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Repositorium für die Medienwissenschaft

Introduction

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Motivation: Quiet revolutions very quick

There is a cartoon in which a father sits next to a boy of about twelve and says: 'You do my website... and I'll do your home-work.' It accurately depicts the imbalance in media competency across today's generations, typically articulated in the vague and paradoxical terms: "digital natives" (for the young) and "digital immigrants" (for the over thirties). Historical research into read-ing has shown that such distinctions are by no means new: 250 years ago, when children began to be sent to school, it was not uncommon for twelve year olds to write the maid's love letters – an example that also demonstrates that conflicts between media access and youth protection were already in existence in earlier times. Is the father in the cartoon the maid of those far off times? Has nothing else changed other than the medium and the year?

What has changed above all is the speed and the magni-tude of the development of new media. Few would have imag-ined 20 years ago how radically the Internet would one day alter the entirety of our daily lives, and fewer still could have pre-dicted ten years ago how profoundly Web 2.0 would change the Internet itself. Since then, traditional ideas about identity, com-munication, knowledge, privacy, friendship, copyright, advertis-ing, democracy, and political engagement have fundamentally shifted. The neologisms that new media have generated already testify to this: They blend what were formerly opposites — pro-sumer, slacktivism, viral marketing; turn traditional concepts upside-down — copyleft, crowdfunding, distant reading; and assert entirely new principles — citizen journalism, filter bubble, numerical narratives.

Twenty years are like a century in web-time. In 1996 the new media's pioneers declared the *Independence of Cyberspace* and asked, 'on behalf of the future,' the governments of the old world, these 'weary giants of flesh and steel,' to leave them alone.[1] Following this declaration others bestowed the new medium with the power to build its own nation. The 'citizens of the Digital Nation,' says a *Wired* article of 1997, are 'young, educated, affluent [...] libertarian, materialistic, tolerant, rational, technologically adept, disconnected from conventional political organizations.'[2] The 'postpolitical' position of these 'new libertarians' has since been coined the Californian Ideology or Cyber Libertarianism – they don't merely despise the government of the old world in the new medium, they despise government pure and simple.

Two decades later Internet activists and theorists are turning to the old nation state governments, asking them to solve problems in the online world, be it the right to be forgotten, the protection of privacy and net-neutrality, or the threatening power of the new mega players on the Internet.[3] Meanwhile the political representatives of the 'Governments of the Industrial World' – which is now called the Information Society – meet regularly to discuss the governance of Cyberspace – which is now called the Internet. Governments, once at war with the Internet, are now mining it for data in order to better understand, serve, and control their citizens.[4]

Theorists have long scaled down their former enthusiasm for the liberating and democratizing potential of the Internet and have begun addressing its dark side: commercialization, surveillance, filter bubble, depoliticization, quantification, waste of time, loss of deep attention, being alone together, Nomophobia and FOMO (i.e. *no mo*bile-*phobia* and the *f*ear *o*f *m*issing *o*ut). Those who still praise the Internet as an extension of the public sphere, as an affirmation of deliberative democracy, as a power for collective intelligence, or even as identity workshop seem to lack empirical data or the skill of dialectical thinking. Have tables turned only for the worse?

It all depends on who one asks. If one looks for a more positive account, one should talk to entrepreneurs and software developers, to "digital natives", or even social scientists rather than addressing anyone invested in the Humanities. The former will praise our times and produce lists of "excitements": information at your finger tips whenever, wherever, and about whatever; ubiquitous computing and frictionless sharing; new knowledge about medical conditions and social circumstances; the customization of everything; and a couple of ends: of the gatekeeper, the expert, the middleman, even of the author as we knew it. And the next big things are just around the corner: IOT, Industry 4.0, 3D printing, augmented reality, intelligent dust …

No matter what perspective one entertains, there is no doubt that we live in exciting times. Ours is the age of many 'silent revolutions' triggered by startups and the research labs of big IT companies. These are revolutions that quietly – without much societal awareness let alone discussion – alter the world we live in profoundly. Another ten or five years, and self-tracking will be as normal and inevitable as having a Facebook account and a mobile phone. Our bodies will constantly transmit data to the big aggregation in the cloud, facilitated by wearable devices sitting directly at or beneath the skin. Permanent recording and automatic sharing – be it with the help of smart glasses, smart contact lenses, or the Oculus Rift – will provide unabridged memory, shareable and analyzable precisely as represented in an episode of the British TV Sci-Fi series *Black Mirror*: "The Entire History of You". The digitization of everything will allow for comprehensive quantification; predictive analytics and algorithmic regulation will prove themselves as effective and indispensable ways to govern modern mass society. Not too early to speculate, not too early to remember.

Methodology: Differences disclosed by reiteration

If a new medium has been around for a while it is good to look back and remember how we expected it to develop ten, twenty

years ago. If the medium is still in the process of finding and reinventing itself, it is good to discuss the current state of its art and its possible future(s). The book at hand engages in the business of looking back, discusses the status quo, and predicts future developments. It offers an inventory of expectations: expectations that academic observers and practitioners of new media entertained in the past and are developing for the future. The observations shared in this book are conversations about digital media and culture that engage issues in the four central fields of politics and government, algorithm and censorship, art and aesthetics, as well as media literacy and education. Among the keywords discussed are: data mining, algorithmic regulation, the imperative to share, filter bubble, distant reading, power browsing, deep attention, transparent reader, interactive art, participatory culture.

