

Research Article

Regulating Human Enhancement Technologies: How to Escape the Problem of Anarchy?

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Abstract: This article provides a framework for the global regulation of human enhancement technologies. I argue that competition between states in the international sphere blocks the emergence of such a regulatory framework. The reason is international anarchy or the absence of powers that stand above the nation-state. After considering different ways to overcome anarchy—namely international institutions, more amenable relations between democracies and international norms—I rule them out as insufficient. Then, I argue that only a world state can effectively regulate human enhancement technologies. A world state is not a new idea and was already proposed as an answer to, for example, the threat of nuclear annihilation. However, regulating human enhancements entails an even larger necessity to overcome nationalism.

Keywords: anarchy; global transformation; world state; human enhancement regulation; international competition

1. Introduction

A central question in the debate around bioengineering is how much ethical arguments actually matter. The topic has sparked interest from a variety of authors and the questions attached to it excite many of us. How long should humans live? Is it permissible to increase intelligence or decrease aggression? However, some authors such as Gardner (1995) or Baylis and Robert (2004) have claimed that the development and adoption of human enhancement technologies is inevitable, because competition between persons or states will override ethical objections. In this paper, I outline ways to counter this. My concern is mostly with competition between states and thus with the structure of international politics. While competition between persons may certainly motivate some to use enhancement technologies, I believe that state-rivalry exercises the strongest force. As a result, if arguments should matter beyond academic debates, philosophers interested in regulation of human enhancement by ethical principles must find ways to overcome international competition.

Since the focus is international politics, the main technologies investigated here are those that provide benefits to states and thus fuel competition. These may include a more intelligent or efficient workforce

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or a more resilient military. More precisely, I speak of *human enhancement* when referring to any kind of technology that improves human beings in a non-therapeutic¹ way, be it through genetic, pharmacological or other inventions. These may be *physical* (height, muscle mass, endurance or lifespan), *intellectual* (memory, cognitive ability or imagination), *psychological* (sociability or confidence) and *moral* (kindness or empathy) (Baylis and Robert 2004). While “enhancement” can refer to anything that improves human beings—eating healthy or exercising are forms of human enhancement—this is not the kind central to debates. Rather, it is enhancements that boost capabilities beyond the statistically normal range or the level normal of the species that are most interesting (Lin and Allhoff 2008). Therefore, I limit my discussion to enhancements that are both beneficial and those that boost individuals beyond the normal for the species.

I will proceed as follows. First, I provide an overview of the frontiers of the debate. Second, I show that ethical arguments will carry little weight in issues that strongly affect the distribution of power between states. The reason is international anarchy or the absence of powers above the nation-state. Third, I discuss ways to overcome anarchy—namely institutions, norms and an international system composed solely of democracies—but rule them out as insufficient. This leaves, in my view, only a global state as viable option.

2. Why Human Enhancement Might Be Inevitable

Many enhancements entail ethical debates and a large literature outlines their benefits, dangers and implications for our current moral sentiments (for example Lilley 2008, Lin and Allhoff 2008, Baum and Wilson 2013, Giubilini and Sanyal 2015, Almeida and Diogo 2019). The literature also contains multiple objections to the idea of human enhancement. Longer human lives may increase the world-population, which puts pressure on natural resources, unequal access to technology may intensify social tensions and the application of certain enhancements may have unexpected negative consequences for their users (Almeida and Diogo 2019). In addition, enhancements to decrease aggression may see their users complacent in the face of injustice (Giubilini and Sanyal 2015) and the desire to control children’s genetic characteristics can reduce them

¹ The distinction between enhancement and therapy can be questioned. For instance, if a human with mental powers far beyond what is normal for humans loses most of it due to an accident, would repairing her former powers be considered therapy or enhancement? (Lin and Allhoff 2008). However, the issue is of little importance to this article.

to vehicles for their parent's happiness (Sandel 2005).² Human enhancement could furthermore increase individual responsibility to levels deemed irrational today, since we would become targets of praise and blame for characteristics that are now chosen by luck. Then, instead of seeing our natural talents as the outcome of chance—meaning that the less gifted are not at fault—the successful might view themselves as fully responsible for their success and under no obligation to share their good fortunes (Sandel 2004).

