human body and/or mind. The aim is to consider and evaluate the possible benefits (positive consequences) and risks (negative consequences) of using enhancements for military purposes and to identify possible criteria for their justification and/or rejection.

Key words: transhumanism; human enhancement; military human enhancement; super-soldiers; ethics.

Introduction

Scientific and technological progress dramatically change our experiences of the world by dramatically reshaping the world we live in. Mankind's efforts to overcome biological determination have always been strong motivation for scientific research and projects dealing with *human enhancement*. Ever since mankind came into existence exploring the unknown has always been an inherent pursuit. Scientific and technological products involving new knowledge, innovation, and invention generally make people's lives more effective, less dynamic and more comfortable. It is an undeniable fact that scientific and technological progress affects our understanding of the human experience of the world itself, which can be transformed and adjusted to our needs. "We encounter a reality that has not yet been part of our previous reality" (Navrátilová, 2014, p. 134). Humans are "adventurers"

[1] This article is a part of the VEGA 1/0629/15 *Ethics of Social Consequences in Context of Contemporary Ethical Theories* project.

in a sense, as they always seek new adventures that can excite and astonish. This rapid but often ill-judged unveiling of the world's reality leads to a mutual unawareness of the moral obligations and dangers of such uncontrolled eagerness for progress. Viera Bilasová points out that responsibility in science lies not only with researchers and their adherence to norms and codes of ethics, but it is also about their character, conscience and morality as well as collective responsibility, and that this can be interpreted on two levels. Firstly, as institutionalized responsibility for controlling the consequences, mechanisms and practices of scientific activity and secondly, as a general consensus (Bilasová, 2013, p. 112). The emphasis must be on the ever-changing character of the world around us. For the ability of technology to better human life is critically dependent on a parallel moral progress in man (Fukuyama, 2002). Human enhancement is not only a means of "enhancing" individuals' lives, but it also opens up a wide array of questions concerning direct interference in human nature and the ethical implications of this.

The present paper deals with current meaning of *human enhancement* and its possible interpretations and uses in the military sector. It analyses the ethical aspects, questions and dilemmas that arise when dealing with recent scientific and technological phenomena. Katarína Komenská suggests that two main questions can be identified that should be considered when evaluating and reflecting on research and scientific activities: firstly, how will the research benefit people and the environment, and secondly, what potential risks and suffering might the research subjects and environment be exposed to (Komenská, 2015, p. 173). I will try to consider both these questions because the most recent scientific research (e.g. technologies that allow us to control and interfere with people's physical and psychological characteristics) inevitably has to be dealt with on an ethical level. These new problems and questions have to be answered by philosophers and ethicists. Their response and possible justification or rejection will directly influence the way people approach these issues. The public perception of these phenomena is important as it affects future moral standards.

Transhumanism, human enhancement and therapy

The idea of human enhancement is not new at all.

> While making smarter-than-human machines is a big focus for many on the transhumanist edge, most have not given up on upgrading our own cognitive capacities. The idea that there are substances – drugs or nutrients – that increase human intelligence goes back at least to the 1960s, when psychopharmacological expert Dr. Nathan Kline predicted that big IQ drugs were right around the corner (Sirius & Cornell, 2015, p. 45).

Here one must add that the use of substances to "enhance" humans is only one of the many available types of human enhancement. Transhumanism is a philosophical (and scientific) concept that is concerned with questions relating to the modification of the human organism through the use of new technologies.[2] A leading academic of the contemporary transhumanist movement, Nick Bostrom defines transhumanism as

[2] The term was originally coined by Julian Huxley as another word for what he called "evolutionary humanism", namely, a deliberate effort by humankind to "transcend itself – not just sporadically ...

> the intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities (Bostrom, 2003, p. 4).

According to Emil Višňovský, contemporary transhumanism is not anti-humanism in the sense that it means the end of man. On the contrary it is super-humanism in the sense that it is about improving humans beyond their natural or naturalistic (biological) limits and capabilities (Višňovský, 2015, p. 343). Zuzana Sitarčíková states that the philosophical concept of transhumanism accepts the ontological and anthropological aspects of humanism e.g. reverence of reason, rationality, science and technology, interest in man and his potential to cognize and improve the outer world, human conditions and himself (Sitarčíková, 2012, p. 17-18).[3] The initial idea behind transhumanism is that people are deficient beings because they are mortal, they age, and their abilities are limited by many other biological predeterminants.

