

Extensions, Boundaries & Double Crossings

Or: We don't trust anybody. Shadowing Theory and Technology constructing subjects

Mercedes Bunz

"Reality Engineering and the Computer" are the words that startet this text. It was constructed for an amsterdam symposium of the same name. And I have to admit right away that what I found most interesting about this title and what will be a kind of core of the text is the "and". It will focus on the different ways in which the word "and" formats the relation between reality - which means us, the humans - and the computer. My ambition is to demonstrate that the "and" is the political zone of this constellation. A hidden machine, a concealed theoretical protocol which constitutes boundaries.

But it will take several shifts to arrive - hopefully - at that conclusion. The first shift: The text will freely turn the title upside down - transforming the question "How does the computer engineer reality?" into the question "How does reality engineer the computer?" although the context of the title seems to push its meaning towards a "Computer-assisted construction of reality" - as the press text suggests. But "and" arranges the relation in "reality engineering and the computer" loosely enough to leave some possibilities - like to invert the relation. And why should one hand out reality only to one side of the screen, especially because there is already an established discourse about how media is constructing and changing reality - frightening analyses which are most of the time ruled by "Kulturpessimismus" - as we say in German. Therefore the text will re-arrange the positions in order to demonstrate how these theories of technology themselves are constructed, and how they construct the technical discours and with it the technical reality.

By doing so we accept, that there are not only technical protocols which set the framework to determine a course. The concepts of media theory do set frameworks as well, and they codify the discourse and therefore the practices of technology. So the following text understands media-theory as a theoretical protocol, which does not only produce a certain view on technology, but a view that constitutes facts. Armed with the French Sociologist Bruno Latour who showed that objects can't be divided from the subjects - and we will take those here as our deputies of reality - it will analyse how the discours and the practices of the technology of the Internet is influenced by theoretical concepts. So on a basic layer we are about to ask the following questions. [1] Which concept of a human subject is developed by a specific media theory? [2] How is the "and" organized and consequently what is the additional role that the technology must play?

I. For many years now

For many years now it has been common to refer to technology as an "extension of man". Indeed, "the extension of man" sounds as funky as "planet of the apes" and one wonders why the concept did not make it to Hollywood as a movie title. There wouldn't even be any copyright problems. Although Marshall McLuhan is the most popular name connected with that theoretical concept, the concept is quite a lot older. It is dating from before the 19th century anthropology all the way to the ancient Greeks and Aristoteles. He already outlined technology as a substitute for biological defects and technical development and understood it as a cultural progression. And with or without Hollywood we still seem to believe in the same idea and understand technology as progression and an indicator of a nation's status. The only shift might be that we exchanged adjectives and replaced "cultural" with "economical".

So up to now the concept of technology as an extension of man gets repeated again and again. While the technical inventions and the terms describing technology transformed from *techne* and *machina* to arts and crafts, "back" to machines again [but did it really re-change?] and finally to high-tech, the underlying validity and continuation of the theoretical concept "extension of man" is very impressive.

But does it really stay the same? For example we could say that today it is a common belief, that we no longer control technology. We rather believe, that technology is controlling us. Which is why we are here today - to question the reality of contemporary technology, to "provide(s) a glimpse of the past and the future of the computer-assisted construction of reality". We don't trust anybody - a very sceptical, suspicious and therefore post-modern condition, Bruno Latour would say, denying, of course, the so called "modern" assumption that with the help of technology as our extension we humans control nature. Or travel around the universe. Technology and Extension - obviously their relation transforms within the validity of the terminology and we have two possibilities to read "extension" - a modern and a post-modern one. Hence, in the following part of my talk I will take the term "extension of man" directly and cross it with the questions of the "and" to analyse it word by word in a close reading following the trace of the extension.

II. Extension seems to be a very clear condition

Extension seems to be a very clear condition, because it functions only in one direction. It introduces a hierarchy between two things. Man is extending, technology is being used for it. It links an active subject to a passive object that is appropriated. A very classical figure of philosophy, which is used all over the historical discourse of technology, in order to explain why man invented tools. Technology is therefore not only an extension but an intention of man too, because our fingers were too clumsy, because our power should be enlarged, because our orders should be heard far away. This is history of technology driven by the projection of organs. And with the communication technology - specifically the Internet - this concept is reinforced again, even though it might sound a little bit obsolete. Derrick de Kerckhove for instance - former assistant of McLuhan and now director of the McLuhan-Program at the University of Toronto - describes the Internet in analogy to our nervous system - which is a topic stemming not only from McLuhan himself but from 19th century efforts trying to understand the

function of the telegraph. And just like with the telegraph people celebrated the Internet as an appropriation of space and time and followed Marshall McLuhans prediction of a global village.