Be that as it may, this paper does not defend or attack the idea of human enhancement itself. The focus is rather on what circumstances we have to establish prior to the debate, in order to have it impact real-life decisions. I assume that this debate is necessary and that we want regulation for at least some human enhancement technologies. Precise proposals include, for instance, Sandel (2005), who suggests that we allow stem cell cloning and other forms of embryo research to proceed in a regulated way, so that “designer babies” are prohibited but stem cell research to cure diseases is not. A free-market system for human enhancements will, in my view, lead to at least some morally abhorrent consequences³, a point I will further elaborate later.

In addition, we should not start the debate too late, but anticipate problems before they arise. It should also not be restricted to futures that can be anticipated with certainty, since this approach contains the danger of missing important developments (Ferrari, Coenen and Grunwald 2012). I will not dwell on what exactly we might want banned or regulated, but discuss what we must achieve before we can discuss the answer to this question.

My approach is similar to Gardner (1995), who argues that ethical objections to human enhancement may matter less than we might like. Even if we banned research on human enhancement, possible routes to improve humans may be discovered by accident—for example when scientists develop a new treatment for migraines that also causes a sharper memory. Banning their application may also not work, because it is unlikely that forbidding a technology that could seriously improve human welfare will never be challenged. If it is allowed, but everyone has the option to refuse, most would choose to enhance. Children who are not enhanced could expect dimmer futures than those who are and parents will not want to see their offspring left behind by peers. Likewise, workers that refuse enhancement will have problems finding employment. Beyond

² To counter this last point, advocates of human enhancement often favor only capacities that are compatible with any future life plan—for example memory, intelligence or resistance to disease (Giubilini and Sanyal 2015).

³ Many supporters of human enhancement agree here (Lilley 2008, pp. 11f.).

individual societies, states also compete with each other, since the application of human enhancement can improve their workforces and give them a competitive edge in a globalized world. If we want to ban or regulate human enhancement technologies, Gardner foresees that regulators must come up with increasingly creative methods to spot those trying to evade it. Singer (2016, pp. 104f.) comes to a similar conclusion and argues that parents will select genes for their children to give them the best start in life. Individuals in highly competitive situations use most of the advantages disposable to them already, such as in the Tour de France, where “[so] many leading cyclists have tested positive for drugs, or have admitted, from the safety of retirement, that they used them, that one can plausibly doubt that it is possible to be competitive in this event otherwise.” (Singer 2016, p. 321).

Baylis and Robert (2004) echo that no matter the objections, progress in enhancement-technologies is inevitable.⁴ They propose that we ensure that these technologies are used in the right way—in other words, we should regulate them. Many objections to enhancements actually, they argue, do not justify an outright ban, but only caution—for example, the unforeseen consequences of enhancement only highlight the importance of caution during research and application. But how should we design such a regulation? Is Gardner’s constant cat-and-mouse game between regulators and those trying to avoid them the only way?

In my view, we will not be able to design any kind of meaningful regulation in the current international system. Regulation may be possible inside societies, because the average citizen has few resources to circumvent a sophisticated regulatory machine, but societies are not isolated from each other. Rather, they exist alongside and compete with others (maybe for power or wealth). In this situation, national regulators have every incentive to secretly allow the enhancement of their own population, since it provides them with a competitive edge. Because of this, we might want a global regulatory body, but such an institution will probably not receive the necessary competences from national leaders. Behind the incentives for national regulators and the impossibility of a global institution lies the same cause: international anarchy.

3. Human Enhancement in Anarchy

That states live in anarchy means that there is no power above the nation, no “world-police”. Of course, international institutions exist, but

⁴ Lilley (2008, chap. 5) also provides an overview on debates around the inevitability of progress towards transhumanism.

they do not possess the material resources to, for example, defend a state that is attacked by another. In other words, nobody can stop states from attacking each other or punish them if they break an agreement. Thus, new scientific and technological knowledge emerges in an environment marked by competition (Weiss 2005).

