

CONCOURS BLANC 2020

EPREUVE DE LVA

En vous appuyant uniquement sur les documents du dossier thématique qui vous est proposé, vous rédigerez une synthèse répondant à la question suivante :

To what extent should we embrace human enhancement ?

Votre synthèse comportera entre 450 et 500 mots et sera précédée d'un titre. Le nombre de mots rédigés devra être indiqué à la fin de votre copie.

Liste des documents :

- "What do we mean by human enhancement?", *The New York Academy of Sciences*, May 15, 2018
- "The power to upgrade our own biology is in sight - but is society ready for human enhancement ?", Raya Bidshahri, *Singularity Hub*, February 15, 2018
- "Can technology make us even more human?", John Nosta, *Fortune*, April 5, 2018
- "US public wary of biomedical technologies to 'enhance' human abilities", Cary Funk, Brian Kennedy and Elizabeth Sciupac, Pew Research Center, July 26, 2016
- "Key risks in evolving human thought", September 2018

RAPPEL: Veuillez sauter des lignes

Document 1 – What do we mean by human enhancement ?

Recent advances in human enhancement technologies offer new and unique opportunities to redesign ourselves. Such efforts have a long history, as people have been attempting to overcome their biological limitations or remove supposed flaws for millennia. As George Church, PhD, from the Wyss Institute at Harvard University explained, before the 21st century human enhancements included anything from: vaccines preventing smallpox, polio, and measles; to cars and jets that moved people across the world at previously unimaginable speeds and distances; to the smartphone you may be reading this article on; and the cup of coffee you drink every morning to help wake up. Dr. Church believes that the latest human enhancement efforts in fields like gene editing and artificial intelligence are only following this well-trod path.

Eventually, Dr. Church suspects that human enhancement technologies could provide resistance to diseases such as malaria, tuberculosis, and Lyme disease, allow for up-to-date diagnostic readouts in healthcare, and even reverse aging. Advancement in genome editing technologies such as CRISPR could have the greatest impact by targeting, for example, human genes like CCR5 — an essential gene for HIV virus entry into target cell — and lead to a functional cure for HIV infection.

Such promises for the future of enhancement technologies are exciting, but not without potential risk. Critics have questioned the ethics of using these technologies to fundamentally alter human biology, and have called for careful investigations of the risks and potential complications before we can safely apply these new technologies. Moreover, there may be additional considerations if these new technologies are used for non-therapeutic purposes.

As Josephine Johnston, LLB, MBHL, at The Hastings Center explained, [...] “by definition, an enhancement technology claims to improve a person or a group of people. What it means to be improved, to be better, is very much a socially and culturally constructed notion. I would worry most about social pressure to conform to limited visions of the good and the improved, and our failure to adequately question and interrogate those visions.”

It is critical to discuss the principles that govern the ethical conduct of human enhancement. Dr. George Church stated that the NIH requires grantees to teach the responsible conduct of research to young scientists. He added that “most engineering disciplines have safety and security components and a code of ethics.” However, Ms. Johnston maintained that individual scientists alone shouldn’t be required to focus on the ethics of the individual use of the technology they develop. “I don’t think they should ignore it, but that’s not primarily the work that scientists are trained to do and it would be an unreasonable thing to place on [their] shoulders.” However, she continued, “I do think that it’s crucial for scientists as a collective group to be involved in discussions for developing policy.”

While there have been, and will continue to be major technology revolutions in human enhancement, Ms. Johnston believes that human enhancement raises long standing questions about what it means to be human. [...]

The New York Academy of Sciences, May 15, 2018

Document 2 – The power to upgrade our own biology is in sight - but is society ready for human enhancement ?

[...] Every day, we enhance ourselves through seemingly mundane activities such as exercising, meditating, or consuming performance-enhancing drugs, such as caffeine [...]. . However, the tools with which we upgrade our biology are improving at an accelerating rate and becoming increasingly invasive.

In recent decades, we have developed a wide array of powerful methods, such as genetic engineering and brain-machine interfaces, that are redefining our humanity. [...] Many futurists argue that our devices, such as our smartphones, are already an extension of our cortex and in many ways an abstract form of enhancement. [...] Not long ago, Elon Musk announced a new company, Neuralink, with the goal of merging the human mind with AI. The past few years have seen remarkable developments in both the hardware and software of brain-machine interfaces. [..]