These issues are discussed by different generations – particularly those old enough to remember and to historicize current developments in and perspectives on digital media – with different national backgrounds: scholars in their forties, fifties, sixties and seventies mostly from the US, but also from France, Brazil, and Denmark. The aim was also to offer a broad range of different people in terms of their relationship to new media. All interviewees research, teach, and create digital technology and culture, but do so with different foci, intentions, intensities, and intellectual as well as practical backgrounds. As a result the book is hardly cohesive and highlights the multiplicity in perspectives that exists among scholars of digital media. A key aspect of the book is that the interviews have been conducted by a German scholar of media studies with an academic background in literary and cultural studies. This configuration ensures not only a discussion of many aspects of digital media culture in light of German critical theory but also fruitful associations and connections to less well known German texts such as Max Picard's 1948 radio critique *The World of Silence* or Hans Jonas' 1979 *Search of an Ethics for the Technological Age*.

Another key aspect of this collection of interviews is its structure, which allows for a hypertextual reading. The interviews

were mostly conducted by email and for each field, some questions were directed to all interviewees. They were given complete freedom to choose those relevant to their own work and engagements. Other questions were tailored to interviewees' specific areas of interest, prompting differing requests for further explanation. As a result, this book identifies different takes on the same issue, while enabling a diversity of perspectives when it comes to the interviewees' special concerns. Among the questions offered to everybody were: What is your favored neologism of digital media culture? If you could go back in history of new media and digital culture in order to prevent something from happening or somebody from doing something, what or who would it be? If you were a minister of education, what would you do about media literacy? Other recurrent questions address the relationship between cyberspace and government, the Googlization, quantification and customization of everything, and the culture of sharing and transparency. The section on art and aesthetics evaluates the former hopes for hypertext and hyperfiction, the political facet of digital art, the transition from the "passive" to "active" and from "social" to "transparent reading,"; the section on media literacy discusses the loss of deep reading, the prospect of "distant reading" and "algorithmic criticism" as well as the response of the university to the upheaval of new media and the expectations or misgivings respectively towards Digital Humanities.

That conversations cover the issues at hand in a very personal and dialogic fashion renders this book more accessible than the typical scholarly treatment of the topics. In fact, if the interviewer pushes back and questions assumptions or assertions, this may cut through to the gist of certain arguments and provoke explicit statements. Sometimes, however, it is better to let the other talk. It can be quite revealing how a question is understood or misunderstood and what paths somebody is taking in order to avoid giving an answer. Uncontrolled digression sheds light on specific ways of thinking and may provide a glimpse into how people come to hold a perspective rather foreign to our own. Sometimes, this too is part of the game, the questions or

comments of the interviewer clearly exceed the lengths of the interviewee's response. The aim was to have the interviewer and the interviewee engage in a dialogue rather than a mere Q&A session. Hence, the responses not only trigger follow-up questions but are sometimes also followed by remarks that may be longer than the statement to which they react and the comment they elicit. The result is a combination of elaborated observations on digital media and culture, philosophical excurses into cultural history and human nature, as well as outspoken statements about people, events and issues in the field of new media.

Media Literacy: From how things work to what they do to us

The overall objective of this book is media literacy, along with the role that Digital Humanities and Digital Media Studies can play in this regard. Media literacy, which in the discourse on digital media does not seem to attract the attention it deserves, is – in the US as well as in Germany – mostly conceptualized with respect to the individual using new media. The prevalent question in classrooms and tutorials is: what sorts of things can I do with new media and how do I do this most effectively? However, the achievement of media competency can only ever be a part of media literacy: competency must be accompanied by the ability to reflect upon media. The other important and too rarely asked question is: what is new media doing to us? As Rodney Jones puts it in his interview: 'The problem with most approaches to literacy is that they focus on "how things work" (whether they be written texts or websites or mobile devices) and teach literacy as something like the skill of a machine operator (encoding and decoding). Real literacy is more about "how *people* work" — how they use texts and media and semiotic systems to engage in situated social practices and enact situated social identities.'

The shift from *me* to *us* means a move from skills and vocational training towards insights and understanding with respect to the social, economic, political, cultural and ethical implications of digital media. Understood in this broader sense, in

terms of anthropology and cultural studies, media literacy is not inclined to the generation of frictionless new media usage, but is determined to explore which cultural values and social norms new media create or negate and how we, as a society, should understand and value this. Media literacy in this sense, is, for example, not only concerned with how to read a search engine's ranking list but also with how the retrieval of information based on the use of a search engine changes the way we perceive and value knowledge.

The urge to develop reflective media literacy rather than just vocational knowhow raises the question about the appropriate institutional frameworks within which such literacy is to be offered. Is Digital Humanities – the new 'big thing' in the Humanities at large – be the best place? The qualified compound phrase "sounds like what one unacquainted with the whole issue might think it is: humanistic inquiry that in some way relates to the digital."[5] For people acquainted with the ongoing debate (and with grammar), digital humanities is first and foremost what the adjective-plus-noun combination suggests: 'a project of employing the computer to facilitate humanistic research,' as Jay David Bolter, an early representative of Digital Media Studies, puts it, 'work that had been done previously by hand.' Digital Humanities is, so far, computer-supported humanities rather than humanities discussing the cultural impact of digital media. Some academics even fear Digital Humanities may be a kind of Trojan horse, ultimately diverting our attention not only from critical philosophical engagement but also from engaging with digital media itself.[6] Others consider, for similar reasons, digital humanists the 'golden retrievers of the academy': they never get into dogfights because they hardly ever develop theories that anyone could dispute.[7]