It would not have been possible to achieve or fight for all the good in our history without the existence of evil. I believe that the very existence of evil in the world is dependent on the assumption that human nature is deficient in character.[4]

> Our good characteristics are intimately connected to our bad ones: If we weren't violent and aggressive, we wouldn't be able to defend ourselves; if we didn't have feelings of exclusivity, we wouldn't be loyal to those close to us; if we never felt jealousy, we would also never feel love. Even our mortality plays a critical function in allowing our species to survive and adapt (Fukuyama, 2004, p. 1).

Simply put, the argument is that the deficient nature of human beings is a precondition for the existence of evil and without the existence of evil, we would not be able to recognize and judge good. In this context, *deficiency* means cognitive imperfection i.e. taking irrational decisions and actions, often emotionally and as instinctively conditioned to do. Obviously that does not mean that there is a physical connection with the existence of evil. I suppose that transhumanism's goal is to eliminate the last remnants of our animality and thus overcome obstacles to perfection.

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but in its entirety, as humanity. ... Man remaining man, but transcending himself, by realizing new possibilities of and for his human nature" (Huxley, 1957, p. 17).

[3] In this context, Max More suggests that there are two kinds of transhumanism: firstly, *trans-humanism* and secondly *transhuman-ism*. Trans-humanism involves adopting the principles of humanism and the idea of rational progress in science and technology, while transhuman-ism is a radically new approach and an ideology which has a new conception of human nature and altering it (More, 2013, p. 4). By contrast Eva Žáčková makes a clear distinction between *transhumanism* and *posthumanism*, terms she thinks are often confused with one another. While *transhumanism* continues the tradition of enlightenment humanism, *posthumanism* is a counterpart for categories of humanism, including the category of human being (Žáčková, 2015, p. 36).

[4] Peter Sýkora has discussed one of the arguments raised against transhumanism, human enhancement and the attempt to alter human nature. It is concerned with protecting human nature when viewed as a value in itself e.g. as a natural resource, as the heritage of mankind (Sýkora, 2015, p. 339).

If transhumanism advocates the idea of an "improved" and altered human nature, in my opinion it also supports the idea of a world with no evil, though indirectly. If we are to be ideal beings (on the cognitive level), then it seems irrelevant to speak about morality, good, evil, values or any other ethical categories. I believe that there are certain biological constraints and deficiencies that should be preserved despite potentially being associated with a considerable amount of killing, suffering and pain throughout the history of mankind. In a sense, I adopt Fukuyama's claim in his *The End of History and the Last Man*, when he writes that human life involves a curious paradox: it seems to require injustice, for the struggle against injustice is what calls forth what is highest in man (Fukuyama, 2002, p. 295).[5] Analogically, the existence of evil might bring out something good in man. Eliminating the preconditions for evil might paradoxically cause the good in people to be eliminated.[6]

"We aim to use technology and biotechnology to overcome our human limitations as embodied beings. We aim at the self-overcoming of time, infirmity, death, and all the cruel indignities nature randomly piles upon us" (Lanigan, 2008, p. 165). It seems as if mankind is trying to give new purpose to its life, but the problem is that there was no such purpose when life itself was created.[7] The power ascribed to science and technology might imperil the whole of mankind which has become used to relying on its limitless capabilities. Fukuyama warns against transhumanism and calls it "the most dangerous idea in the world" (Fukuyama, 2004, pp. 42-43). Applying its ideas could be perilous, especially if used in the military sector to kill, slaughter and cause harm more effectively without regret, mercy or any other feelings of compassion (e.g. through the use of cognitively or physically enhanced warfighters).

There has been a debate on the distinction between *enhancement* and *therapy*. For Michael Hauskeller distinguishing between therapy and enhancement and their ethical relevance was at one time one of the most contentious issues. He later claimed that the debate had moved on (Hauskeller, 2016, p. 122). However, I do not believe that the distinction is clear, as identify enhancement could be misunderstood as a form of therapy.[8] This means that the ethical implications and conclusions will vary according to the distinction used.

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[5] His idea of the universality of history is based on the assumption that human nature is permanent—and this was true at the end of the 20th century—but science has not yet reached its full potential. Therefore, history is not ending because science has not reached its limits yet (Budil, 2007, p. 30).

[6] Vasil Gluchman states that evil is an integral part and natural product of human existence. This is because mankind's moral development would be impossible if the conflict between good and evil is not solved permanently. It is the struggle to suppress evil that directs us towards moral development i.e. the realisation of humanity, moral law and human dignity (Gluchman, 1996, p. 23).

[7] Thanks to science and technology (biotechnology, nanotechnology, robotics, etc.) humans will be able to live longer, healthier, happier lives with considerably altered physical and psychological capabilities. Therefore, nature will presumably lose its dominant position as the omnipotent entity and mechanism responsible for the creation of all forms of life and for determining their biological characteristics.

