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TECHNOLOGICAL FUTURE IN WILLIAM GIBSON'S AND CORY DOCTOROW'S NOVELS THROUGH THE SCOPE OF PHYSICIST MICHIO KAKU

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The present paper discusses how science-fiction authors William Gibson and Cory Doctorow predict technological future in their novels, respectively *Neuromancer* and *Down and Out in the Magic Kingdom*. A parallel is drawn between their prediction and what physicist Michio Kaku states about technological progress in every aspect in our future life.

The curious fact is that some of the technologies described have already come into being, as for others – it is just a matter of time for them to become part of our reality.

Another matter of enquiry connected with the theme in pursuit is how this new way of life influences the fictional characters and what their reactions are. I have tried to find out and show how this technology changes their habits, their perception of the world and their attitude toward it altogether. Usually, the characters of both authors are not common persons who accept everything without any resistance, they are rebels: men and women who are aware of how dependent they are on high tech and how slowly but steadily we lose our human features and our souls.

Key words: (technological) future, physics, prediction, rebellion, self-perception, human features

"History repeats itself, or in the jargon of technology all the time it does the "copy – paste" operation.

Authors like William Gibson and Cory Doctorow present the technological future in their novels objectively and in a very realistic way. This future drawn in the texts of Sc Fi sets the frontiers between fiction and science and is the subject of my paper. To the purpose of proving how exact they are in their insights I will compare their writings with the assumptions of Michio Kaku, who is one of the creators of *string theory. In physics that theory observes* In physics, string theory, according to Wikipedia is a theo-

retical framework in which the point-like particles of particle physics are replaced by one-dimensional objects called strings.

Before literature, and especially literature belonging to the frontier domains of fictional futurism, there are myths. With the myth of Prometheus the story of rebellion against the Creator has become archetypal and is being repeated in the written texts throughout history and is the current motif in popular fiction. In crime novels and thrillers hero usually fights against mafia, criminals, and opressive business interests. In hard science fiction he rebels against machines or corporations that control mankind. The details of the particular fight build up each next version of the story but the end is not always happy.

Hard science fiction, produced in the last decades of the 20th century is pitch-dark. It is characterized by the upsurge of computer technology and the decay of spiritually. It reached in the extreme reaches of the genre the texts of cyberpunk which is preoccupied with the rebellion against technology. This sub-genre of science fiction is kin to books of comics and *crime noir* novels, written by authors like Raymond Chandler. There are antiheroes, instead of heroes. Characters struggle with political and legal corrupted systems. The weather is always dark and rain falls most of the time.

The present paper is focused on two ScFi novels: *Neuromancer* by William Gibson and *Down and Out in the Magic Kingdom* by Cori Doctorow which have proven faster than science in wording down core ideas of a AI-ruled future that have caused anxiety in the minds of all involved in the creation of the Web-era. They are both post-Orwellian fantasies following the mode of clearing in detail a vision of a dehumanised future. The novels are laid out as short texts where the individual characters are called forth on the screen of our vision and are made appear great and of primary significance. The novels contain key ideas and key techniques of ScFi writing. William Gibson invented the term *'cyberspace'* which is used by present studies of the *'infosphere'*.

In the present paper I shall attempt to present the impression the two texts give to a reader who is an outsider of both Sc Fi writing and science. This first impression is important to study, because it contains the clues for the existence of such type of books and could possibly motivate a further reading of the texts as belonging to literature rather than as belonging to the marginal areas of writing.

There are three basic features in these books that could be approached through the eyes of a physicist, e.g. Michio Kaku who has written a parallel popular text *Physics of the Future*.

In the beginning communication software programs were limited only to proceeds written text, later on video images were imported and now we have holographic ones. This is a small part of our constantly changing reality. Authors like Jules Verne, Stanislaw Lem, Arthur Clarke, William Gibson and Cory Doctorow wrote about it.

"Neuromancer" appeared in 1984 and it was immediately clear that it was ahead of its time. Personal computers were not so common and this novel told about *cyberspace* in which hackers attack the Net. The settings of the story, though, appear to be much like our familiar reality: here people are not masters to themselves – there is always somebody above them, and if in our reality that master is the government, in virtual reality the power lies in the hands of artificial intellect, created by corporations. In order to fight with AI, the hero needs to enter into that world. The most important act is to connect his brain with the computer. The human brain is seen as a powerful computer but the difference between it and the machine-based intellect lies in that processors consist of transistors, while the human brain is of neurons which bear the memory of physical existence. If we take out only one transistor from the central processor, the computer cannot do anything. If we take out large parts of our brain, it will work again, because other parts will take on the functions of these missing parts (Kaku 2011: 89).

