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Bioethics and the Biomedical Revolution

It is astonishing how quickly new biomedical technologies are emerging. Some have the potential to make a massive impact on health care and even society. Elon Musk's company Neuralink recently received approval from the US Food and Drug Administration (FDA) for the first human [clinical trials](#) of their brain-computer interface device. There are many ethical questions that need to be answered concerning this type of technology and ethical safeguards that must be put into place.

It is important to emphasize that there could be good uses for these kinds of devices. The Catholic Church and Catholic bioethicists fully support the development of new instruments or interventions for the more effective treatment of diseases or pathological conditions. There is no anti-science agenda in the cautious attitude of the Church, but prudential and ethical considerations must be made of all the possible uses of a certain technology. It is also highly relevant to understand the motivations driving development.

The Neuralink brain-computer interface is a computer chip surgically inserted in the patient's brain that can [communicate](#) back and forth with external computers by decoding neural signals. This allows it to "read thoughts" and stimulate brain activity. The chip has thousands of electrodes that imitate the way that neurons pass information from our brains to different parts of our body. A good application of the technology would be to allow amputees to control prosthetic limbs simply by thinking similarly to how we naturally move our arms and legs. It might also help people overcome paralysis of body parts. Because it can detect abnormal signals in a person's brain and

stimulate certain regions of the brain, there is potential to use it to treat depression or anxiety. It is believed that it could be used to diagnose and respond to conditions like epilepsy, Parkinson's, and Alzheimer's disease.

Treating the brain-injured or enabling the paralyzed to walk are certainly good goals, but this kind of device could also be used to enhance cognitive functioning. Elon Musk has made it clear that his eventual goal is to [connect](#) the minds of people directly via artificial intelligence. Musk believes that healthy human beings should be “enhanced” cybernetically, supposedly a big leap for our cognitive and communicative abilities. This sounds like science fiction and not the kind that ends well. It is actually part of the broader transhumanist movement's goal to take control of humanity's future.

I do not have the time or space to explore transhumanism fully in this essay, but it is important to understand the goals and means employed by transhumanists. Here is a definition of the movement.

[Transhumanism](#), philosophical and scientific movement that advocates the use of current and emerging technologies—such as genetic engineering, cryonics, artificial intelligence (AI), and nanotechnology—to augment human capabilities and improve the human condition. Transhumanists envision a future in which the responsible application of such technologies enables humans to slow, reverse, or eliminate the aging process, to achieve corresponding increases in human life spans, and to enhance human cognitive and sensory capacities. The movement proposes that humans with augmented capabilities will evolve into an enhanced species that transcends humanity—the ‘posthuman.’

Ultimately, what is going on here is what the late Pope Benedict XVI called a rebellion against God the Creator. Transhumanist man wants to

recreate himself and even give himself immortality in this material world.

The Catholic ethical perspective is light years away from the transhumanist. We believe in healing the sick and solidarity with the needs of the poor. Many transhumanists envision special enhancements and life extending technology enjoyed by an elite few while the rest of humanity forms an underclass. We believe that human nature and the intrinsic dignity of each human being must be respected. It is a grave moral and ethical violation to attempt to transform a person into something else. This immediately brings to mind another vast topic, transgenderism.

In a very general way, sound bioethics makes a key distinction between overcoming a defect or curing a pathological condition, which can be ethical, and replacing or vastly enhancing normally functioning organs, which is usually wrong. There is a kind of diabolical pridefulness in transgressing the limits of what humans can and were meant to do. We should create tools to assist us in our work but transforming people genetically, or with the use of devices to create a “superhuman,” is an attack on the sacred inviolability of the human person.

This is why we should be concerned about the agenda of Neuralink and other similar companies and the implications of their research and products. What they propose to do now may be ethically acceptable—the treatment of pathological conditions—but their longer-term goals are a threat to human dignity. Safeguards must be put into place to mitigate the risk of violating the freedom of individuals by manipulating their thoughts or actions by technological means. The privacy of one’s thoughts is at risk from computers that can read the mind through an implanted chip. It is unacceptable to probe the minds of people for their private thoughts, so clear limits should be placed on this kind of action. We are still years away from the perfection and availability of these technologies, but they are fast becoming a practical possibility. There is an urgent need to bring these ethical concerns to

the forefront so that we can decide what kind of biomedical scientific research and development should be permitted or banned.

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