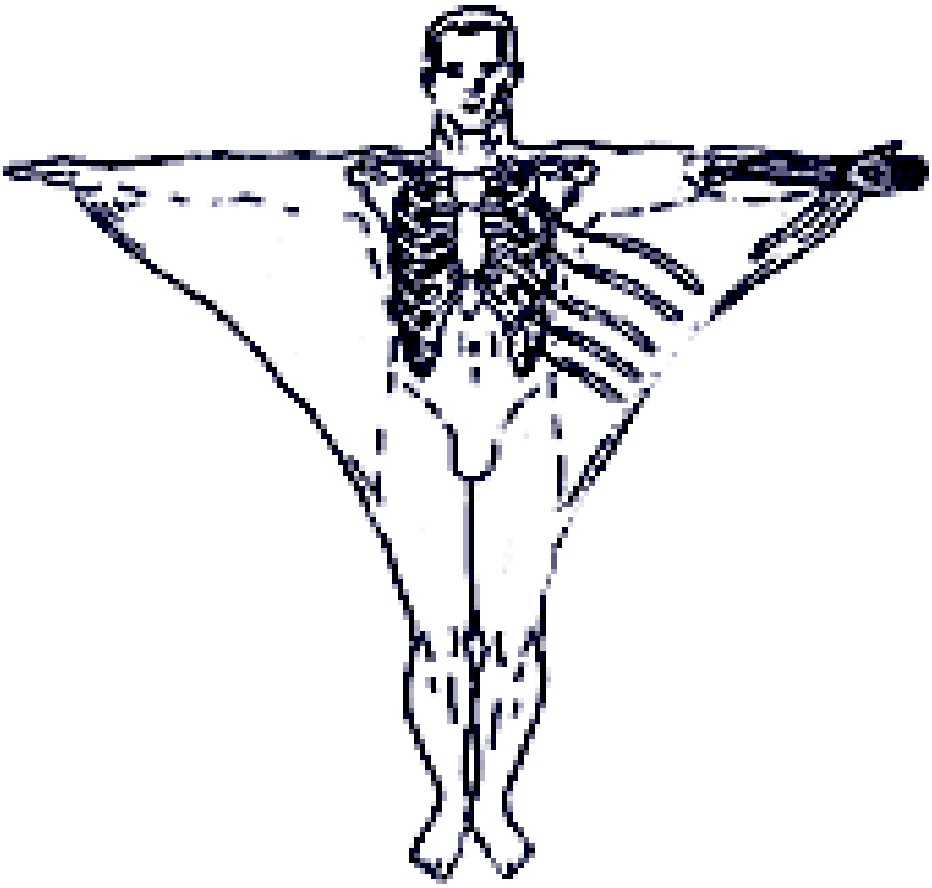

Blueprint for a winged human, by Dr Burt Brent
from "Thoracobrachial Pteroplasty Powered by Muscle Transposition Flaps"
in *The Artyistry of Reconstructive Surgery* (1987),

I have seen the future and it is morphed.

Ovid

Introduction

Since I have been always a great Star Trek Fan and fascinated by the new technology they used, it was simple decision writing about this topic. I will explain the "cyborg", what does it mean to me and other people and how the term cyborg and cyborganisation changes our way of looking at things. I will lead through the topic via some questions. Furthermore I tell stories about how our world may change in the future. And I have some questions not answered because sometimes there is just no – or no one- answer.

Cyborg, Cyoborganisation and Stories

"I am wearing contacts. Am I a cyborg?"

"We are the Borg. Lower your shields and surrender your vessel. We will add Your biological and technical distinctiveness to our own. Your life as it has been is over. Resistance is futile." (1)

Do these two examples show the present and future of human being?
First of all both examples are one type of being a cyborg. The word cyborg is the shorthand for cybernetic-organism and in short, it is the merger of flesh and technology. Cyborg emerged out of the field of cybernetics. Norbert Wiener defined 1984 cybernetics as the "study of the control and regulatory of complex systems". (2) In 1960 M. Clynes and N. Kline came up with the term cyborg. They suggested advantages in altering the human body for travelling in space.
Today we can define different stages of evolution of the cyborg. As Carlton University shows on their homepage, and as you can see in Appendix 1 there are four steps.

The Borg shown in the example appear as the dark vision of humans (most of them seem to be human but originally they are a ruthless race), which are completely transformed into cyborgs. Soon after birth every Borg receives

bionic parts that replace or improve some natural parts of the body. All individuality is eliminated, there is no one Borg but THE Borg. The collective is looking forward to upgrading their race by assimilating the technology and lives of other races.