The title "Neuromancer" derives from two words neuro and mancer. Similar to necromancer, which means a magician who raises the dead, in the novel neuromancer could be explained as a magician who deals with nerves and brain cells.

Gibson draws a dark image of the future where mankind is subordinated by artificial intellect. That is what cyberpunk literature deals with: the rebellion of a group of people (hackers) or outcasts against great corporations that dictate human life.

Moreover, the AI wants to be like a human, i.e. not only to follow orders and to perform some limited activities, but to be able to think, to take its own decisions, to feel.

Ever since the publication of that novel the ideas of the rebellion against machines and the humanisation of the artificial intellect have been used in other books and movies like "Terminator", the first series of which was released in 1984. Here an interesting fact deserves to be noticed. The idea of the total control can be traced down to George Orwell's '1984' which in 1948 foresaw a future when the whole humanity is subject to ob-

servation. In 1984 the book by William Gibson impressed upon the reader that this observation is under the control of the Net.

In "Neuromancer" one cannot feel any of the human emotions we usually accept as authentic; even human presence is hard to be caught. The population is swamped by holographic images of advertisements. Even the attempt for sexual relation between the main characters Case and Molly is described in a technological way. [*His orgasm blew out like brightly blue stain in the space without time dimension, limitless like a matrix, where faces were decaying and soaking by nothingness.*

The sky is not blue any more, but it looks like a TV screen at the end of the program (Gibson 1996: 6).

Gibson sees the world of the future soaked in gray darkness, machine-smelling and suffocating, where ubiquitous software functions. The hero can see the real city after removing a panel and switching the hologram off. There are other striking details: *the holographic record of the sunset; the trees which were small, impossibly old, and a result of genetic engineering and chemical treatment; an abstract likeness of the sunset over Bermuda Islands, striped from videotaped clouds etc.*

Holographic images are described in detail in Gibson's novel. Michio Kaku speculates that it is not long before we will have holograms instead the world outside but he warns: *If you stand in front the screen you see the exact three-dimensional image of the object. But you cannot stretch your arm to touch it. You will touch the screen instead. The image in front of you does not exist"* (Kaku 2011: 63-64).

The power of the artificial intellect over the human intellect is guaranteed and seems inevitable. And probably that is why the characters of these novels are so impersonal, shallow, deprived from soul, from emotion and feelings. Every attempt of showing such human traits is extinguished by the technological environment, which penetrates into every single human cell. Authors of cyber fiction do not find putting human element in the whole technological and cybernetic matrix so important. The presence of human nature with all its emotional connections is manipulated and adjusted to the government or corporation needs.

As a counterpoint of the dark, corrupted and cynical atmosphere in "Neuromancer" Gibson uses words which are symbols of a spiritual state or have spiritual meaning, like *Zion,* and makes special hint to the reader – the connection of these rebellions with some spiritual centre of humaneness, also serves as their living area, as an antipode to their technological habitat. The meaning of *Zion* is *a harmonious place of religious people, devoted to God*. The same name to a similar purpose is used in the "Matrix" movie.

Gibson also alludes to the hanging gardens of Semiramis in Babylon, but this time in order to be in unison with that environment of decaying and destroying: *the balconies of those who lived in the Free Station were rising gradually to grassy areas of another casino complex.*

In cyberpunk literature there are also specific techno terms which the broad reading public does not know but they are usually not explained because one can find their meanings in dictionaries or in the Net.

In his novel "Down and Out in the Magic Kingdom" (2003) Cori Doctorow challenges the readers to step into a world from an indefinite future with a lot of terms, unknown for our present day. In this society there is no money, but your welfare and the good attitude you can receive from the others depends on your *whuffie*. The bigger it is, the more respect you enjoy. Besides as a marker of the individual financial status, it serves as an ID, too. The world is a network in which if you ping somebody's whuffie, you immediately get information about him or her. *"I knew she was pinging his Whuffie and I caught her look of surprised disapproval. Us oldsters who predate Whuffie know that it's important; but to the kids, it's the world. Someone without any is automatically suspect"* (Doctorow 2003: 17).

The Bitchun Society exists along with the other world but has some essential differences from it. "*He was a missionary - one of those fringe - dwellers who act as emissary from the Bitchun Society to the benighted corners of the world where, for whatever reasons, they want to die, starve, and choke on petrochem waste. It's amazing that these communities survive more than a generation*" (Doctorow 2003: 10). Except this newly formed society, there is also a familiar form of government – *adhocracy*, which is totally opposite to bureaucracy, through which collective and non-formal decisions are taken, just on the spot where a problem arises.

Hackers in "Neuromancer" find relaxation in ganja when they are not in the Net, but here Julius, who is trying to find for what reason he had been killed, is on the verge of psychological exhaustion. Julius is estranged from Bitchun society for his disagreement with and disobedience to its established norms. He does not look like an old man, but he is over a hundred years old and is familiar with the time before that technologically changed world. For that reason he still knows the meaning and value of words such as 'friendship', 'love', and understands the meaning of old-fashioned way of entertainment.