[8] Hauskeller states that as far as the public understanding of these terms is concerned, the erstwhile fight to uphold the difference has clearly been lost. There are various strategies e.g. blurring the difference by citing real-life cases that we find difficult to subsume under either of the two categories, acknowledging the difference but denying its ethical relevance and/or maintaining that enhancement is nothing but (an extension or a kind of) therapy (Hauskeller, 2016, p. 123).

Kenneth Mossman claims that

> because 'therapy' and 'enhancement' may be difficult to separate, the justification and acceptability of enhancement cannot be easily uncoupled from concepts of health and therapy. When the boundary between enhancement and therapy is unclear, as in many behavioural disorders, opportunities for enhancements expand (Mossman, 2011, p. 230).

When it comes to the moral imperative of therapy and enhancement, I agree with the distinction and implications proposed by Jan Payne, David Černý and Adam Doležal. They state that therapy has a higher moral status because of its obligatory force and imperiousness, while enhancement cannot be a moral imperative in the way therapy is (Payne, Černý, & Doležal, 2015, p. 20). Enhancement is a type of medical treatment where the goal is extended to include improving a person's well-being rather than simply treating the consequences of disease. Therapy aims to cure specific diseases or injuries, while enhancement aims to improve the organism beyond its natural functionality and healthy state.[9] Nonetheless, it is entirely possible for the same technique to be therapy in one situation and enhancement in another. This makes the distinction between them harder to come by and more obscure.[10]

What are the implications of such a distinction in military contexts? In order to better understand the nuances of enhancement used for military purposes, it must be distinguished from therapeutic practices. If a soldier is injured and is given drugs to inhibit pain (painkillers), then it is therapy. If we use *smart drugs*[11] to alter a soldier's ability to feel pain, we radically modify his characteristics as a human being. And if a soldier's ability to feel pain is eliminated, do the same ethical principles apply? Do the principles of humanity and human dignity apply to someone who is no longer considered to be human as originally understood? The principles of humanity and human dignity are connected to our ontological status as human beings. Do enhanced human beings deserve to be treated as normal human beings or should we adopt and apply considerably different optics? Should an enhanced soldier be prioritised (at the expense of a non-enhanced soldier) when giving first aid? By what argument is such treatment justifiable? Does assigning an economic value to a person's life decrease its ethical value?[12] Human life deserves respect and dignity. Enhancements endanger the very existence of these essential values of human life. I will now focus on the potential risks concerning human enhancement used for military purposes.

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[9] There are many more problematic areas in distinguishing between the two e.g. the definition of what health is or unclear classifications of interventions that eliminate/reduce the probability of disease, etc., but for the purposes of this article, it is sufficient to mention the difference between the two on a very general level.

[10] Jan Payne, David Černý and Adam Doležal cite the use of human growth hormone as an example. This is a therapy when used to treat an innate lack of growth hormone, but it is enhancement when used to make a person taller than average for other than corrective purposes (Payne, Černý, & Doležal, 2015, p. 18).

[11] There are currently "smart drugs" that help enhance cognitive performance, by focusing attention, improving memory, and enhancing creativity (Stix, 2009).

[12] The life of an enhanced soldier is seen as a kind of investment since the use of enhancing technologies is financially costly. In addition this reduces the time usually spent training a soldier. Enhancing technologies may be effective, but need not lead to more ethical behavior and/or actions.

Human enhancement for military purposes

Human enhancement when used to enhance soldiers' abilities to kill more effectively and with less collateral damage (often associated with military operations) might be a brilliant concept in a world of war, killing and suffering. "There has been considerable recent debate regarding the status of novel military technologies and how the use of these technologies meets the standards of the just war tradition" (Evans, 2011, p. 105). An enhanced soldier might be, under specific circumstances, of benefit in a war, not only because he can endure greater suffering, pain or exhaustion for longer. The idea of enhancing soldiers is neither inherently wrong nor right (immoral or moral, evil or bad). It is the consequences of enhancement that matter the most. Those who support the idea consider improving and strengthening the human element in combat to be crucial. According to Matthew Beard, Jai Galliott and Sandra Lynch

> not every advantage offered by enhancement is ethical in nature. This is not to say that these advantages are unethical, rather it is to suggest that the advantages they offer are functional, strategic, pragmatic or otherwise not specifically concerned with whether an action is inherently good or bad (Beard, Galliott, & Lynch, 2016, p. 6).

I believe that there are certain types of modifications and enhancement used for military purposes that do not pose any ethical dilemmas (e.g. those designed purely to eliminate errors and misconduct). However, there are multiple types of enhancement that have ethical implications. Dave Shunk mentions side effects, long-term effects on mental, emotional and physical health, (ir)reversibility of enhancements, responsibility issues, etc. (Shunk, 2015, pp. 95-96).