There are various theoretical lenses to investigate the interactions between states in anarchy. Walt (1998) categorizes them into realist, liberal and radical traditions. Realism⁵ emphasizes the constant struggle for power between states, resulting in the never-ending possibility of war. Second, Liberalism shows that the struggle for power can be mitigated, for example through more intense trade or the spread of democracy. Lastly radical approaches not only want to mitigate its effects, but overcome anarchy itself. (Of course, this is not exhaustive and some aspects cannot be tied to one tradition, such as the effect of domestic politics on international affairs). Still, all approaches acknowledge the existence of anarchy—there is, after all, little sense in denying it—but they have different views on how much we can shape it.

For our present discussion, it is of central importance that we overcome or mitigate anarchy. To illuminate the reasons for this, let us look at anarchy more closely. First of all, in anarchy, it is usually wise to mistrust others and consider one's own safety as the primary goal. Waltz (1959) argued extensively that anarchy forces all states to engage in power politics, no matter how democratic or pacifist they are and Herz (1950) analyzed this “security dilemma” in probably the most detail. In general, the security dilemma is a prisoner's-dilemma, where states (or domestic actors with transnational interests) may cooperate, but because nobody can ensure they honor the agreement, those who cooperate may easily be cheated. If one side disarms its military, the other suddenly has a strong incentive to defect and attack the defenseless nation—with nobody being able to stop it. Both sides may even desire a peaceful solution, but Fearon (1995) argues that no side can credibly commit to uphold a deal that would alter the balance of power between them. For example, the 1939 Winter War between the Soviet Union and Finland happened when the latter refused to cede a few islands off its coast to the Soviet Union, because it saw them as vital for its defense. The islands offered a strategic advantage to the Soviet Union, which could not believably promise that it would not use this advantage against Finland at a later date. Transnational actors, Herz (1950) continues, face the same problem. Pacifist groups from two warring states may promise each other to sabotage the war-efforts of their own nation, however, how can one side

⁵ Donnelly (2000) provides a more exhaustive overview of Realism.

be sure that the other honors the deal and if they do, trust that they execute their plan successfully? For our topic, consider this scenario:

You are a member of a group of ethicists in country A. Recently, a technology that can alter human levels of strength, intelligence and empathy has been invented and your national leader considers adapting the nation's soldiers to become more durable, but also to switch off their empathy, disgust and other feelings that might hinder them in combat. Your group sees this as morally reprehensible and wants to stop the application of the technology, by force if necessary. However, your neighbouring state B, which has intentions to attack your nation, also considers using this technology. A group of ethicists similar to yours, which is located in state B, promises to prevent this. Unfortunately, you do not know them closely and cannot estimate their chance of success.

Let us assume that the ethicists of B are serious about their job and will honor the deal (Although who knows? Maybe they are radical Utilitarians and calculated that destroying your country increases net happiness). Even if we are sure that they will try to execute their plan, who guarantees that they succeed? If they are captured and their plan foiled while we succeed with ours, we handed over our country to the soldiers of B. Should we take such a gamble?

This is a rather drastic scenario and many enhancements may not lead to such life-or-death questions. However, we could also imagine a case where, for instance, A and B must only fear that the other side out-competes them on the global market, causing unemployment to rise in the nation that refuses to enhance its workforce. While the stakes are lower here, the logic remains the same: those who refuse to enhance can never know that their counterpart will refuse too, even if they promise to. This must not apply in all cases, since not every enhancement will provide benefits large enough that missing out on them threatens a state's relative power or wealth, but it will apply to some at least.

So far I have assumed that competition has a negative effect and leads to the adoption of technologies that are ethically questionable. But could competition not entail a positive effect? For instance, does the desire of parents to provide the best for their children not ensure that they only agree to genetic enhancements that are deemed safe, forcing providers to rigidly assess them? Should those seeking pharmacological or mechanic enhancements not limit themselves to the best ones? And should states not want to provide the safest treatment for their citizens? Unfortunately, such high trust in the free market is too optimistic. It may very well be possible that cheap but less safe enhancements enter the market and are then used by people who cannot afford the most expensive ones, but still want to avoid falling behind too much—some progress is, after all, better

than none. Likewise, users may be misinformed about the dangers or mistrust regulators. Competition has its virtues, but an unrestrained use of markets entails various negative consequences for societies. Competition between states already makes them cut social benefits or loosen environmental protections with the goal to attract investments.⁶ It is unlikely that they would act differently with human enhancement technologies.