III. But anyway. A "Machbarkeitswahn"

But anyway. A "Machbarkeitswahn" - a "mania of feasibility" like the one experienced in the fifties embodied in visions of acquiring space and time failed to appear. Dreams of humans living under the water, in a star ship or on mars were not re-invigorated - unfortunately. So did this concept of feasibility fail? Or do we just have to look somewhere else for it? Maybe feasibility didn't happen in classical science fiction sense, but it did happen intensely and overwhelmingly in: the economic arena.

"It began with the arrival of personal computers, open markets, and globalisation in the early 1980s. Computers, networks, biotechnology, alternative energy technology and eventually nanotechnology could keep the Long Boom growing for at least the next 20 years" reported the American magazine *Wired* in 1998. Which we translate as the following: There are so many subjects out there. They all want to have their extension. So sell it.

For a while we could watch the new economy market dictating a new market reality with new rules for the stock exchange - for example not to judge them by profit but by turnover. Here we have a first example how a specific protocol - the theoretical architecture of the Internet as the extension of man - is engineering an economic level of reality, which in turn drove up the value of a stock and resultingly, made a specific type of technology appear. It also for example turned the focus to software-technology that was primarily developed for the economic arena. Coding as a creative process or html as a language easier to learn than German is not at issue anymore at all. The Cyber-Community of Producers who ruled the net in the middle of the Nineties with their babble about collective identities and experiments of identity-swapping were forced out. The CEOs became the new paradigm of the net followed by a whole field of Security Software: Firewalls were built, digital watermarks got invented, Content became something you had to talk about as a surplus.

A technical reality was formed by a discourse - it is evident that although tech-talk's formalized language seems to pretend hard facts there is no so called "nature" of technology. The political, cultural and economical interests on controlling the Internet is therefore always a discursive struggle, and we are responsible for taking part. Lawrence Lessig, a Professor at Havard Law School and advocate for open source software, insists for that reason: "It is not the nature of cyberspace to be unregulable; cyberspace has no 'nature'. It only has code - the software and hardware that make cyberspace what it is. That code can create a place of freedom - as the original cyberspace on the net did - or a place of exquisitely oppressive control."

IV. But while the market was rising

But while the market was rising with the concept of enlarging the human range via the Internet the typical problems of a modern humanism showed up: Which human will it be? Will it be me? Newspapers, Politicians, Critics of all sorts began threatening people with a loss of their identity. The UNESCO called for several meetings of about 40 cultural ministers to keep cultural diversities alive - as if man was an animal in danger of extinction. How can we conserve identity? Shall we put it into a museum? Can we find an equivalent to the zoo? Will we breed different kinds of identities? Or is it better to market them as tourist attractions?

Despite all those serious and interesting questions it is apparent, that the threat of globalisation was not discussed as a problem of capitalism behaving as a worldwide standard. It was the Internet, which was to blame, not credit cards as the only valid value. When villifying the Internet and not capitalism as the monster of globalisation one cannot hold on to the modern idea of an extension of man, one cannot hold on to an autonomous subject of intention. Monsters do not behave like passive objects. With the concept of the Internet as a monster one becomes post-modern.

IV. We actually have concealed

We actually have concealed not only this, but some of the problems that occur in the technical theory of the modernists. Technology as an enlargement is not behaving as passively as it was supposed to. Technology is not only a supplement of the human, but a supplement of other technology as well, exclusively made to produce other tools. Hence the relation within the technology is much stronger than the one between man and technology. And the more complex technology becomes the fewer humans need to be part of the machine actions. So where to put the intention? This shuffles the direct and hierarchical relation of the traditional modern concept. But I will show that therefore the architecture of the "extension"-protocol must not necessarily collapse. Instead it can be re-established the other way around.