One of the main arguments for having modified soldiers on the battlefield is that it decreases the number of soldiers needed. Reducing the number of lives lost in conflict, battle or any other military action cannot be wrong. If we are not able to eliminate war from this world, we should take a step back. We must try to reduce casualties and the loss of human life. Technology and science make it possible for us to reduce these numbers to a (possibly justifiable) minimum and there are many ways (already practiced) of doing so, e.g. the use of exoskeleton suits, smart drugs, genetic engineering, etc. These technologies are being developed to give soldier abilities and skills that make them superior, more-than-human. Such "soldiers" become stronger, more durable, more flexible, and more effective, require less sleep, can resist stress and have many other exclusive characteristics.

From the consequentialist's perspective, the idea of reducing casualties in war, especially non-combatants who die as part of collateral damage is very appealing.[13] Future super-soldiers might be able to save an enormous number of lives and reduce the extent of damage and destruction. This is a great benefit and it cannot be overlooked. On the other hand, these super-soldiers might easily become more effective killing machines and weapons of mass destruction. The battlefield of the future will definitely involve fewer people. Despite the smaller number of combatants needed, the extent of destruction will eventually remain the

[13] For more information on the appropriateness of using the term *non-combatants*, see *The principle of non-combatant immunity - interpretations, challenges, suggestions* (Švaňa, 2015a).

same, as the new super-soldiers will become capable of causing harm and devastation and of killing more efficiently and with fewer requirements.[14]

I am not concerned with whether enhancement or transhumanism is generally good or evil, moral or immoral, or right or wrong. A proper and functional ethical reflection must always look at the specific details of the context of enhancement and its use. Ryan Tonkens claims that: "even if we assume that there is nothing *inherently* morally unacceptable about (safe) human enhancements, the morality of specific modes of enhancement depends on the context in which they are used" (Tonkens, 2015, p. 53). His main argument is that "soldier enhancements that are inimical to or inconsistent with the long-term goal of peace are morally problematic and enhancements that only contribute to militarist ends are morally suspect" (Tonkens, 2015, p. 55). In my opinion, Tonkens' condition applies to all military human enhancement. It cannot be aimed at achieving military goals only. The focus must be on improving mankind's conditions so war will not be necessary. Paradoxically, it is war science and technology at its maximum current level that will either cause devastation or bring peace to mankind. Looking at the nature of the situation as a criterion for evaluating particular types of enhancements and their application seems like a good start.

According to Patrick Lin, Maxwell Mehlman, and Keith Abney, a number of variables affect the analysis of the ethical and legal issues raised by military enhancement. The first is perspective, while the second is risk or other adverse consequences associated with their use. The third variable is the legal status of the enhancement and the fourth is the type of characteristics or set of characteristics that are to be enhanced (Lin, Mehlman, & Abney, 2013, pp. 19-21). The acceptability of military human enhancement is influenced by the way in which we balance its risks and benefits. According to Sýkora mankind has been enhancing itself since the beginning of living memory, but it is now on the brink of radical change—this may affect the biological essence of man. Later on he asks: what criteria should be used (in the context of cognitive enhancement) for us to be able to claim what is ethically acceptable and what not? (Sýkora & Matějková, 2011).

Despite all the benefits that human enhancement could bring in the future and how radically it could improve human nature and its traits, it must be placed under continuous supervision and within specific limits. It could have tremendous benefits in the military sector e.g. the above mentioned decrease in the number of soldiers on the battlefield, a fall in the number of non-combatant deaths, soldiers with better senses, skills and capabilities, (presumably) fewer casualties and less collateral damage, shorter conflicts and less use of conventional military technologies to end a war/conflict, etc. On the other hand, introducing human enhancement into the military sector has certain drawbacks e.g. the ambiguous nature of enhanced soldiers—human or machine, misconduct of super-soldiers, taking responsibility, the side effects of human enhancement techniques, etc.

The traditional concept of the just war theory could be useful if adapted to take account of the use of newly emerged technologies to wage war.[15] For example, if we were to adopt

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[14] It is highly likely that by 2050 super-humans will already be present on the battlefield because the various components this requires already exist and are undergoing rapid evolution (Kott et al., 2015, p. 19).