To become a breed of this kind in the academic kennel scholars and commentators have to shift their interest 'away from thinking big thoughts to forging new tools, methods, materials, techniques ...'[8] In this sense, Johanna Drucker proposes an interesting, rigorous distinction of responsibilities: 'Digital Humanities is the cook in the kitchen and [...] Digital Media

Studies is the restaurant critic.'[9] The commotion of the kitchen versus the glamour of the restaurant may sound demeaning to digital humanists. Would it be better to consider them waiters connecting the cook with the critic? Would it be better to see them as the new rich (versus the venerable, though financially exhausted aristocracy) as Alan Liu does: 'will they [the digital humanists] once more be merely servants at the table whose practice is perceived to be purely instrumental to the main work of the humanities'?[10]

The more Digital Humanities advances from its origin as a tool of librarians towards an approach to the digital as an object of study, the more Digital Humanities grows into a second type or a third wave[11], the more it will be able to provide a home for Digital Media Studies or sit with it at the table. The methods and subjects of both may never be identical. After all Digital Media Studies is less interested in certain word occurrences in Shakespeare than in the cultural implications of social network sites and their drive towards quantification. However, interests overlap when, for example, the form and role of self-narration on social network sites is discussed on the grounds of statistical data, or when the relationship between obsessive sharing and short attention span is proven by quantitative studies. The best way to do Digital Media Studies is to combine philosophical concerns with empirical data. The best way to do Digital Humanities is to trigger hermeneutic debates that live off of the combination of algorithmic analysis and criticism.

Summary: digital libertarianism, governmental regulation, phatic communication

Naturally, interviews are not the ideal exercise yard for "golden retrievers." The dialogic, less formal nature of an interview makes it very different from the well-crafted essays shrouded in opaque or ambiguous formulations. A dialogue allows for provocation. As it turns out, there are a few angry men and women of all ages out there: angry about how digital media are changing our culture, angry at the people behind this change. In an

article about Facebook you wouldn't, as John Cayley does in the interview, accuse Mark Zuckerberg of a 'shy, but arrogant and infantile misunderstanding of what it is to be a social human.' In a paper on higher education you wouldn't, as bluntly, as Mihail Nadin does, state that the university, once contributing 'to a good understanding of the networks,' today 'only delivers the tradespeople for all those start-ups that shape the human condition through their disruptive technologies way more than universities do.'

There is no shortage of critical and even pessimistic views in these interviews. However, there are also rather neutral or even optimistic perspectives. One example is the expectation that personalization 'becomes interactive in the other direction as well,' as Ulrik Ekman notes, 'so that Internet mediation becomes socialized rather than just having people become "personalized" and normatively "socialized" by the web medium.' However, most interviewees are more critical than enthusiastic. This seems to be inevitable since we are interviewing academics rather than software engineers, entrepreneurs or shareholders. To give an idea of what issues are of concern and how they are addressed, here are some of the findings on a few of the keywords listed above.

1. Regarding the field of government, surveillance and control, it does not come as a surprise that obsessive sharing and big data analysis are considered in relation to privacy and surveillance. There is the fear that 'our "personal" existence will become public data to be consumed and used but not to get to understand us as individuals through a daring but not implausible comparison: 'distance reading might become an analogy for distance relationships. No need to read the primary text—no need to know the actual person at all.' (Kathleen Kolmar) As absurd as it may sound, the problem starts with the distant relationship between the surveilling and the surveilled. A fictional but plausible case in point is the Oscar winning German movie *The Lives of Others* by Florian Henckel von Donnersmarck about a Stasi officer who, drawn by the alleged subversive's personality, finally sides with

his victim. Such a switch can't happen with an algorithm as "officer". Algorithms are immune to human relation and thus the final destination of any 'adiaphorized' society. Robert Kowalski's famous definition 'Algorithm = Logic + Control' needs the addendum: minus moral concerns.

While there are good reasons to fear the coming society of algorithmic regulation, many people – at the top and at the bottom and however inadvertently – are already pushing for it. Since – as any manager knows – quantification is the reliable partner of control, the best preparation for the algorithmic reign is the quantitative turn of/in everything: a shift from words to numbers, i.e. from the vague, ambiguous business of interpreting somebody or something to the rigid regime of statistics. Today, the imperative of quantification does not only travel top down. There is a culture of self-tracking and a growing industry of supporting devices, whose objective is a reinterpretation of the oracular Delphic saying 'Know Thyself,' aptly spelled out on the front page of quantifiedself.com: 'Self Knowledge Through Numbers.' Even if one is part of this movement and shares the belief in the advantages of crowd-sourced knowledge, one can't neglect the 'danger that self-monitoring can give rise to new regimens of governmentality and surveillance' and that 'the rise of self-tracking allows governments and health care systems to devolve responsibility for health onto individuals' (Rodney Jones). The original name of one of the life-logging applications, OptimizeMe, clearly suggests the goal to create 'neoliberal, responsibilized subjectivities'[12] ultimately held accountable for problems that may have systemic roots. It suggests it so boldly, that the name was soon softened to Optimized.