Today we are far from being Borg but technology changes our lives every day. It does not only change us as individuals but also in whole organisations. An organisation can be called a cyborganisation if there are human beings and technology involved in it. Cyborganisation is not negative, "it should be a positive symbiosis between human beings and technology". (3)
We can also take the cyborg and the cyborganisation as the complete new way of looking at an organisation. Normally we deconstruct the term and we look either at technology or at humans. The technology represents in the same way a hard system as humans represent the soft system. And every system tells us its story.
If you think about an organisation the paradigm of a hard system, you think of technology, performance, efficiency and all other things you can measure. It is related to consistency. Soft systems thinking refers to all things you cannot measure. That means all kind of human activity. For example how can you measure the decisions a manager makes? You can only judge if they are good or bad. And thinking in categories of subjective good or bad is thinking about soft systems. So, soft system thinking has to do with all effects you cannot plan or control in advance. Every system tells us its story. For example, take a hospital. There are people and machines working in it. If there were no machines the doctors and nurses often could not help their patients. And machines without humans would be ineffective in the same way. But this is not the way you look on cyborgs. Because the cyborg is something completely new, you cannot defragment them into non-human parts and later into human parts. This would be the way I looked on the hospital before. This old way of looking at things, separating them, does not work for the cyborg or the cyborganisation. A cyborganisation works only if the two systems do more than just interact. You can only talk about cyborgs as a whole. And if you do so, you must introduce a new way of looking, as you cannot use the old sight of hard and soft systems. It is a new story told in a new language.

Regarding us as cyborgs and our world as a lot of different cyborganisations raises some questions:

- Do we use the technology or does technology use us?
- Are we part of a big machine?
- What about science?

Do we use the technology or does technology use us?

First of all I would say that today, we use technology, instead of technology using us. But more and more we are becoming dependent on technology. Who of us would or could live without cars, microwave, and computers? And what will be if we get used to technology inside our bodies? I do not want to miss my contact lenses, they are part of me and they make me see well. Can you imagine that one day we have some little nanorobots inside our bodies which help us fight against cancer, restore destroyed cells, clean the teeth? It sounds like a brave new world, but what do you say, if you remember that man often did not recognise the danger that a new technology brings with it. And we often do not consider the fact that a Samaritan institution does not develop such a technology. Normally there is a company or an organisation behind it that has some interests. Today perhaps financial interests but tomorrow?

Are we part of a big machine?

We are already part of a machine today. If you look at our society as a machine that is “organized not by neurons or electrons but by dollars “ (4). We all want this machine to function perfectly so that we all can make our profits out of it. Maybe regarding us as a cyborganisation would not develop a completely new machine (like cyborganisation creates a new way of looking at things) but changing the old machine. We are happy in our society, perhaps we are happy in a machine as well. Consider the movie “Matrix”. Everybody is glad living in this perfect world. As they do not know that everything is an illusion, a story that is told by a machine that uses humans as batteries. The

story behind the movie sounds like a shift of definition: the humans are degraded into being exchangeable parts and the machine makes decisions, plans, it thinks! Matrix is also a good explanation for some postmodern aspects. As postmodernism tells us, it is not important that the story is true. Only the deeper meaning is important. And what is the deeper meaning of cyborgs and cyborganisation? As told before, it is a new way of looking at things, a chance of looking in a new world. The idea of cyborgs makes us critical about the old paradigms. Maybe this is a deeper meaning of the whole cyborg thing.

What about science?

Cyborg needs science!

In the past, science was not only good for us. That concerns not only the nuclear and chemical weapons but also the fact that technology does not only simplify our life but makes it more complicated as well. It makes our life more hectic and stressful and harder to manage. The hard system technology influenced heavily the soft system human. A long time ago humans thought (they believed the stories the scientists told them) that science – by which technology is created – is universal and good for all of us. And science seemed to be the source of the enlightment in the 18th century as Lyotard tells us. Today we notice that science is not the only answer for all questions and science is also not a universal benefit for all humans. Science is split into a lot of specialized sub-topics and every scientist wants to work on his sub-topic and get money for his private contribution. And they often do not share the knowledge due to competition. Can we now say that these people (cyborgs) who have the knowledge about certain technologies are powerful? The first way you can think about power is that some people have it and other people do not. But Foucault says that "Power is the war everybody against everybody… and power is no commodity, power is exercised rather than possessed"(5). If we consider the human parts and the technological parts as two sides fighting against each other, what part is going to win? We believe in the story of the scientists that nearly every technological approach enhancing our body is good

for us. But in postmodern times there is neither truth nor lie only something deep inside a story. And what is the continuous story of the theory that technological spare parts are good for us? Human parts are weak and it is better to substitute them? If we consider a "deeper" meaning of a story and Foucault's theory of power we can say that the narrative is only told to lead us away from being human, towards being technical. And with every step we take, technology gets more and more power, manages more and more of our life function and movements. And some people – some scientists – have the knowledge to make the next step. As we said before at the moment the technology we use is powerless. We must not wait until we get an environment like in "Terminator" where the robots and the machine are chasing the last humans.

