

# Telepresence: Automata, Illusion, and Rejecting the Body

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## ABSTRACT

Telepresence unites three themes of our intellectual history: a) Automation and the search for artificial intelligence. b) Illusion in art. c) Rejection of the body in concepts of spiritual or mentalist concepts. In this relation we will explore the notion of artificial life for the point a), the aesthetics of virtual realities for point b), and precursors of telecommunications for point c). Furthermore we will discuss how these three points evolved nowadays. In this context I will mention some robotics developments, cinema 4d installations and some new wearable technologies, which belongs to the domain of telepresence.

## Keywords

telepresence automata virtual reality robotic internet history

## 1. Automata

The concept of human beings as machines is a very old. It reaches back to antiquity. But the human also used machines for other purposes. Of course, machines were used for creating buildings or for transport purposes. But machines were also used for entertainment and media purposes.

Before 14<sup>th</sup> century the first mechanical theatre of Heron of Alexandria belongs to this domain of entertainment-based automata. In the fourteenth century Filippo Brunelleschi designed a mechanical stage to bring Paradise to life. Almost no entertainment-based automata exists in the Middle Ages. But in seventeenth century automation installations arised again. Descartes developed the idea of an android, which is not to distinguish from a human body. All biological processes has the notion of mechanical occurrences for Descartes. In contrast to Descartes, Hobbes defined mental phenomena as a movement of bodily substances in the head. These concept of an automata apparatus inside the human body influenced the idea of entertainment-based automata. So furthermore machine-based puppets were be used for political events as a continuation and improvement of the human being in relation to the human death.

At the eighteenth century the idea of the android came of age. A couple of stories about androids and artificial human like Frankenstein, Fritz Lang's *Maschinenmensch* in *Metropolis* were published. These history events showed us that humans, especially artists and scientists, wanted to break the limits of the physical body and achieve immortality again and again.

Today these ideas of androids and breaking the limits of the human body and immortality are still up to date in our society. For example, the project *Hybrid Assistive Limb* from the Tsukuba University of Japan is a powered exoskeleton suite for weak and old people. This suite increases the power of the human body through body and motion sensors. People can use this suite for

getting back the power. With this suite people are able to carry heavy things about 20kg and more.

Another example is the idea of the Brain-Computer-Interface. We try to control machines only with our mind and brainwaves. We can use this technology to control machines, which are more powerful than we are ever could be. At the moment these Brain-Computer Interfaces are mostly used for disabled persons and medical purposes.

Many science-fiction stories pointed out in which direction these technologies of Brain-Computer Interfaces and cyborg suites can evolve in the furture. For the example, the narratives of *Ghost in the Shell* are dealing intensively with the domain of androids and robotics and how the human society will used them. The success of these movies and books shows the significance and the up-to-dateness of these topics in our world.

## 2. Virtual Illusions

Virtual reality has a important role in the history of art. Today virtual reality places the viewer in new spatially and temporally illusory environment. This environment fulfilled a new field of vision for the viewer.

Virtual reality began very early. In the 1500 and 1600 century the first virtual reality installations appeared. The Sacri Monti movement (1500-1650) created a virtual reality installation, which showed the different stations of the life of Christ (including Nativity, Crucifixion, and Resurrection). In general the most virtual and artificial installations were used for political and religious purposes.

In Mannerism and the Baroque time, the artist create many chambers of illusions. Very huge panoramas, larger than 7000 square feet, evolved as a mass entertainment sensation. The aim of this panoramas was delivering the viewer a new holistic experience through a photo-realistic canvas. This photo-realistic panorama approach as a new virtual reality, worked so well that even Alexander Humboldt said, that it could maybe supplant long journeys to the original places.

I agree with Oliver Grau that the tendency toward illusionism in our media history delivered a big motivation for creating new forms of media. It is also true that every new medium is successfully pushing the limits of the existing mediums.

Some theme parks tried to reach the full experiences of a natural environment in their virtual environment. They are showing 3D movies and add some physical effects synchronously to the movie. For example shaking the seats for a very fast car race or producing rain for a better jungle experience. This kind of virtual reality is called 4D film.