To link back to the beginning of this introduction: It may be problematic to speak of a "digital nation," however, its "citizens" could eventually succeed in changing all nations according to the logic of the digital. David Golumbia calls it the 'cultural logic of computation' and concludes that Leibniz' perspective, 'the view that everything in the mind, or everything important in society, can be reduced to mathematical formulae and logical syllogisms,' has finally prevailed over Voltaire's 'more expansive version of

rationalism that recognizes that there are aspects to reason out-
side of calculation.' Nadin even speaks of a new Faustian deal
where Faust conjures the Universal Computer: 'I am willing to
give up better Judgment for the Calculation that will make the
future the present of all my wishes and desires fulfilled.'

The redefinition of self-knowledge as statistics demonstrates
that transformation often begins with terminology. However,
the *semiological guerrilla* or *détournement* is not conceptual-
ized as resistance against the powerful but is being used by the
most powerful corporations.[13] An example is the term "hacker"
which is now even found as self-description for members of gov-
ernments, as Erick Felinto notes. Brazil's 'most progressive for-
mer minister of culture, Gilberto Gil, once said: "I'm a hacker,
a minister-hacker".' Regardless how appropriate this claim was
for Gil, Felinto seems to be correct when he holds that 'in a time
when big corporations are increasingly colonizing cyberspace,
we need to imbue people with the hacker ethics of freedom, cre-
ativity and experimentation.' However, creativity and experimen-
tation are not inherently innocent as other interviewees state.
'Hackers may maintain an agnostic position concerning the sig-
nificance or value of the data=capta that their algorithms bring
into new relations with human order or, for that matter, human
disorder,' Cayley holds, assuming that hackers may help the vec-
toralists of "big software" discover where and how to exploit
profitable vectors of attention and transaction. Golumbia goes
even further in expressing a reservation with regard to hackers
and "hacktivism" pointing out the underlying 'right libertari-
anism,' the implicit celebration of power at the personal level,
and 'its exercise without any discussion of how power functions
in our society.' In addition one has to remember that freedom,
creativity and experimentation all are terms also highly appre-
ciated in any start-up and IT company. The "big corporations"
that Felinto refers to have already hacked the term hacker:
'many tech business leaders today call themselves hackers; not
only does Mark Zuckerberg call himself a hacker, but Facebook
makes "hacking" a prime skill for its job candidates, and all its

technical employees are encouraged to think of themselves as "hackers"' (Golumbia).

Have they hacked the very independence of cyberspace? For many the Internet today means Google and Facebook: billion dollar companies as the default interface on billions of screens teaching us to see the world according to their rules. The problem is now, as Nick Montfort states, 'that corporations have found a way to profitably insinuate themselves into personal publishing, communication, and information exchange, to make themselves essential to the communications we used to manage ourselves. As individuals we used to run BBSs, websites, blogs, forums, archives of material for people to download, and so on. Now, partly for certain technical reasons and partly because we've just capitulated, most people rely on Facebook, Twitter, Instagram, Google, and so on.'

The next wave of such "counter-revolution" is already on its way and it also starts in the academic realm itself. It is significant and 'intolerable,' as Ekman states, that projects regarding the internet of things and ubiquitous computing 'are pursued with no or far too little misgivings, qualms, or scruples as to their systemic invisibility, inaccessibility, and their embedded "surveillance" that will have no problems reaching right through your home, your mail, your phone, your clothes, your body posture and temperature, your face and emotional expressivity, your hearing aid, and your pacemaker.' One of the things, for which Ekman wishes more qualms and scruples, is 'pervasive healthcare' which, even in a small country like Denmark, a handful of research groups work on. Ekman's warning invokes the next blockbuster dystopia of our society in 30 or 20 years: the 'massive distribution and use of smart computational things and wirelessness might well soon alter our notion of the home, healthcare, and how to address the elderly in nations with a demography tilting in that direction.'

The driving force of progress is, apart from power and money, efficiency and convenience. This becomes clear in light of the success story of two examples of the 'transaction economy' which itself is the natural outcome of social media: *Uber*

and *airbnb*. As Nadin points out: 'In the transaction economy ethics is most of the time compromised', i.e. Uber disrupts the taxi services and all labor agreements, benefits and job security that may exist in this field. However, it is useless to blame the Uber driver for killing safe and well-paid jobs: What shall she do after she lost her safe and well-paid job in the hotel business? It is the tyranny of the market that we are dealing with and there is little one can do if one tends more toward Hayek's economic philosophy than to Keynes'. The situation is comparable to that of East-Germany in the early 1990s immediately after the fall of the Berlin wall: people bought the better products from West-Germany undermining their own jobs in archaic, inefficient companies that were not able to compete and survive without the help of protectionism or consumer patriotism. Maybe new media demand in a similar way a discussion of the extent to which we want to give up the old system. If we don't want the market alone to determine society's future we need discussions, decisions, and regulations. We may want 'to put politics and social good above other values, and then to test via democratic means whether technological systems themselves conform to those values,' as Golumbia suggests.