In sum, there is ample ground to believe that the competition between states in anarchy will trump ethical arguments in favor of regulation. Those that want to avoid competition dictating the use of human enhancement technologies must ask how to overcome or at least sufficiently improve anarchy. This will be the topic of the next section.

4. Escaping Anarchy

In the above section, I showed how the anarchical nature of international politics will prohibit regulation of human enhancement technologies. This claim is open to criticism. For example, while it is highly likely that suspicions of Nazi Germany working on nuclear weapons strongly motivated the United States to build their own nuclear weapons—despite all the ethical arguments one can bring forth against them—critics can point out that the current international climate cannot be compared with that at the height of the Second World War. Today, there are no fears of global Nazi-domination, so the incentives to develop and use dangerous technologies are weaker. Likewise, one may point out that international organizations such as the European Union already pave the way for peaceful coexistence of nation-states. The growth of such organizations in the future would increasingly diminish the effects of anarchy.

However, these adaptations to anarchy are not enough to allow regulation of human enhancement technologies. While no threat comparable to Nazi Germany exists today, various states still see each other as strategic rivals and with the international order shifting from American hegemony to a multipolar system, competition may become more heated, because a multipolar system is marked by high insecurity for all actors and thus more fierce competition, which may ultimately even lead to more wars (Mearsheimer 2001, chap. 2). Likewise, the European Union is not a global institution and while it has created peace among its members, it still competes against nations that are not part of the bloc.

⁶ How excessive use of markets damages societies is extensively illustrated by Appelbaum (2019).

Another crucial difference lies in the nature of human enhancement technologies. While we did avoid global nuclear war (at least so far), a reason behind this is the logic of mutually assured destruction (MAD). Using nuclear weapons in today's world will certainly trigger retaliation from other nuclear powers and since no national leader would like to see her country annihilated, she is reluctant to use them. Mistakes can always happen, but as long as leaders remain somewhat rational—or military officials refuse orders from leaders looking for nuclear war—and these weapons do not fall in the hands of, say, terrorists, their use is unlikely.⁷ By contrast, human enhancement does not warrant retaliation or constitute an act of war, but just provides a competitive edge. As a result, there is no reason why human enhancement should be viewed as more aggressive than, say, investment into education. At most, states may fund their own research to keep up with innovation-leaders or sanction states that use enhancements in morally appalling ways, but the latter is unlikely to seriously inhibit a nation advanced and wealthy enough to undertake cutting-edge research on human enhancement.

Nonetheless, the existence of anarchy does not necessarily mean that states always have to view each other as enemies. Certain tweaks to their environment may improve their relations so far that global regulation of human enhancement becomes possible. I will discuss—and ultimately dismiss—three of them: international institutions, global norms and democratic peace.

Let us start with institutions. The Neoliberal Institutional angle in international relations theory suggests that states create international institutions to oversee agreements and identify and punish defectors. They monitor states' participation, create universal standards that help identify cheaters or spread information among their members. Probably their most important task is that international institutions create environments where participants know that they will meet repeatedly in the future. In this situation, cheating may be rational on an isolated issue, but all actors know that they will have to cooperate soon again and cheaters may then have a hard time to find support for their position. As a result, it is rational to keep one's promises, even if the costs are higher than the benefits of cheating would be (Keohane 1984, chap. 6). An argument for the likely growth of international institutions in the future is intensifying interdependence between states. In a globalized world,

⁷ This has prompted some theorists of international relations, such as Kenneth Waltz, to view nuclear weapons as a means to achieve peace. If no aggressor can expect to win an offensive war against countries that possess nuclear weapons, because the defender can always destroy the aggressor completely, they will refrain from attacking nuclear states. Therefore, the more states own nuclear weapons, the lower the chances of war (Waltz 1981).

various issues affect not only one nation, but the whole world—such as financial crises or environmental degradation—so incentives to cooperate and avoid their negative effects are high and will continue to grow in the future. That interdependence should sustain peace was already claimed by Angell (1909), albeit later proven wrong by the First World War. Nonetheless, there is some truth to the idea. Interdependence likely fuels states' interest in genuine cooperation, but the problem is that this does not apply to every issue or to every state.

