Technologies of the Future and their Effects on Society and Human Behaviour

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Definition of the Concept *Virtualization*

"The transfer of an object, a mechanism or a life-form into a computer presentation, usually an interactive one". Some examples are the following:

- Presentations of virtual buildings;
- Virtual models in research & development;
- Virtual museums & other sightseeing;
- Virtual Computers;
- Virtual clothing stores;
- VR/AR Gaming.

There are now countless examples, such as simulators that allow you to experience flying in an airplane or driving a Formula 1 car, etc. The exciting thing here is that in the virtual world anything is possible and with the realistic simulation it is like being "in the game".

Augmented Reality

While in virtual reality something familiar to us is simulated reality, *Augmented Reality* is the phenomenon whereby something is added to the reality we experience by artificial means. It is something that does not exist, but is perceived by man as real.

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What Lies ahead?

Developments in the areas of virtualization and augmented reality are depending on the available technology and human creativity. The speed of the Internet is increasing; everything will be wireless and connected; the Internet of Things is being created: smart devices are being interconnected via the Internet. It is estimated that 50 billion smart devices have already been interconnected in 2020.

Computers are getting faster and getting smaller. Electronic raw materials are getting smaller and smaller, allowing the development of miniature computers. The optical computer will be released, operating at the speed of light. It is generally expected that computer architecture will change drastically, as the current architecture is based on ideas from 60 years ago. The chemical computer is also within our reach. And software technology is evolving rapidly. We're talking about "Grid computing" – "In the cloud computing".

Computer AI is constant development. With AI, the independence of technological devices from humans is now being realized. More and more tasks, now guided by humans, are beginning to be done directly through the developing devices equipped with AI. For example, in a moment of danger, a car's computer and its brakes will communicate much more quickly with each other without the driver's intervention. The communication between processes will of course be largely done over the internet and we are going to see the development of independent virtual life there. Our Avatar, for example, in the Metaverse (three-dimensional version of the internet) will not need us for guidance but will continue its activities on its own initiative in our absence.

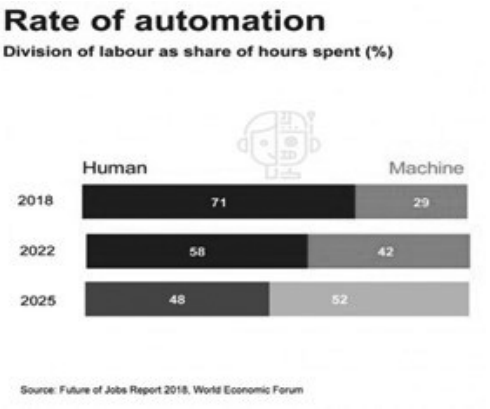
Artificial Intelligence and Work

"The factory of the future will have only two employees, a man and a dog. The man will feed the dog and the dog will prevent the man from tampering with the computers"[1].

1. Warren Benis, University Dean Cincinnati, 1988.

Western societies are already facing with the impact of the Fourth Industrial Revolution. The president of the World Bank said that 150 million workers will lose their jobs by 2022, while 300 million new entrants to the labor market will not find work.

Today, 65% of new graduates are looking for work in professions that are becoming extinct. 70% of the companies are looking for workers with digital skills, while one in three workers have none. It is estimated that the use of AI in machines and the "entry" of robots into the labor market will lead to the loss of 800 million jobs by 2030, which represents 20% of the current global workforce.



Foreseeable Examples of Virtualization

Humanoids, robots with human appearance and behavior through AI, will increasingly find wider application, especially for repetitive, boring or dangerous tasks. In industry, a humanoid may be considered expendable for military purposes, but a human life is not. Robotics is evolving very rapidly. Soon there will be humanoids that look and move like humans.

There is now a noticeable improvement in *Virtual Reality*. We are seeing more and more *Virtual Reality*, more and more *Augmented Reality*.

You'll be walking down the street wearing your smart glasses or contact lenses, with high-speed Internet and GPS connections. Everything you look at will be augmented with information in picture and sound, or the

actual image will be distorted. You will be sitting, for example, on a bench and next to you will be sitting an avatar (of your choice or not) that will be indistinguishable from a real person and with whom you will be able to normally converse. One clever app will distort the image of the objects you look at or the sound you hear, so you can create your own "look and feel" of the world.

Along with cyberspace, augmented reality will create a parallel life in real life, leading some people to become highly dependent on technology.

Adverse Developments

Every technological development has its negative side. Virtual and augmented reality are no exception to this rule. Cyberspace is becoming a parallel dimension of life, affecting almost all people. We will all have something important there and experience the stress of our constant presence there.

As it is expected, the malware production industry follows closely the technological developments. There will be *viruses* infecting and taking control of *avatars*, while virtual identity theft will become a common phenomenon. All this is happening with the aim of stealing information for sale, cyberbullying, fraud or seduction, etc. Cybercrime, internet security, personal data protection, and technology dependency are the issues that urgently need to be addressed in the digital age. In a world where everything in our daily life will be based on the Internet, one of the biggest problems that will arise is simply the fact that at some point you will not be able to connect!

Conclusion

Virtualization, AI and augmented reality will exert a major influence on the digital society's functioning. Human dependence on technology will become universal. The time people will be pending online will progressively become much more than offline. This means that replace face-to-face

communication will be progressively replaced by communication through social networks. We are living in an era of rapid technological evolution. Still, as history teaches us, this evolution will influence us both positively and negatively. The wise use of technology for the benefit of all is and will remain man's task at the beginning of the digital age we are living in.

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