The result could be a state-powered Luddism to fight reckless technical innovations on the ground of ethical concerns and political decisions. The response to the "hacking" of cyberspace by corporations is the "embrace" of the government as the shield against the 'neoliberal entrepreneurialism, with its pseudo-individualism and pro-corporate ideology, and the inequities that intensify with disbalances of economic power' (Johanna Drucker). While in preparation for Industry 4.0 the "homo fabers" involved expect the government to pave the way for economic development, the observing "Hamlets" at humanities departments call for interventions and debate. But it is true, 'the fact that many Google employees honestly think they know what is good for the rest of society better than society itself does is very troubling' (Golumbia). The soft version of Neo-Luddites are Federal Commissions that do not blindly impede but consciously control innovations. Given the fact that computer technologies

'are now openly advertised as having life-altering effects as extreme as, or even more extreme than, some drugs' it is only logical to request a FDA for computers, as Golumbia suggests, or to wish the 'FCC to protect us against the domination by private enterprise and corporate interests,' as Drucker does.

While it appears that the issue of corporations and regulations could be fixed with the right political will and power, other problems seem to be grounded in the nature of the Internet itself – such as the issue of political will and power. The political role of the Internet has been debated at least since newspapers enthusiastically and prematurely ran the headlines: 'In Egypt, Twitter trumps torture' and 'Facebook Revolution'. The neologisms "slacktivism" and "dataveillance" counter euphemisms such as "citizen journalism" or "digital agora". Jürgen Habermas – whose concept of the public sphere has been referred to many times and not only by German Internet theorists – is rather skeptical about the contribution digital media can make to democratic discourse. In his 2008 essay *Political Communication in Media Society: Does Democracy still have an Epistemic Dimension?*, Habermas holds that the asymmetric system of traditional mass media offers a better foundation for deliberative, participatory democracy than the bidirectional Internet, since the fragmented public sphere online and the operational modus of laypeople obstruct an inclusive and rigorous debate of the pros and cons of specific issues. The much objurgated or at least ignored experts once forced us to avoid the easier way and cope with complex analysis of a political issue. Today, after the liberation from such "expertocracy," we register a dwindling willingness to engage with anything that is difficult and demanding such as counter arguments or just complex ("complicated" and "boring") meditations. Not only is the democratic potential of the Internet questionable because now ISIS is using social media to recruit supporters, but also because the Internet 'does not "force" individuals to engage with a wider array of political opinions and in many cases makes it very easy for individuals to do the opposite' – whereas before, in the age of centralized mass media, there was 'a very robust and very interactive political dialogue in the US' (Golumbia).

The Internet not only decentralizes political discussion, it also distracts from it by burying the political under the personal and commercial. Yes, there are political weblogs and yes, the Internet makes it easy to attain, compare, check information free from traditional gatekeepers. However, the applied linguist also underlines the ongoing shift from Foucaultian 'orders of discourse' to Deleuzian 'societies of control': 'Opportunities to "express oneself" are just as constrained as before, only now by the discursive economies of sites like Facebook and YouTube.' (Jones) But how much of the information processed online each day is political anyway? How much of it is meaningless distraction? What Felinto affirms most likely echoes the belief of many cultural critics: 'Instead of focusing on the production of information and meaning, we're moving towards a culture of entertainment. We want to experience sensations, to have fun, to be excited. If silence is becoming impossible, meaning also seems to be in short supply theses days.'

2. Fun, sensation, entertainment are effective ways to occupy, or numb, brain time. As Adorno once famously said: Amusement is the liberation from thought and negation. Adorno's equation and Felinto's observation link the political to the psychological and shift the focus to issues of deep reading and attention span. Another very effective form of depolitisization is the subversion of the attention span and the skill of complex thinking, both needed in order to engage thoroughly with political issues. The obvious terms to describe the threat are "power browsing", "multi tasking", "ambient attention". The less obvious, most paradoxical and now quite robust term is "hypertext". It is robust because it doesn't depend on the user's approach to digital media but is embedded in the technical apparatus of these media. The multi-linear structure of the Internet is one of its essential features – and possibly one of the most reliable threats to complex thinking.

This is ironic, since it was precisely hypertext technology which, in the 1990s, was celebrated not only as liberation from the "tyranny of the author" but also as destabilization of

the signifier and as highlighting the ambivalence and relativity of propositions. Hypertext was seen as an ally in the effort to promote and practice reflection and critical thinking; some even saw it as a revolution of irony and skepticism[14]. Today hypertext technology – and its cultural equivalent hyper-reading – appears, by contrast, as the practice of nervous, inpatient reading, discouraging a sustained engagement with the text at hand and thus eventually and inevitably hindering deep thinking; an updated version of 'amusement' in Adorno's theory of the culture industry. Jay David Bolter – who agrees that the literary hypertext culture some academics were envisioning at the end of the 20th century never came to be – considers the popularization of hypertext in the form of the WWW 'a triumph of hypertext not limited to or even addressed by the academic community.' How welcome is this unexpected triumph given that it contributes to the trend, noted by Felinto, of ubiquitous 'stupidification' in Bernard Stiegler's characterization?

When it comes to issues such as attention span and deep reading, academics respond as teachers having their specific, anecdotal classroom experiences. While the extent to which Google, Facebook, Twitter, Wikipedia and other digital tools of information or distraction make us stupid is debatable, there is the assertion – for example by neuroscientist Maryanne Wolf as popularized in Nicholas Carr's book *The Shallows: What the Internet is Doing to Our Brains* – that multitasking and power browsing make people unlearn deep reading and consequently curtail their capacity for deep thinking. Such a judgment has been countered by other neuroscientists and popular writers, who hold that new media increase brain activity and equip digital natives to process information much faster. The debate of course reminds us of earlier discussions in history concerning the cognitive consequences of media use. The German keywords are Lesesucht (reading addiction) which was deplored in the late 18th century and Kinoseuche (cinema plague) which broke out in the early 20th century. Famous is the defense of the cinema as preparation for life in the modern world and put forward by Walter Benjamin in his essay *The Work of Art in the Age of Mechanical*

Reproduction. While others complain that the moving image impedes thought, Benjamin applauded the shock experience of the montage as a 'heightened presence of mind' required for the age of acceleration.