There are many social and ethical implications of such advancements. One of the most fundamental issues with cognitive and physical enhancement techniques is that they contradict the very definition of merit and success that society has relied on for millennia. Many forms of performance-enhancing drugs have been considered “cheating” for the longest time.

But perhaps we ought to revisit some of our fundamental assumptions as a society. [...] How much of our accomplishments can we truly be credited for? For instance, the genetic lottery can have an enormous impact on an individual's predisposition and personality, which can in turn affect factors such as motivation, reasoning skills, and other mental abilities. [...]

Beyond that, there are already many ways in which we take “shortcuts” to better mental performance. Seemingly mundane activities like drinking coffee, meditating, exercising, or sleeping well can boost one's performance in any given area and are tolerated by society. [...]

Another major ethical concern is equality. As with any other emerging technology, there are valid concerns that cognitive enhancement tech will benefit only the wealthy, thus exacerbating current inequalities. This is where public policy and regulations can play a pivotal role in the impact of technology on society.

Enhancement technologies can either contribute to inequality or allow us to solve it.

Educating and empowering the under-privileged can happen at a much more rapid rate, helping the overall rate of human progress accelerate. [...]

Many have also raised concerns over the negative applications of government-led biological enhancement, including eugenics-like movements and super-soldiers. [...] Brain-machine interfaces, for instance, could have implications on autonomy. The interface involves using information extracted from the brain to stimulate or modify systems in order to accomplish a goal. This part of the process can be enhanced by implementing an artificial intelligence system onto the interface—one that exposes the possibility of a third party potentially manipulating individual's personalities, emotions, and desires by manipulating the interface. [...]

It's important to discuss these risks, not so that we begin to fear and avoid such technologies, but so that we continue to advance in a way that minimizes harm and allows us to optimize the benefits. [...]

By Raya Bidshahri, *Singularity Hub*, February 15, 2018

Document 3 – Can technology make us even more human ?

Humans are on the verge of transcending their relationship with the world around them. This emergence, though, is not due to philosophical revelations or spiritual enlightenment. Instead, it's being driven by technological advances that create a new and richer reality, expanding our perceptions and introducing new sensory and computational skills to our physiology.

Without technological augmentation, we live in a world where we only experience a small part of the broader reality. Consider vision and smell, for example. These two senses reflect just small subsets of the vast reality in which we live.

We see just a very small part of the electromagnetic spectrum. This vast energy field—from X-rays to radio waves—engulfs our reality, yet we are only passive participants in this other visual world. And our sense of smell, fine-tuned for our individual needs, is certainly constrained by our biology. From mystics to physicists, the notion that we live in an illusion appears to be true.

So, then, what is the role of technology in augmenting and enhancing our human experience? Can technology facilitate a “new normal” for our broader perception of reality?

The truth is that technology is already reshaping our reality, though in subtle ways that most people don't realize. The examples are numerous. Prescription eyeglasses, contact lenses, or laser eye surgery can give us better than 20/20 vision. Hearing aids and cochlear implants now offer programmable features to allow users to modify their soundscapes and create unique aural experiences. Prosthetics now compete with limbs, in both form and function. And genomics can help rewrite our DNA source code with techniques like CRISPR.

Cognition also rests at the forefront of human enhancement. From neural implants to nootropics (drugs that can increase brain function), we are at the precipice of advances that will fundamentally expand our ability to process information and comprehend both simple and abstract ideas.

This all leads me to feel a bit sorry for our human self as it exists today, and even to question the notion that the human construct is definitive. Our human form and functionality is certainly not!

Technology allows us to expand the richness of life to experience more—more sights, sounds, thoughts, and perhaps other senses that we haven't even discovered. These experiences challenge the fundamental aspects of our being. They allow us—no, demand us—to charge forth, as in the 19th century doctrine of manifest destiny. Only this time, the uncharted territory to conquest is humanity itself.

What emerges will be something more. Dare I say, it'll be something even more human.

