

Transhumanism and Nanotechnology – Will Old Myths Come True? †

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Abstract: A major goal of transhumanism is the transformation of human beings into posthuman ones by exploiting present and emerging technologies. Nanotechnology is considered as a promising candidate in this respect. Its objects of interest are molecular structures with their surface properties and their specific design as sensors and actuators in various environments including the human blood circulation, lung, brain, etc.

In the mythologies all over the world one encounters the idea of super-natural strength, invulnerability, eternal youth, invisibility, invincibility, and immortality. Some proponents of transhumanism dream of a future in which all this will come true. And there are leading experts in nanotechnology who formulate quite similar aims and objectives of their area: the obligatory victory over Alzheimer disease and Parkinson disease, cleansing of wounds, blood, lung, brain enhancement, soldiers who fight without fear, managers who need no sleep to be able to work 24 hours a day 7 days a week for their companies, magic hoods, and much more. In the presentation, I will discuss the relation between transhumanism and nanotechnology and compile some reasons why old myths will not come true.

Keywords: transhumanism; nanotechnology; mythology

1. Introduction

A major goal of transhumanism is the transformation of human beings into posthuman ones by exploiting present and emerging technologies. Nanotechnology is considered as a promising candidate in this respect. Its objects of interest are molecular structures with their surface properties and their specific design as sensors and actuators in various environments including the human blood circulation, lung, brain, etc.

2. What about Transhumanism?

Transhumanism is a world-wide science-fictional and kind of philosophical movement that has its roots in the 1920s and 1930s and has reached quite some visibility in the last three decades (cf., e.g., Bostrom 2005 [1]). The aim of transhumanism is to extend the intellectual and physical capabilities of human beings and transforming them into posthuman beings in this way. A major intention is to employ modern technologies such as artificial intelligence, robotics, cognitive science, information technology, nanotechnology, biotechnology, and others as human-enhancement technologies. One of the leading protagonists of transhumanisms, Max More, defines it as follows:

“Transhumanism is both a reason-based philosophy and a cultural movement that affirms the possibility and desirability of fundamentally improving the human condition by means of science and technology. Transhumanists seek the continuation and acceleration of the evolution of intelligent life

beyond its currently human form and human limitations by means of science and technology, guided by life-promoting principles and values.” (More 2009 [2])

See, e.g., Coenen 2007, Häggström 2016, Hansell and Grassie 2011, More and Vita-More 2013 and Sorgner 2012 [3-7] for more details.

3. What about Nanotechnology?

Nanotechnology comprises all research areas that deal with atoms and molecules up to the size 100 nanometers (10^{-11} m). On this level, the surface structure is most significant and quantum-mechanical phenomena play an essential role. In connection with transhumanism, a special research direction of nanotechnology is of great importance: nanobots or nanorobots aiming at autonomous machines on the molecular level. If they are able to manipulate atoms and molecules, they are also called assemblers. A very important aspect in this context is the possibility of self-replication. See, e.g., Drexler 1992 and 1996, Mulhall 2002, and Schmid 2003 [8-11] for more details.

4. Will Nanotechnology Lead to Transhumanism?

In the mythologies all over the world one encounters the idea of super-natural strength, invulnerability, eternal youth, invisibility, invincibility, and immortality. Some proponents of transhumanism dream of a future in which all this will come true. And there are leading experts in nanotechnology who formulate quite similar aims and objectives of their area: the obligatory victory over Alzheimer disease and Parkinson disease, cleansing of wounds, blood, lung, brain enhancement, soldiers who fight without fear, managers who need no sleep to be able to work 24 hours a day 7 days a week for their companies, magic hoods, and much more (cf., e.g., Greenpeace 2003, Kurzweil 2005 and Roco and Bainbridge 2003 [12-14]).

In the presentation, I will discuss the relation between transhumanism and nanotechnology and compile some reasons why old myths will not come true. If a lot of money is spent to support research on a particular subject and many researchers work in this context, then the efforts will yield achievements – even quite impressive ones. But the transformation of human beings into intellectually (and not only physically) better posthuman beings is another matter - independent of any ethical concerns. One of the most characteristic of human beings is that they can think. Before one can improve this capacity, one must understand it. From all what I know, science is far away from the necessary insights.

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