Those who have not read other texts by Benjamin may be tempted to refer to his contrary praise of cinema (contrary, relative to all the condemnations of the new medium by conservatives) when insisting on the beneficial effects of new media for cognition. Others may point to the difference between Geistesgegenwart (presence of mind), that Benjamin sees increased by cinema, and Geistestiefe (deep thinking). The shift from deep to hyper reading resembles the shift from deep Erfahrung (interpreted experience) to shallow Erlebnis (lived experience) that Benjamin detected and criticized in other essays. Processing more information faster in order to safely get to the other side of a busy street is very different from digesting information so that it still means something to us the next day. This meaning-to-us is at stake in a medial ecosystem that favors speed and mass over depth.

If the 'templates of social networking sites such as Facebook constitute a messy compromise between information and spectacle,' as Bolter notes, one may, with Bolter, place his hope on text-based media such as WhatsApp and Twitter: 'The baroque impulse toward spectacle and sensory experience today seems to be in a state of permanent but productive tension with the impulse for structured representation and communication.' On the other hand, the templates of these media (140 signs or less) do not encourage the transmission of complex information nor the engagement in deep discussion. These are "phatic technologies"[15] good for building and maintaining relationships, good for fun, sensation, and entertainment. Whether this is reason enough to be alarmed, Bolter will discuss in his next book, *The Digital Plenitude,* arguing that we experience different forms of cultural expressions which are not reconcilable and holding that 'we have to understand that outside our community this discourse [about what kind of cultural standards we have to pursue] isn't necessarily going to make much sense.' Bolter's conclusion

is radical beyond postmodernism and contrary to any culture pessimism: 'That's exactly what people like Nicholas Carr on the popular level or some conservative academics on the scholarly level are concerned about when they complain about the loss of reflective reading or the ability to think and make arguments.'

For many addressed by Bolter, Wikipedia is one of the red flags concerning the cultural implications of digital media. The concern is mostly directed towards the accuracy of a crowd-sourced encyclopedia vs. one written by experts. However, several studies suggest that Wikipedia's score compared to "official" encyclopedia is not as bad as usually assumed. There are other worries: What does it mean when Wikipedia "intends to be and has partly succeeded at being *the* single site for the totality of human knowledge" (Golumbia)? What does it mean when an encyclopedia rather than monographs or essays becomes the only source students consult today? How will it change the culture of knowledge when one encyclopedia plus search engines become the prevalent form for presenting and perceiving knowledge?

One result of the new approach to knowledge is known to many teachers who discover that students today have a ‚shorter concentration span' and favor audio-visual information over reading (Willeke Wendrich); that they 'want instant and brief responses to very complex questions' (Kolmar); and that their 'moan-threshold' for reading-assignments has fallen from 20 to 10 pages: 'Deep reading is increasingly viewed as an educational necessity, not something done outside the classroom, for pleasure or personal learning' (Diane Favro). Katherine N. Hayles, in her article in *Profession* "Hyper and Deep Attention: The Generational Divide in Cognitive Modes", shares a similar sense of these questions already in 2007. Others may have better experiences or see the reason less in digital media than in the move of higher education towards the type of instrumentalism found in vocational training. They may be convinced that 'the era of deep attention is largely a fantasy that has been projected backwards to romanticize a world that never existed' and point to teenagers playing videogames: 'their rapt attention, complex strategy making, and formidable attention to detail' (Todd Presner). Or

they may remind us that the "deep critical attention" of print literacy did not prevent centuries of war, genocide, and environmental devastation and imagine their students 'rolling their eyes at being called stupid by a generation that has created the economic, political, social and environmental catastrophe we now find ourselves in' (Jones).

Stiegler, who translates Carr's concerns into political language and detects a threat to society if the capability of critical attention is compromised, speaks of the digital as opium for the masses, an expanding addiction to constant sensual stimulation. Stiegler considers the digital a pharmakon – which can be either medicine or poison depending on its use – ‚prescribed by sellers of services, the dealers of digital technology.' He does not accuse Google or other big Internet-companies of bad intentions but blames us, the academics, who did not ‚make it our job to produce a digital pharmacology and organology.' While the theoretical implications of this task are ‚new forms of high-level research' *of* rather than *with* digital instruments, one pragmatic facet of such digital pharmacology is a certain form of media abstinence in order to develop real media literacy: 'Children should first be absolutely versed in grammar and orthography before they deal with computation. Education in school should follow the historical order of alteration of media, i.e. you begin with drawing, continue with writing, you go on to photography, for example, and then you use the computer which would not be before students are 15 or 16.'