Document 4 – US public wary of biomedical technologies to 'enhance' human abilities

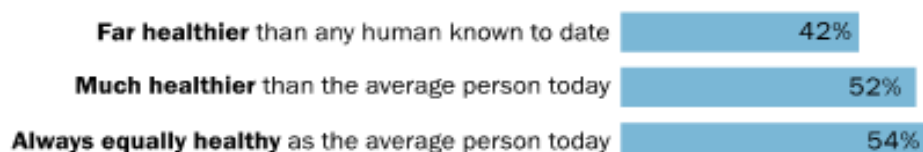
By Cary Funk, Brian Kennedy and Elizabeth Sciupac
Pew Research Center
July 26, 2016

Fewer Americans see enhancements that would bring extreme change as an appropriate use of technology

% of U.S. adults who say each of these enhancements would be an appropriate use of technology under each condition

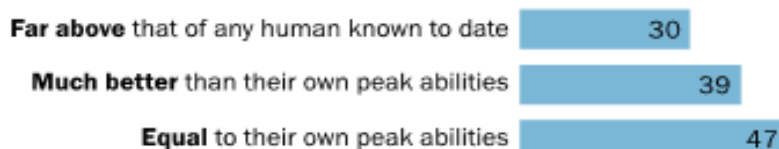
Gene editing giving babies reduced risk of serious diseases

If it resulted in people ...



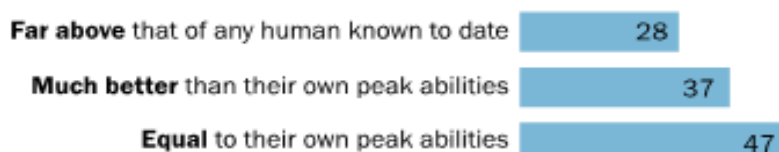
Brain chip implant improving cognitive abilities

If it resulted in cognitive abilities ...



Synthetic blood substitutes improving physical abilities

If it resulted in physical abilities ...



Note: Respondents who say each would be "taking technology too far" or who did not give an answer are not shown.

Source: Survey of U.S. adults conducted March 2-28, 2016.

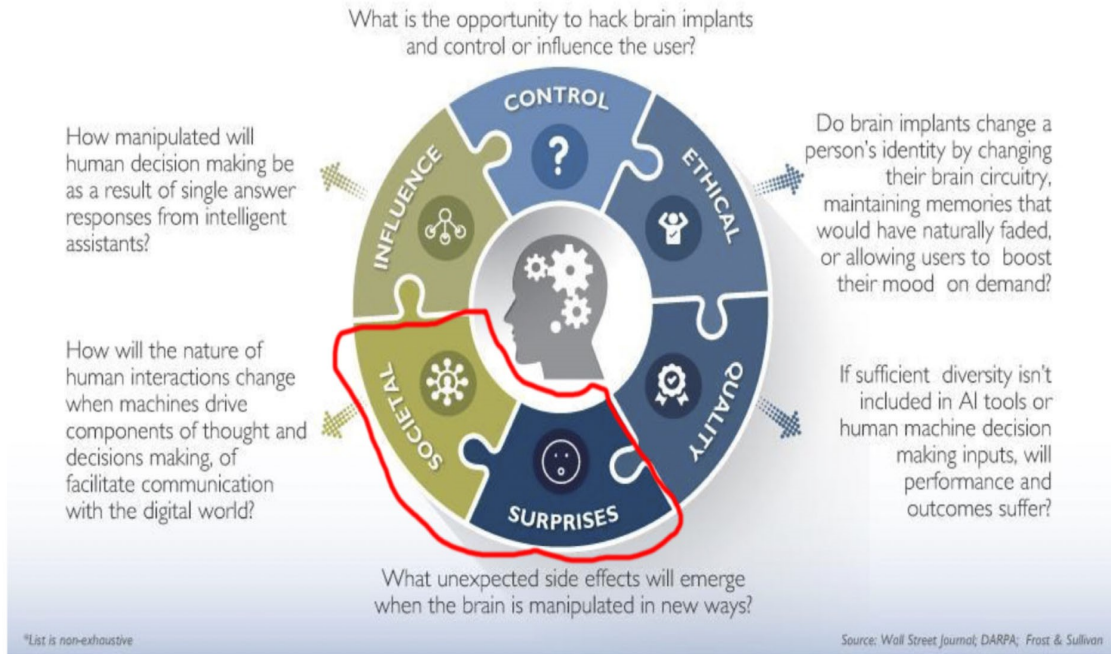
"U.S. Public Wary of Biomedical Technologies to 'Enhance' Human Abilities"

PEW RESEARCH CENTER

Document 5 – (September 2018)

THE RISKS OF EVOLVING HUMAN THOUGHT RAISE MANY QUESTIONS:

The evolution of thought raises the specter of unwanted control, a changing definition of humanity and society, as well as other concerns that may be unable to anticipate.



KEY RISK IN EVOLVING HUMAN THOUGHT*