But nowadays scientists and artists are trying to leave this static stationary environment. They created virtual environments, which are only visible with special devices. These devices could be

special glasses or Pocket PCs. The viewers use these devices like Peepholes in the real environment. These augmented-reality devices make virtual environment inside the real world visible. I interpret this development as a additional new sense for the human body. We can call this additional sense the "illusion sense", the sense for the unreality. The MIT project "The sixth sense" from Pattie Maes and Pranav Mistry demonstrated very well, in which ways we can interact with the combination of the real and virtual environment in the future.

### 3. Rejecting the Body

Every prehistory attempts tried to degrade the distant places through the medium image. This image can not be influenced or controlled by the observer. Some belief systems used this medium image as a connection. They interact for instance with god or other presences, which represents the power of the belief system.

Later in the medieval and early modern periods, the mirror as a picture has an important role in the human society. The mirror allowed extraordinary observer experiences, like the cylindrical mirror for example. The mirror was used for long-distance agencies and furthermore for some spiritual activities.

In the beginning of nineteenth century and the end of the eighteenth century, the Cinéma Telegraphique and Telephonoscope transmitted moving images and audio signals through long distances. These developments and the possibility of long-distance communication were the start to disembodied our daily communication.

In the notion of telecommunications the Italian Futurists Marinetti and Norbert Wiener developed utopian technologies. For example Norbert Wiener wanted to translate the essence of man into code and transmitting it through telephone lines elsewhere. These ideas were often inherent in the disembodied of the human. The combination of these special ideas and the advancement of telecommunication in this time were a good inspiration source for new spiritual ideas and new myths. The idea of transcendental began to arise. The society began again to think about the concepts of the human soul and their immortality. This situation awake a new interest of belief systems like the Buddhism in the western world.

Nowadays, the idea of ubiquitous telepresence is a pioneer. I am not very sure if Oliver Grau is right to comparing this idea of ubiquitous with the idea of an all-seeing god. But this comparison is interesting in relation to the BIG BROTHER discussion, which private groups debate. They try to avoid an one all-seeing system in our society. I think it is right to refuse an one all-seeing system, because some belief systems instrumented this concept of an all-seeing system for producing fear in the human society. And fear can easily used for controlling a society. The idea of the free human will get lost, when we will reach this one all-seeing system.

### 4. Telepistemological Implications

The media-induced epistemology of telepresence has a big influence in our society. The three archetypes of telepresence - automation, virtual illusion, and a non physical view of the self - raises fundamental questions how distances affects our capacity and treatment of knowledge and discovery. In the eighteenth century distances have seen as a precondition for reflection, self-discovery, and the experiencing of art and nature. The German

Language has also one saying, which belongs to the view of distances in the 18<sup>th</sup> century: "Der Weg ist das Ziel" Nowadays we should more think about these saying and why it survives in our very accelerated society. Today we have to pass distances as fast as possible and we lost the time of (self) reflection. But sometimes reflection is very useful for recognition some own mistakes.

By the evolution of mobile communication systems and the Internet we reached a completely new level of telepresence. We have to learn how we can handle these new possibilities without running in mental-based diseases. Maybe the increasing demand for quite places and the increasing number of pilgrims points out, that the human society has began to learn, how to handle this ubiquitous telepresence.

Furthermore, Oliver Grau is right that the telepresence is changing our classical perception of space. The technologies environments like TelePresence System from Cisco allowed to create the realistic experience of a meeting, but the attendees have not to be physical available in the room. They could be distributed in the whole world and the feeling for all attendees is like they are physical available. These new almost realistic perceptions will completely change the processes of collaborative working in the future. The best evidence for this movements are the start-ups companies and projects huddle, mindmeister, skype, Google Collaborative Services (Google Wave, Google Docs etc.), Adobe Stratus Project etc.

### 5. Conclusion

In the notion of telepresence and their evolution shows that technology, computer scientists, engineers and artist have a connection. This relationship is going to become stronger in the future, because the interactive artists are inspired by circumstances which the technologies can not really solve. The artists try to find new ways for these problems, which inspired technology industry vice versa. The next big question for a new prediction is, which role will play the genre science-fiction for the evolution of telepresence?

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