Other interviewees, however, suggest that all elementary school kids should learn to program and to 'create and critique data sets' (Drucker) or object: ‚Stiegler's approach of "adoption—no!" may be feasible for very young pre-schoolers, it becomes ineffective, and probably impossible, for children older than five as they become exposed to school, classmates, and other influences outside of the home.' (Hayles) The notion of peer pressure is certainly operative and it is also true that the tradition of deep attention always ‚required the support and nurturing of institutions—intellectual discourse and an educated elite' and that therefore today the role of ‚educators at every level, from

kindergarten through graduate school, should be to make con-
nections between contemporary practices, for example browsing
and surfing the web, and the disciplined acquisition of knowl-
edge' (Hayles). However, one does wonder whether children have
to be exposed to computers as early as advocates of classrooms
decked with technology maintain, if it is so easy to pick up the
skills to use computers and so difficult to learn the skill of "deep
reading." It is also worth noticing in this context that those who
invent, sell and advertise – 'prescribe' as Stiegler puts is – the
new technology partly keep their own children away from it or
take measures to ensure it does not turn into a poisoning drug:
Executives at companies like Google and eBay send their chil-
dren to a Waldorf school where electronic gadgets are banned
until the eighth grade, and Steve Jobs denied his kids the iPad.[16]

What shall we think of people preaching wine but drinking
water? At best, these parents are selling toys they consider too
dangerous for their own kids. At worst, they want to ensure their
own breed's advantage over people addicted to sensory stimula-
tion and unprepared for tasks that demand concentration, endur-
ance and critical thinking. In a way, what these parents do in
their family context is what Golumbia wants society to do on a
bigger scale: to check whether new technological tools conform
to the values of this society – or family.

No matter what one considers the best age to be introduced
to the computer or how one sees the issue of deep reading and
deep attention, there is no doubt that today younger generations
are immersed in constant communication. They are online before
they see the bathroom in the morning and after they have turned
off the light in the evening: 'They live entirely social existences,
always connected and in an exchange, no matter how banal,
about the ongoing events of daily life.' (Drucker) But Drucker is
less concerned about the prevalence of phatic communication
than the 'single most shocking feature' of the way young people
are living their lives nowadays: 'that they have no interior life
and no apparent need or use for it.' For Drucker the disregard
and discard of reflection, meditation, imaginative musing jeopar-
dizes innovation, change, and invention which 'have always come

from individuals who broke the mold, thought differently, pulled ideas into being in form and expression. Too much sociality leads to dull normativity.' The birth of conventionalism out of the spirit of participation; this implicit thesis in Drucker's account is spelled out in Nadin's assessment: 'social media has become not an opportunity for diversity and resistance, but rather a background for conformity.'

One could go even further and say: too much sociality through mobile media and social network sites spoils the cultural technique of sustained, immersed reading. The reason for this is associated with another essential feature of the Internet: its interactivity, its bias to bidirectional communication, its offer to be a sender rather than "just" a reader. 'Feed, don't read the Internet,' this slogan was around before the turn of the century. Today people read as much as they can. They must do so, if they want to keep up the conversation and avoid trouble with their friends. What they mustn't do is: wait too long for their turn. Nobody expects them to listen for long before they are allowed to answer; nobody except their teachers. In his 1932 essay *The Radio as an Apparatus of Communication*, Bertolt Brecht demands a microphone for every listener. It was the Marxist response to the advent of a new medium; a response that exploited the unrealized potential of the medium ('undurchführbar in dieser Gesellschaftsordnung, durchführbar in einer anderen') as an argument to fight for a new social order. The notion of turning the listener into a speaker reappears with the concept of the open artwork and the advent of hypertext. The readers' freedom to chose their own navigation through the text was celebrated as 'reallocation of power from author to reader.'[17] This perspective was later dismissed on the ground that it was still the author who composed the links and that, on the other hand, the feeling of being 'lost in hyperspace'[18] hardly constitutes liberation or power. Who – of all the scholars of literature celebrating the end of linear reading back in the 1990s – would have thought that it actually was the hope for the empowerment of the reader itself that had to be dismissed?

The natural development, following from the demise of patient, obedient readers is their replacement by a machine; the sequel to "hyper-reading" is "distant reading". Nonetheless, the relationship of the reader to the author is similar: one no longer engages in a careful following – or 'listening' to – the author's expression but rather navigates the text according to one's own impulses and interests. The new pleasure of the text is its algorithmic mining. However, for the time being there is still a significant difference between these two alternatives to good old "deep reading": distant or algorithmic reading is not meant as a substitution for deep reading. Rather it 'allows us to ask questions impossible before, especially queries concerning large corpora of texts,' which is why 'we should not interpret algorithmic reading as the death of interpretation' as Hayles states: 'How one designs the software, and even more, how one interprets and understands the patterns that are revealed, remain very much interpretive activities.' The exciting goal is to carry out algorithmic reading in tandem with hermeneutic interpretation in the traditional sense, as Hayles with Allen Riddell does of Mark Danielewski's *Only Revolutions* in her book *How We Think*. Hayles' perspective and praxis counters any cultural pessimism opting for a use of new technologies in a way that does not compromise the old values: 'Instead of "adoption, not adaption" my slogan would be "opening the depths, not sliding on surfaces".'

3. Digital Humanities and higher education is a link that, unsurprisingly, creates certain scepticism among the interviewees. If the Humanities are seen as 'expressions of resistance' that 'probe the science and technology instead of automatically accepting them,' as Nadin does, then the 'rushing into a territory of methods and perspectives defined for purposes different from those of the humanities' does not seem to be a good trade-off. Nadin's anger goes further. He addresses the university as an institution giving in to the mighty IT companies and the deterministic model of computation: 'If you want to control individuals, determinism is what you want to instill in everything: machines, people, groups. Once upon a time, the university

contributed to a good understanding of the networks. Today, it only delivers the trades-people for all those start-ups that shape the human condition through their disruptive technologies way more than universities do.'