First of all, how likely someone cheats on an agreement depends partly on the possible gains. Even a highly competitive person will probably not use sophisticated doping-methods to win a friendly bike-race against their neighbor, but someone less competitive may enhance themselves if they start in the Olympics. Since human enhancement potentially provides very large gains, cooperation becomes difficult.

Furthermore, not only are the issues of cooperation affected by the expected gains, but also the range of membership in regulatory institutions. Self-selection is a central problem when evaluating the extent of international cooperation, because states with little to offer have a stronger interest to participate—and essentially free-ride—in treaties than strong states (Keohane 1984, p. 96). Likewise, states often join international institutions whose obligations they planned to fulfill anyway (Downs, Rocke and Barsoom 1996). The Montreal Protocol, for instance, successfully mitigated the use of ozone-depleting Chlorofluorocarbons (CFCs) and achieved virtually universal participation, but replacements for CFCs were already available at the time, meaning that even without the agreement, levels of CFC-use would likely have dropped regardless (Barrett 2003, chap. 8).

As a result, a treaty regulating human enhancement may not come to pass and if it does, it is not going to be universal. More likely, it is ratified by states that are not leaders in the research-effort, hoping that transnational oversight and regulation will help them improve their performance. The innovation-leaders, by contrast, have little incentive to join such a treaty or an institution. It is thus no accident that authors such as Baum and Wilson (2013) have little hope for a universal treaty regulating human enhancement technologies, despite the benefits it would offer.

The second angle is democratic peace—the phenomenon that democracies do not fight wars against other democracies. Maybe this sparks less competition between democracies? The democratic peace has invited various explanations, which Maoz and Russett (1993) classify into normative and structural causes. The first claims that states internalize the

norms of democracy, such as conflict-resolution without violence, and then behave in a similar way when faced with other nations. The second argues that democracies put high institutional barriers on leaders before they can declare war, such as needing parliamentary support, so that diplomats have time to find a peaceful solution before war is declared⁸—although, barriers to fund human enhancement research are probably much lower. Furthermore, Doyle (2005) or Kinsella (2005) also see democracies' commitments to human rights and peace as the driving factors.

If democracies can trust each other so much that competition is no longer an issue—if they do not declare war against each other, there is no longer a threat to their survival—we can regulate human enhancement if every state becomes democratic. First of all, however, the democratic peace itself may simply be the result of a certain distribution of power. Rosato (2003) argues that the states with the longest history of democracy are located in Western Europe and North America and these regions have been allied since 1945 and share most vital interests. Today, the West experiences a relative decline of power, as other countries, such as China, catch up, so new conflicts of interest between democracies may emerge.⁹

But even if democracy were the cause, peace does not translate into the absence of competition. Citizens in democracies are less supportive of war against other democracies than against autocracies and view other democracies as less threatening, which makes leaders dependent on public opinion reluctant to declare war on democracies (Tomz and Weeks 2013), but they are still competing in the economic sphere. Human enhancement may not be a question of survival between democracies, but it remains an economic dispute. If the workforce of a democracy becomes more competitive than those of its democratic neighbor, the latter's businesses may be outcompeted in the global market—resulting in negative economic consequences that most citizens likely want to avoid. For example, while the United States are today locked in intense economic competition with China, it was not so long ago that they saw Japan as their key economic rival, despite both being democratic and allied with each other (Landers 2018). Thus, while there is little public support for war against democracies, in part because war imposes high costs on the population (Moravcsik 1997), this logic is reversed with human enhancement. If falling behind in the technological race imposes high costs, should the population not dispose of leaders who refuse to engage

⁸ However, democracies are not more peaceful overall, which we would expect if the structural approach were true. The empirical analysis of Maoz and Russett also shows that the structural cause is less robust than the normative one.

⁹ Supporters of the democratic peace have answers to such critiques (see Doyle 2005, Kinsella 2005).

in it or fail to keep up, while voting for those who promise to dispose of regulations that they see as hindrance to their own enhancement-efforts?