[15] For information on how the just war theory could be modified for the 21st century, see my work *War, terrorism, justice and the ethics of social consequences* (Švaňa, 2015b).

its principle of proportionality, that would mean that a legitimate military objective could only be achieved if the risks were proportional to the acquired benefits (as the most general definition). And if the military objectives can be achieved without using enhanced soldiers, then their "use" should not be permitted (Mehlman, 2015, p. 413). Necessity is constrained by proportionality. But "the military feels a moral imperative to do whatever is necessary to make sure that each soldier comes home alive and well. If it takes genetic, cybernetic or nanotechnological modifications to do that, so be it. After all, how could we deny our soldiers the greatest chance of survival?" (Lilley, 2013, p. 68). This is a frivolous statement, as it does not take the lives of enemy soldiers or non-combatants into account.

In the future, it is possible that an enhanced soldier will not make any mistakes and will operate effectively with a minimum rate of casualties, but this assumption is made only on the basis that we believe super-soldiers will be machine-like. But being more than human may mean that they only calculate the benefits and losses and maximize the benefits to the highest possible quantity. This would mean the battleground would change into an encounter between machine-like soldiers using their superpowers and causing tremendous destruction all around just to achieve military goals. As a criterion of the traditional concept of the just war theory proportionality is helpful in terms of distinguishing good conduct from misconduct in war and conflict. Nevertheless, it cannot be used to answer the crucial question of which types of military human enhancement should be permitted and are justified and which should not. Some just involve making minor alterations to and enhancing human characteristics, while others may considerably transform human nature i.e. they may present a greater risk to the values, principles and norms exclusively derived from and connected to human beings. "In changing human biology, we also may be changing the assumptions behind existing laws of war and even human ethics. If so, we would need to reexamine the foundations of our social and political institutions, if prevailing norms can't stretch to cover new technologies" (Lin, 2012). Adherence to basic moral values of humanity, human dignity, moral law, justice, etc. can only be a plausible criterion if the essence of being human is preserved. "But moral values as such should not be limited to humans exclusively" (Jousset-Couturier, 2016, p. 14). If we assign moral values to nature, animals and/or other entities, we must assign them to enhanced humans as well. They just require a relatively new theoretical framework and public consent.

Conclusion

The article proposed certain specific criteria that should be applied when assessing the beneficial or harmful character of military human enhancement. The nature of the situation and the human enhancement must be taken into account as there are many variables that influence the way we perceive these delicate issues. Proportionality, a traditional principle in the just war theory is helpful as it outweighs the risks and benefits, good and evil. It needs to be emphasized that the criteria proposed are just two elements in a larger set of criteria that would enable us to properly analyse military human enhancement. However, these two criteria are not absolute and their application is strictly bound to the ever-changing character of human enhancement technologies. It is therefore subject to change.

A crucial problem with military human enhancement generally is that most types could

have consequences that we are still not aware of. I believe it would be possible to minimize the unpredictability by adopting the ideas of transhumanism as presented by More i.e. transhumanism that adopts the principles of humanism, human dignity, liberty and balances them with the rational, guided, supervised and responsible use of science and technology and their capabilities to enhance human life. Such an interpretation might prove worthwhile especially in the field of military ethics as one of its ethical commitments requires personnel to be morally responsible moral agents. But if we "enhance" soldiers so they feel no pain, remorse, guilt, etc., they would lose all these constraints, possibly viewed as deficiencies, and thus change into a radically different type of human being. Indeed, "the developments that have been made to weapons and soldiers throughout history have significantly changed the global experience of war completely and will likely continue to morph that experience" (Sweeney, 2013, p. 9). Military enhancement cannot be *a priori* ruled out as "the most dangerous idea in the world", but it must have a legitimate and ethical purpose, the benefits must outweigh the possible risks and a person's dignity has to be maintained.

Throughout its history, the human race has always found the means to survive, adapt to the changing environment and still remain human at the level of genetic predisposition, in terms of its virtues, vices, and the values it declares and represents. These values (humanity, human dignity, liberty, etc.) stem from a conception that human beings are an imperfect product of nature. The idea of human enhancement is tempting, but as with everything it will still have many side effects that we cannot be aware of at the moment. These effects could be extremely disruptive and so the ethical connotations have to be considered. I believe that a set of crucial moral constraints has to be applied to any research in science and technology as their ambiguity in terms of bringing risk and/or benefits to mankind is undeniable. One area of consideration is the military sector where the application of newly discovered inventions can have serious negative consequences. We should start with ethical reflection as a way of overcoming the burdens and obstacles on our path through history, as we continually need to affirm and expand our humanity. If our humanity is determined to evolve, then we must create and subsequently apply new moral standards compatible with the new reality.

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Institute of Ethics and Bioethics,
Faculty of Arts,
University of Prešov,
17. Novembra 1
08078 Prešov,
Slovakia
Email: lukas.svana@unipo.sk