

Book Review

The Elementary Particles (Les particules élémentaires)

by Michel Houellebecq (Translated from French by Frank Wynne; Vintage Books; 2000)
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This is a novel every scientist should read. First, it deals with human cloning and its future uses, which are topics of obvious urgency and importance. Secondly, it beautifully captures the tragedy of a modern scientist, who is utterly absorbed in his narrow field of research, and is neither interested in, nor able to understand himself or the human society around him. Thirdly, after giving a provocative critique of Western society since the 60s, Houellebecq paints a disturbing but plausible picture of how biotechnology will be used to change our very identity as human beings in the near future. It is a picture that we cannot afford to ignore.

The Elementary Particles is the story of two half-brothers, Bruno and Michel. Bruno is the ultimate “average person” of the late 20th century. Shaped by the hedonism of the 60s and 70s, he had little use for, or faith in any religion or philosophy. He is obsessed with physical and sexual pleasure even though he is usually a failure with women. As his body inevitably declines he finds nothing to anchor his life and inexorably sinks into despair. After the death of his last lover Bruno enters a mental institute and never comes out.

In contrast, Michel is a shining success by conventional standards. He breezes through school, does excellent graduate research in physics, and then switches to molecular biology. At 40 he is a serious contender for a Nobel Prize, but he has lost interest in his work. Unlike Bruno, Michel is unaffected by the political and social upheavals of the 60s and 70s. He derives no pleasure from the body. Even during sexual intercourse with a fellow researcher, he “could get a hard-on and ... ejaculate ... without feeling the slightest pleasure”.

Michel is also incapable of understanding or caring about anything outside of science. When his grandmother dies his face expresses nothing but “abject animal fear”. Finally, Michel is reunited with Annabelle, the woman he abandons for science more than 20 years ago and has a relationship with her until she commits suicide. Coldly and

methodically, Michel resumes his research, proves that asexual reproduction is fundamentally superior to sexual reproduction, and then vanishes.

His work is picked up by the young biochemist Hubczejak, who, based on Michel's ideas and results, launches the "Movement for Human Potential" to, ironically enough, replace humans with an asexual, self-cloning and immortal species. By the end of *The Elementary Particles*, *Homo sapiens* are on their way to extinction, leaving behind a smug successor species that views their creators, the human race, with pity and disdain.

When I picked up *The Elementary Particles*, I was sceptical of yet another portrait of a scientist in fiction. Generally, scientists in literature are either stereotypical characters that are weird or mad (or both), or glorified symbols of human rationality. A few scientist-novelists, such as Carl Djerassi, try to give a honest portrait of how scientists work, but lack the skills or scope to bring their characters to life. However, I am extremely impressed by *The Elementary Particles*. Houellebecq shows great knowledge and insight into real science and scientists. For example, Houellebecq makes Michel a member of the Aspect team at the Université Paris-Sud – the team that, in real life, solved one of the biggest problems of quantum mechanics (the Einstein- Podolsky-Rosen paradox) in the 80s. Houellebecq then has Michel giving up physics for molecular biology – another common choice for present-day physicists. And, with biting wit, Houellebecq brilliantly exposes how shallow and sterile the professional relationships among scientists are, even after the scientists have worked together for years in the same department:

“(The farewell party for Michel) was a sham. The motivations that brought them together was superficial; one careless word, one false glance, would break it up and send his colleagues scurrying for their cars.”

An average novelist would have made science the culprit for Michel's lack of human emotions: the misconception is still widespread that scientists are generally less passionate than “ordinary” people, and that science somehow kills a person's humanity. Fortunately, Houellebecq would have no such clichéd nonsense, and he knows that human beings are far too complicated for any single theory. So he simply describes the thoughts, feelings and behavior of Michel, and leaves the task of understanding Michel to us. I must confess that, initially, I found Michel infuriatingly difficult to comprehend: he is an extreme character whose complete isolation from himself and the world seems unbelievable at first sight.

However, after several re-readings and much contemplation I discovered in Michel much of myself and of other scientists I know. In particular, Michel's one-track-mindedness and total negligence of the wider philosophical and social implications of his work are traits that I have encountered in myself and many fellow scientists. Of course, these traits –

single-mindedness and negligence of non-scientific issues – allow us to focus on complex scientific problems, so all scientists must possess these traits to some extent. But it also seems to me that these traits imply an irresponsible attitude towards the scientific knowledge we create, and such an irresponsible attitude is encouraging the misrepresentation, misuse and misunderstanding of science in our society.

This raises a chilling question: where are science and scientists leading our world to? Houellebecq offers a disconcerting answer in *The Elementary Particles*: Michel, with his single-mindedness and unconcern for non-scientific issues has indirectly and unwittingly destroyed the human race with his research.

The future depicted in *The Elementary Particles* is bleak indeed. In the last chapter of the book, Houellebecq describes how the human race self-destructs. A young biochemist, Hubczejak, picks up Michel's idea on the fundamental superiority of asexual over sexual reproduction, and founds the "Movement for Human Potential" in 2011 to realize what he regards as the next step in evolution: the replacement of humans by an asexual, self-cloning and immortal species. By skillfully mixing "hard" science (which the public trusts because "hard" science seems to promise certainty) with "soft" New Age philosophy (which assuages the public's vague spiritual yearning for a better world), Hubczejak manages to recruit more and more people to his cause. Oppositions from religious or secular humanist groups are easily and contemptuously brushed aside. Scientists belonging or sympathetic to Hubczejak's movement start to develop the immortal species in secret. Finally, the UNESCO gives the green light to Hubczejak's project in 2021 and the first member of the immortal species – humankind's successor – is created in 2029. *The Elementary Particles* ends at around 2079, when the immortal species dominates the world, and the human race is soon to become extinct.

Some might dismiss this picture of the future as being anti-science, reactionary and alarmist. Personally, I find the picture uncomfortable but not unimaginable. Take Hubczejak for example: he and his supporters, with breath-taking conceit and self-righteousness, decide that the human race must go because of their sincere belief that "mankind must disappear and give way to ... a species that had outgrown individuality, separation and evolution." In terms of arrogance and self-righteousness, how similar is this to the proponents of human cloning, one of whom, Dr. Panos Zavos, claimed that¹:

"(Cloning) is part of human evolution. We feel that if we educate the people that we are real people attempting to assist childless couples in having a child, everybody understands this and everybody needs this."

Furthermore, I find the impotence of various national and international organizations in *The Elementary Particles* utterly convincing. No organization, be it religious, secular

humanist or even the United Nations, could or would prevent Hubczejak's project from fruition. Does not the same impotence characterize our organizations in real life?

Let me offer some personal experience in this regard. Last year the National Academy of Science in Washington D.C. formed a panel to discuss the scientific and medical aspects of human cloning. The panel discussion took place on 7 August 2001. After the discussion, I wrote to each panel member, expressing my concern about the apparent lack of focus on a vital issue: whether or not cloning can be controlled so that it only does "good", however the notion of "good" is defined. I then argued that cloning, or any technology, can only be controlled by an international agreement, with all countries vigorously enforcing the agreement and punishing the transgressors. Subsequently I received a response from one panel member who agreed with everything I said but, at the same time, felt that even the United Nations would not succeed in the global regulation of human cloning. I am grateful to this member for replying. Nevertheless, I am disappointed by how powerless our national and international organizations are when faced with the philosophical and social challenges from biotechnology. I can only hope that organizational impotence will not be as deadly in our world as it is in the fictional world of *The Elementary Particles!*

So I repeat: this is a novel every scientist should read.

Reference:

1. <http://www.cnn.com/2001/health/08/06/human.cloning/index.html>