We have seen that technology is treated as an extension of man; it is treated like a supplement. But like Derrida demonstrated for "Écriture" - for "writing" - it has an additional effect apart from being a "surplus", from being an addition that is expanding the presence of the subject. Marshall McLuhan reported in *Understanding Media*: "... the 'message' of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs. The railway did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure." It is not only a substitute beginning at the "positivity of the presence" as Derrida would say - in our case a subject, which it has to enlarge. It shapes it. Now humans were to become the extension of machines. "Media determines our situation." - with this sentence Friedrich Kittler started his analyses of "Grammophon, film, typewriter". While the modernists celebrated History as the human achievement getting more and more independent of nature, the Post-modernists rewrote history as the development of machines getting more and more independent of man. The media theory of Baudrillard, Virilio or Kittler can claim copyright for this: they shifted the role of technology from being a passive object to an active one. The concept of an active

subject that was commonly bound to humans got now bound to machines. This constituted a logic of machines in terms of velocity, simulation, time or memory. With this the machines became the subjects and the humans their extensions. However - the architecture of the protocol wasn't invented anew rather it is simply a reshaping of the concept. Humanity and technology simply changed places. The parts were shuffled, the roles were exchanged, but the architecture of the protocol stayed the same.

V. But the result of the post-modern protocol

But the result of the post-modern protocol is not the disappearance of humanity. Discussing the human subject as an address of a machine is - in a specific and very interesting way - strengthening the idea of something human, not dissolving it. The continuity between modern theories of the autonomous subject and post-modern theories dealing with the disappearance of it, is much stronger than we usually believe. The reason for this: Post-modern media theory is built on the idea, that we are already parts of machines - their addresses - but as opposed to Donna Haraway's concept of a cyborg, we do not embrace the machine to become some kind of Mensch-Maschine-entity. In the post-modern theory we stay human entities - but lost like the humans in the movie *Matrix*, who are unaware that they live their lives for machines, that have transformed them into dreaming power stations.

By reducing technology to a 'technology of war' post-modern theories enforce the division of technology and humanity. Kittler for example is strengthening the relation of the typewriter to the revolver - both were produced by the same company, Remington. Virilio is analysing the technology of film as a war technology - the camera as a visor to target the enemy. But we only need to collect the sort of gadgets that form the centre of these theories. Nearly all of the cameras, monitors, and computer games got analysed according to their strong relations to the war. The post-modern media-theory is not built upon toasters, hair-dryers or dishwashers. There are reasons for that. The concept bases on the fundamental distinction of technology and human, and it needs the war to work them out as opponents.

But with this distinction it re-establishes the human as an entity going under rather than vanishing like a face in the sand to become something new. I would say this is a profound difference between so called poststructuralist theories and post-modern ones: While the post-modern ones were eager to get rid of the human subjects, the poststructuralist theories - Foucault, Deleuze, Derrida - wanted to overcome the concept of an independent autonomous subject as a theoretical figure at all. While Derrida insists in his theory, that writing, technology, art, pictures - all ideas of representation - have these two meanings: to add something to the presence and to replace it at the same time, post-modern theories of technology support only the latter - and they got joined by the mainstream discours.

The extension as a dangerous supplement - a monster again - that threatens and replaces civilized humanity - the architecture of the post-modern theory did engineer a suspicion towards technology, a discourse of "Technikfeindlichkeit" - as

we say in German. "What have they been smoking?" asked *Wired* in 1997 regarding *New York Times* reports that since the newspaper woke up to the Internet as a story it only described the Net as a place of social pathology. "Hate groups use Tools of the electronic Trade" March 13th, 95. "Attack of the cyberthieves" July 23rd, 95. "Man charged with raping date he met form E-Mail" February 16th, 97. "A seductive drug culture flourishes on the Internet" June 20th, 97.

These fundamental and threatening influences of technology are produced by a post-modern protocol of fundamental difference, and they are still an issue in the mainstream press of all western nations. The computer or the Internet is treated like a dangerous supplement, which is for example changing the child either into a killer or into a suicidal person. While I was working on this text mainstream press blamed - like many times before - his computer when a German boy just recently committed suicide and did report his purchase of a gun in a chat room for suicidals. An expert warns parents after the TV-report: You must know that computers can be addicting. They can change your child. In other words: If you get too close to technology you will loose your humanity. Society prefers to shield behind technology instead of facing its social problems.

To keep the human subject tidy and shelter it from technology a whole branch of automatic disciplination got invented. Content filter technology like, for example, that of the international Internet Content Rating Association. Now, if you open the Site of Big Brother a window pops up and informs:

"Content Advisor. Sorry. Content Advisor will not allow you to see this site. This page may contain some of all of the following: Nudity Level 2 - Partial Nudity. Sex Level 2 - Clothed Sexual Touching. Language Level 2 - Moderate expletives."