Lastly, there are norms. How about we convince the world that some enhancements should be regulated? This would need an intense debate, because new technologies usually emerge without norms to guide them. For instance, the United States first treated the atomic bomb as any other weapon, demonstrated by their use against Japan. Only as their destructive power became clear, a nuclear taboo emerged (Drezner 2019). Finnemore and Sikkink (1998) describe how this progress can shape the international sphere: norms are first introduced at the domestic stage by “norm entrepreneurs”, then, after enough domestic actors are convinced, they are adopted by states and finally spread in the international system, where they become internalized to an extent that they are no longer questioned. However, they cite cases that do not threaten a state’s power, such as granting women the right to vote. By contrast, falling behind on human enhancement because of normative objections damages a state’s standing. In such cases, power politics can alter norms. Despite the emerging taboo around nuclear weapons, military officials in the United States still considered using them in the Korean War and when Russia recently altered its nuclear doctrine to lower the threshold for their use, the United States relaxed its stance as well (Drezner 2019). It is therefore likely that, even if global norms regulating human enhancement technologies emerge, they may be up for renegotiation when power-politics demand it. While states can change their norms, their behavior and their views about each other (Wendt 1992), nobody can deny that various states today see each other as rivals and we cannot assume that these conflicts will disappear in the near future. And as long as states face rivals, their values may be open to negotiation.

Thus, neither international institutions nor democracy or norms, while able to mitigate anarchy to some extent, shape it enough to allow for a regulation of human enhancement technologies. What is left, then? The only way out, in my view, seems to be a global state with the power to regulate human enhancement technologies. This is not a new idea. Returning to nuclear weapons, we see that going beyond the national system has already been proposed by Bertrand Russell:

“Whatever measures of disarmament may be adopted, nuclear warfare, bacteriological warfare, and chemical warfare will remain possibilities, and may be resorted to at any time when a global conflict breaks out. It is therefore imperative, if we wish human life to continue, to devise machinery for the permanent prevention of great wars. The only such machinery that seems possible is a single federal world

government, possessing a monopoly of all the serious weapons of war.” (Russell 1958/2020, p. 361).

We have survived nuclear weapons without the global state—likely because of MAD—but as I have shown, human enhancement creates a very different situation. Although human extinction is not on the line—or at least reserved for the most catastrophic scenarios—Russell’s case does not lose its urgency. We cannot foresee where an unregulated use of human enhancement may lead us, but we can be reasonably sure that nothing besides a global regulator will stop their application in ways that we may want to avoid.

Philosophers must then think about how to create such a regulator. Warnings against potential abuses of human enhancement can sway policymakers and the public to consider regulation, but their arguments may wither away in the face of anarchy. This issue will likely not be tackled on the national level. As a result, human enhancement provides a strong motivation for those interested in a world-state.

The idea of achieving peace through a world state is seldom taken seriously (Schuett 2011) and besides the low likelihood of its success, there are other objections against it. For instance, if the world state turns autocratic, there are no other nations to flee to or to fight against it—such as when the Allies fought and defeated Nazi Germany or dissidents in the Soviet Union could escape to the West. Likewise, the world state must not necessarily bring peace, but could be the first step in a global civil war (Waltz 1979, p. 112). Nonetheless, even the (Classical) Realist tradition contains a progressive streak that envisions a global state, precisely because it is highly aware of the dangerous effects of power politics and anarchy (see Scheuerman 2010, also Scheuerman 2011 for an extensive overview of Realist ideas about the world state).

Philosophers have already spoken out against nationalism and noted that it usually goes hand in hand with a feeling of solidarity that takes special notice of fellow nationals, which is hard to justify through abstract principles. However, Miller (1993) replies that this does not necessarily mean nationalism is wrong. The fact that we feel stronger obligations towards our fellow citizens may be irrational, but it must not, by itself, be harmful. In fact, national solidarity allows for various beneficial aspects of modern societies, such as welfare programs. Nonetheless, I argue that human enhancement may necessitate extending the bonds we feel towards fellow nationals, because the competition between states otherwise leads to their uncontrolled spread.