The latter is the apocalyptic vision of a powerful technology but the power of the technology starts earlier. Is it not already a sign of power if technology makes us think about our environment, organisations and ourselves in a completely different way? We cannot divide cyborgs into hard or soft systems, we must look at them as a completely new system. Some parts of a new system we can name but not touch. Let us take a look at cybertext. It is a kind of text that exists in a virtual world only. You cannot write cybertext on paper. But you can see it and use it by the help of your computer. And it makes our lives easier. Now we do not have to read whole chapters of a book until we get the information we have been looking for, we only click on a link and we are there. And the computer and the Internet itself is a fascinating object of our new world. Via the computer we can chat with other people. There is a new reality existing inside the net. And for some people this reality is more interesting than real life. They act like drug addicts when they sit in front of the machine. And perhaps it is a drug. In the 60s the hippies used magic mushroom or cannabis or other things to expand their mind and their senses. (7) If you sit in front of your computer, of your virtual reality, your sight of reality also changes. Inside the computer are your friends, your family. You are only sitting there, serving the machine that the virtual world, the technological invention can exist. Perhaps you have no wooden leg or no

contact lenses but you realise your world only via computer, and that makes you a cyborg.
This rises a question: you are sitting in front of your computer, are you still in "reality" or are you part of "virtuality"? We accept that virtuality is a part of our new reality ant therefore we are stepping into a new world. For creating a new term we just forgot or contradicted the old way of looking at the things that happen. And this is also the way great developments happen. Galileo could only discover new things because he visioned a new word and he did not look at the world as all other persons were used to. And we must go on to look at the world in this way. If we do not so, science, or let us call it "scientism" will be the new dogma that dictates our way of living. Something we accept without any doubt.

"Cyborganisation – cyberorganized assemblages of people and things"(7) make the things become more and more complex and wicked. There is not longer one man in a company who can fix all, there are several specialists, everyone specialized in "his" technology and we must believe in what they say, otherwise nothing functions. They repair our computers; they press the right buttons. These experts are highly paid, they are already more than just an average employee, it seems that they could communicate with technology. It is no longer about working as much as you can e. g. at the assembly line but being an expert in the thing. Perhaps in future every company consists of a lot of cyborgs, interacting, making the system work, fixing problems; they would never have WITHOUT such a sophisticated technology. And a computer decides the best way managing the tasks, sending the right cyborg to the right problem.

Conclusion

Now we have read a lot about cyborgs. We noticed that the cyborgs tell us a complete new story that is more than just a combination of the stories of humans and machines. If we all can be regarded as cyborgs how can we call us humans in the same phrase? The story of cyborgs contains the story of humans

but it is not the story about humans. We therefore are no longer (only) humans; we are cyborgs. And if we are cyborgs there is always a part of technology in our story. And the story continues… "Where are we going? What is there to look forward to?" (8) We are a part of a cyborganisation but the development to a cyborganisation can it also be the way of developing towards a complete technology dominated new world? Today money makes the world go round, tomorrow neutrons and electrons? And one day the factor human is just a disturbing factor for the machines like we see it in Terminator? A lot of questions that nobody can answer. It is only speculation; we have an illusion about our future. But perhaps we are already living in a complete made up world. Like the world in the Matrix, we only dream dreams about reality. Perhaps we need now a radical shift of thinking, perhaps going towards sophisticated technology is the wrong way. Perhaps we need a new sight on our world. "Maybe self-improvement is not the answer"(8). Technology makes the environment not better. Perhaps we need an anarchic Tyler Durden, the protagonist of the postmodern novel Fight Club by Chuck Palahniuk, who shows us a new way of thinking. Thoughts about destructing everything we achieved to open our minds, to help the world to recover, to help us live just as humans not as cyborgs. But this is another story.
It is an endless topic, the assignment made me re-think my whole existence and I have no clue yet. Maybe it is not necessary to have a clue. If there were one final answer, one final truth we would stop thinking and this end of thoughts would be the end of a part of being human.

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Appendix 1

Stage 1: Simple replacements or augmentation of the human skeleton for example false teeth, wooden leg, hook. The human can use this things like he uses a tool but there is no neural connection between him and his artificial part.
Stage 2: The sophisticated version of stage 1. A replacement of muscle for example a mechanical hand. The artificial part can be moved. The mechanic part is not connected to the nervous system but to groups of muscles that interact with the nerves.
Stage 3: Bionic parts. Bionic means that these alterations reach the nervous system. Today there is one example, the heart pacemaker.
Stage 4: This sounds to be science fiction. The "Visor" of Geordi LaForge in Star Trek, interfaces between the human and the computer like you can see in the movie "Matrix" and so on. These parts are a replacement or an augmentation of pieces of the central nervous system.