The characters of Doctorow's novel sub-vocalize when they are online and get into the net via eye lenses. There are no computers, no laptops; this is just what Michio Kaku claims that will happen in the not so far future*: around the middle of the century we should be living in the mixture*

of reality and virtuality; microlasers will be broadcasting directly from our lenses in the retina or will project the image upon those lenses, using them as screens; when we look through our glasses we will be seeing the internet as if we are watching a movie.

Here is how that technology already exists in Doctorow's novel.

"Lil grabbed the couch as soon as we got in, mumbling something about wanting to work on some revised merch ideas she'd had. I glared at her as she subvocalized and air-typed in the corner, shut away from me. I hadn't told her that I was offline yet -- it just seemed like insignificant personal bitching relative to the crises she was coping with" (Doctorow 2003: 45).

Death is a clear message for those who work in Disney World and do not want to modernize the park. Julius got used to the way of living of the previous century. He remembers all the things from the past, because he starts his backup and when his body gets old or sick, or has deadly injuries, he can swap it by putting his brain in a new one. *"My cochlea struck twelve noon and a HUD appeared with my weekly backup reminder."* And one more on the same page:

"I hated getting distracted from a backup – one of my enduring fears was that I'd forget the backup altogether and leave myself vulnerable for an entire week until the next reminder" (Doctorow 2003: 22).

In one of Bruce Willis' movies "Surrogates" there is a hint about what happens with our bodies in 2017. They are replaced by new ones. These new bodies are actually robots which are under the control of people.

It is almost the same in Doctorow's novel. Here a passage:

"They recovered me from backup and into a force-grown clone at Toronto General. As far as I knew, I'd laid down in the backup clinic one moment and arisen the next. It took most of a year to get over the feeling that the whole world was putting a monstrous joke over on me, that the drowned corpse I'd seen was indeed my own" (Doctorow 2003: 23).

And one more in other chapter:

"[…] why bother with surgery when you can grow a clone, take a backup, and refresh the new body? Some people swapped corpuses just to get rid of a cold" (Doctorow 2003: 77).

Another scientist who works in laboratory of artificial intellect in MIT Rodney Brooks, quoted by Michio Kaku, claims that in *fifty years we can expect radical changes in human bodies via genetic modifying*.

When these opportunities become real, sooner or later in the future, what is described by Gibson and Doctorow, becomes possible. Both of them are not bound up with concrete period – neither year, nor century; it is only guessed. When one has the chance to change his body, he probably, according to novel, can choose the age. *"She was at least as old as I was, though she was only apparent 22"* (Doctorow 2003: 35). This raises a social and moral question about the difference in years of two people who are attracted to each other. Changing their bodies for younger ones can make this question stretch beyond our idea of morality. Here is how technological progress can change our moral concepts.

Concerning the transportation of the brain from one body to another in Doctorow's novel corresponds with what Michio Kaku says, having in mind the work of Hans Moravec, a pioneer in robotics:

"Part of our brain is inside the old body, but another part is built of transistors in our new one, which is mechanical. After the operation is done, our brain, neuron by neuron is transferred in the body of the robot. In this way we become immortal, we have superhuman bodies and we are perfect beings" (Kaku 2011: 139).

"Neuromancer" is awarded with "Hugo", "Nebula", "Philip K. Dick and "Lokus". And Doctorow's "Down and Out in the Magic Kingdom was nominated for "Hugo" mainly for describing that revolutionary technology in their texts. It is still disputable what makes good science fiction: besides all components of a literary text Sc Fi has to contain an innovative idea and a new setting. It is hard to claim that good science fiction is build only by these two factors. If the characters are too shallow we as readers cannot imagine them, no matter how creative imagination we have. That would definitely be a minus. We would be more thrilled if authors show how organic characters react of what they experience in the story or in the novel.

M. Kaku, on his part, thinks that we will accept the idea to live as a super robots through substitutes, but we will resist to the idea to remain forever in a computer or to change our body unrecognizably (Kaku 2011: 140, 141).

Even today the ideas of Gibson and Doctorow sound past our frontier concepts of a changing human world.

To conclude with, both novels belong to that type of Sc Fi that is closely based on science and extrapolate on its dark aspects creating detailed tangible worlds of the most unfriendly type for the humans. In this they serve as warning to both scientists and the users of the products of science and technology. They are mechanisms for bringing science back to humanity. It is a fact that both novels have become very popular. In their specific way they have used literature to the purpose of a regulating mechanism for the human minds that are involved with the construction of the next cultural age.

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