The task for philosophers, then, is to foster feelings of international solidarity that paves the way for a global polity—since we must refrain from imposing the global state by force (Schuett 2011). In fact, a world

state can only survive if it creates a cosmopolitan political identity (Scheuerman 2011, p. 53). But why should this not be possible? Miller (1993) claims that it is a fact about human life that people feel more connected to their fellow nationals, but this feeling is to a certain extent arbitrary. Modern states derive their legitimacy not only from their ability to provide security and other services, but use symbols to foster solidarity between citizens and loyalty to the state (Spruyt 2002). National identity and sovereignty are products of certain practices that are underpinned by norms and if we cease to believe these norms, sovereignty ceases too (Wendt 1992). There is no natural reason why a US-citizen in Florida should feel stronger obligations toward a fellow national in Alaska, but not a Canadian citizen. He feels connected to the former because of their common history, culture and symbols, but these are no natural obstacles to extending our solidarity beyond national borders.

This shift in attitudes should not be imposed from the top down, but must slowly progress from the bottom up. This is where philosophers can have a strong impact. They may, for instance, outline the organization of the future polity, write a possible constitution that assures global governance functions in a just way or provide arguments to why solidarity should not stop at national borders. All of this may nudge citizens toward a more cosmopolitan outlook, which will pave the way for the (ultimately necessary) implementation of a world state.

Human enhancement may change how we see each other as a species, alter our morals and our perceptions of the world. But our vision of future technologies can already change our societies today. The best time to prepare for global transformation is now, if we want to see the application of human enhancement proceed in a regulated way. Acknowledging this broadens the implications of human enhancement technologies, extending it from individual and societal transformation, to global transformation, and provides new incentives to strive to overcome nationalism.

5. Conclusion

I have described how the development and application of human enhancement technologies may be unstoppable—with international anarchy as the ultimate cause. As long as states compete with each other, they have strong incentives to use any kind of technological progress for their advantage. The more heated the competition, the more safety and wellbeing may be neglected. International institutions, democracy and international norms are not enough to prevent this and the only solution that allows regulation of human enhancement technologies is a global

state. This will need a global community and philosophers can pave the way for sentiments that must underpin it.

The progress of human enhancement provides a strong argument for proponents of a world state, at least for those who dread the prospect of seeing these technologies developed and applied by the dictates of power-politics. Thus, the unregulated proliferation of human enhancement technologies may not be inevitable, although the route to global regulation will be long and complicated.

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References

- Almeida, Mara and Rui Diogo. 2019. Human Enhancement: Genetic Engineering and Evolution. *Evolution, Medicine and Public Health* 1: 183-89. DOI:10.1093/emph/eoz026
- Angell, Norman. 1909. *The Great Illusion*. Weidenfeld and Nicolson: London.
- Appelbaum, Binyamin. 2019. *The Economists' Hour. How the False Prophets of Free Markets Fractured Our Society*. Picador: New York.
- Barrett, Scott 2003. *Environment and Statecraft: The Strategy of Environmental Treaty-Making*. Oxford University Press: New York.
- Baum, Seth D. and Grant S. Wilson. 2013. The Ethics of Global Catastrophic Risk from Dual-Use Bioengineering. *Ethics in Biology, Engineering and Medicine* 4(1): 59-72. DOI: 10.1615/EthicsBiologyEngMed.2013007629
- Baylis, Françoise and Jason Scott Robert. 2004. The Inevitability of Genetic Enhancement Technologies. *Bioethics* 18(1): 1-26.
- Donnelly, Jack. 2000. *Realism and International Relations*. Cambridge University Press: Cambridge.
- Downs, George W., David M. Rocke and Peter N. Barsoom. 1996. Is the Good News About Compliance Good News About Cooperation?. *International Organization* 50(3): 379-406.
- Doyle, Michael W. 2005. Three Pillars of the Liberal Peace. *American Political Science Review* 99(3): 463-66.
- Drezner, Daniel W. 2019. Technological change and international relations". *International Relations* 33(2): 286-303. DOI: 10.1177/0047117819834629
- Fearon, James D. 1995. Rationalist Explanations for War. *International Organization*, 49(3): 379-414.
- Ferrari, Arianna, Christopher Coenen and Armin Grunwald. 2012. Visions and Ethics in Current Discourse on Human Enhancement. *Nanoethics* 6(3): 215-29. DOI: 10.1007/s11569-012-0155-1
- Finnemore, Martha and Kathryn Sikkink. 1998. International Norm Dynamics and Political Change. *International Organization* 52(4): 887-917.
- Gardner, William. 1995. Can Human Genetic Enhancement Be Prohibited?. *The Journal of Medicine and Philosophy* 20(1): 65-84.