What is very interesting in this case is, that in our culture the translation into language is obviously less dangerous than the image itself. But of course language as well is disciplined and every Eudora mail-program Version 5.1 indicates not only if an email contains rude words, but warns you if you use them too. This is nothing but "Reiterating the differences" on a technological level. Again technical programs got produced by a discourse and as a result we can watch live how technology is constituting well behaving humans.

VI. But let us stop for a moment

But let us stop for a moment and take a step back. We have to figure out a *résumé* now, before we go on, before we pick up more things, spin them differently, make the situation more complex and - hopefully - finally clarify it.

Up to now we have seen two different protocols. We have seen the modern protocol of technology as an extension of man. And we have analysed the post-modern protocol of man as an extension of technology. Technology as an extension of man, man as an extension of technology - it seems that nothing could be more opposing and even contradictory than these two assumptions. But we promised not to trust anybody in the beginning and we won't start now. Do we really have two opposing protocols? Are there no connections between them? At least we have already spotted some turbulence in their theoretical systems, so let's have another closer look.

Both develop the figure of an active subject that is appropriating a passive object. Only the modern theory links the active subject to a human widening its range via technology, while the postmodern theory links the activity to a technology constituting the human. But does the assumption of an extension of man necessarily have to be envisioned as an appropriation of the human subject? Are there no problems of migration?

Let us disregard the idea of a perfect integration and instead shift the protocol of theory from an appropriation to an addition, from being organized by an extension 'of' man to being organized by and extension 'and' man. As a result we get a different relation between man and technology. The principle stays the same:

In the concept of appropriation (1) as well as in the concept of addition (2) technology expands the presence of the human subject. But in the first example it is treated in the mode of continuity (1a) as part of the subject (1b) while in the second example it is treated in the mode of difference (2a) as an exterior (2b). The addition - something additional - must be external, is an external spacing of the subject. It is an external spacing of the subject, but it remains being something different.

The consequences of this tiny shift towards a concept of addition are both interesting and significant. The continuity that marked the relation of technology in the model of appropriation - the perfect integration - is replaced by the difference. It is this difference, which binds the two together. With the model of addition structured by difference we could actually find a connection to post-modern theory. But again we have to consider a shift. Post-modern theory links the activity of the technology to the constitution of the human. But does the technology therefore necessarily have to be hierarchical? Do we have to follow the myth of creation and link the constitution of something necessarily to the active subject, which produces the object? Do we really need an engineer? Again we exchange a specific part of the protocol from constituting humanity by the active subject technology (1) to constituting humanity by being its other (2). Sounds a little bit cryptic, but let me explain. While in the first concept technology is producing the human in a hierarchical relation (1a) subject-bound (1b) in the mode of an creator and his creation (1b) - like the typewriter producing the author - in the second concept technology is constituting the human in the balanced relation of difference (2a) by being its other (2b). This second concept of difference rises on the assumption that there can never be one without the other. Every constitution needs the trace of a difference - difference is the condition for identification, for identity, for unity, because one can only be identified simultaneously with the other. Being - one concludes - is digital, at least. Technology then is not anymore an active subject, producing humanity. Technology is the formation of a difference. As the other side of humanity and in its characteristic of being the other, it is constituting the human. So technology constitutes a human subject by being its imprint.

VII. But we do not have two theories

But we do not have two theories, which operate with the same terms, share the attitude of their constellations and therefore step next to each other. We do not have two different, two opposing opinions that we smoothed, because we never really had two diverse points of views. Their relation is complementary. Right from

the beginning - and one could analyse that even historically, I suppose - right from the beginning both theories, the modern and the post-modern one, have existed simultaneously.

The boundary between the human subject and technology is organized by a double crossing, because technology is at the same time an external spacing of the subject and the difference that constitutes it. It is exactly this double crossing, the formation of the boundary, the consistency of the "and", that marks the political zone of the constellation. It can be applied not only to technology but to all forms of extensions - copyright, property, memories, identities, data and so forth. One could construct a differential typology of forms of double crossings, but it would be the context of a form that would define its political impact. Exactly because of this Donna Haraway was right. Nothing these days is more important than to take "pleasure in the confusion of boundaries and (...) responsibility in their construction".