- Giubilini, Alberto and Sagar Sanyal. 2015. The Ethics of Human Enhancement. *Philosophy Compass* 10(4): 233-43. DOI: **10.1111/phc3.12208**
- Herz, John D. 1950. Idealist Internationalism and the Security Dilemma. *World Politics* 2(2): 157-80.
- Keohane, Robert O. 1984. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton University Press: Princeton.
- Kinsella, David. 2005. No Rest for the Democratic Peace. *American Political Science Review* 99(3): 453-57.
- Landers, Peter. 2018. The Old U.S. Trade War With Japan Looms Over Today's Dispute With China. *The Wall Street Journal*.
<https://www.wsj.com/articles/the-old-u-s-trade-war-with-japan-looms-over-todays-dispute-with-china-11544717> 163
- Lilley, Stephen J. 2008. *Transhumanism and Society: The Social Debate over Human Enhancement*. Springer: New York.
- Lin, Patrick and Fritz Allhoff 2008. Untangling the Debate: The Ethics of Human Enhancement. *Nanoethics* 2(3): 251-64. DOI: **10.1007/s11569-008-0046-7**
- Maoz, Zeev and Bruce Russett 1993. Normative and Structural Causes of Democratic Peace, 1946-1986. *American Political Science Review* 87(3): 624-38.
- Mearsheimer, John J. 2001. *The Tragedy of Great Power Politics*. Norton: New York.
- Miller, David. 1993. In Defence of Nationality". *Journal of Applied Philosophy* 10(1): 3-16.
- Moravcsik, Andrew 1997. Taking Preferences Seriously: A Liberal Theory of International Politics. *International Organization* 51(4): 513-53.
- Rosato, Sebastian 2003. The Flawed Logic of Democratic Peace Theory. *American Political Science Review* 97(4): 585-600
- Russell, Bertrand. 1958/2020. Only World Government Can Prevent the War Nobody Can Win. *Bulletin of the Atomic Scientists* 76(6): 359-62. DOI: **10.1080/00963402.2020.1847482**
- Sandel, Michael J. 2004. The Case Against Perfection. *The Atlantic*.
<https://www.theatlantic.com/magazine/archive/2004/04/the-case-against-perfection/302927/>
- Sandel, Michael J. 2005. The Ethical Implications of Human Cloning. *Perspectives in Biology and Medicine* 48(2): 241-47. DOI: **10.1353/pbm.2005.0063**
- Scheuerman, William E. 2010. The (Classical) Realist Vision of Global Reform. *International Theory* 2(2): 246-82. DOI: **10.1017/S 1752971910000072**
- Scheuerman, William E. 2011. *The Realist Case for Global Reform*. Polity Press.: Cambridge.
- Schuett, Robert. 2011. Peace through Transformation? Political Realism and the Progressivism of National Security. *International Relations* 25(2): 185-203. DOI: **10.1177/0047117811404445**
- Singer, Peter. 2016. *Ethics in the Real World. 82 Brief Essays on Things That Matter*. Princeton University Press: Princeton.
- Spruyt, Hendrick. 2002. The Origins, Development, and Possible Decline of the Modern State. *Annual Review of Political Science* 5: 127-49.
- Waltz, Kenneth N. 1959. *Man, the State and War*. Columbia University Press: New York.
- Waltz, Kenneth N. 1979. *Theory of International Politics*. Wesley: MA.
- Waltz, Kenneth N. 1981. "The Spread of Nuclear Weapons: More May Be Better. *The Adelphi Papers* 21(171). DOI: **10.1080/05679328108457394**

- Weiss, Charles. 2005. Science, technology and international relations. *Technology in Society* 27(3): 295-313. DOI: **10.1016/j.techsoc.2005.04.004**
- Wendt, Alexander. 1992. Anarchy Is What States Make of It: The Social Construction of Power Politics. *International Organization* 46(2): 391-425.