The criticism of the 'intrusion of capital' into the sphere of higher education (Golumbia) is shared by others who fear that 'differently motivated services outside the institutions of higher education will first offer themselves to universities and then, quite simply, fold their academic missions and identities into vectoralist network services' (Cayley). The assumption is that the digital infrastructure of the university will affect its academic mission: '"cost-effective" and more innovative services provided from *outside* the institution' Cayley holds 'may then go on to reconstitute the institution itself. "Google" swallows computing services at precisely the historical moment when digital practices swallow knowledge creation and dissemination. Hence "Google" swallows the university, the library, the publisher.' Was this inevitable? Is it still stoppable? Golumbia is not surprised 'that academics, who often rightly remain focused on their narrow areas of study, were neither prepared nor really even in a position to mitigate these changes.' Montfort is less reproachful and displays more hope for resistance within academia: The research Google is conducting is, 'by the very nature of their organization as a corporation, for the purpose of enriching their shareholders. That by itself doesn't make Google 'evil,' but the company is not going to solve the scholarly community's problems, or anyone else's problems, unless it results in profit for them. A regulation won't fix this; we, as scholars, should take responsibility and address the issue.'

While Nadin implies that the humanities and the university in general are being rebuilt according to the paradigms of computer science and big business, in Hayles' view 'these fears either reflect a misunderstanding of algorithmic methods [...] or envy about the relatively abundant funding streams that the Digital Humanities enjoy.' She does not exclude the possibility that Digital Humanities is 'being coopted by corporate funding to the extent that pedagogical and educational priorities are

undercut' nor does she neglect the need for 'defining significant problems rather than ones tailored to chasing grants.' However, one should, with Hayles, see the exciting prospects of combining algorithmic data analysis with traditional criticism rather than always looking for the dark side of the digital humanities. In the same spirit Montfort underlines the valuable insights that already have been reached from computational humanistic study and points out: 'Fear of quantitative study by a computer is about as silly as fearing writing as a humanistic method – because writing turns the humanities into a branch of rhetoric, or because writing is about stabilizing meaning, or whatever.'

After all, rather than being colonized by technical science, digital humanities can also be seen as the opposite if it brings the 'insights from the humanities that are seldom considered, let alone valued in the sciences, including computer science' to computational approaches: 'that data are not objective, often ambiguous, and context dependent' (Wendrich). The same hope – that 'it will be the humanistic dimensions that gain more traction in the field—not just as content, but as methods of knowledge, analysis, and argument' – is uttered by Drucker who rightly calls on Digital Humanities to overcome its obsession with definitions and start to deliver: 'until a project in Digital Humanities has produced work that has to be cited by its home discipline— American History, Classics, Romantic Poetry, etc.—for its *argument* (not just as a resource)—we cannot claim that DH has really contributed anything to scholarship.'

Conclusion and Speculation: Media ethics from a German perspective

If we don't limit the discussion of media ecology to either the contemporary reinvention of the term in the work of Matthew Fuller or the conservative environmentalism of post-McLuhan writers such as Neil Postman, we may refer to the magnum opus of a German philosopher who discussed the cultural implications of technological advancement and its threat to humanity in the light of the first Club of Rome report. In his 1979 book

The Imperative of Responsibility: In Search of an Ethics for the Technological Age Hans Jonas demanded an 'ethics of responsibility for distant contingencies.'[19] We have to consider the consequences of our actions even though they do not affect us or our immediate environment directly. It is remarkable that Jonas saw the fatality of man lying in the 'triumph of *homo faber*' that turns him into 'the compulsive executer of his capacity': 'If nothing succeeds like success, nothing also entraps like success.'[20] Almost 40 years later it is clear that we have more than ever given in to this imperative of technological success and compulsively create hardware and software whose consequences we barely understand.

Jonas' warning and demand are part of the environmentalism that developed rapidly in the 1970s. The discussion today about big data, privacy and the quantitative turn through digital media, social networks and tracking applications has been linked to the environmental catastrophe in order to broaden the discussion of relations and responsibilities.[21] Just as, at a certain point, one's energy bill was no longer simply a private matter – after all the ecological consequences of our energy consumption affects all of us – the argument is now that our dealings with personal data have an ethical dimension. The supply of personal data about driving styles, consumption habits, physical movement, etc. contributes to the establishing of statistical parameters and expectations against which all customers, clients and employees, regardless of their willingness to disclose private data, will be measured. Generosity with private data is no private issue. In other words: obsessive sharing and committed self-tracking are social actions whose ramifications ultimately exceed the realm of the individuals directly involved.

There is no question that society needs to engage in a thorough reflection on its technological development and a broad discussion about its cultural implications. There is no doubt that universities and especially the Humanities should play an important role in this debate. However, it is also quite clear that the search for an ethics in the age of Web 3.0 and Industry 4.0 is much harder than it was in Jonas' time. While nobody questions

the objective of environmentalists to secure the ground and future of all living beings (the point of contention is only the actual degree of the danger), digital media don't threaten human life but "only" its current culture. Data pollution, the erosion of privacy and the subversion of deep attention are not comparable to air pollution, global warming and resource depletion.[22] The ethics of preservation is on less sound ground if this project aims to preserve cultural standards and norms. Even if people agree on the existence of the threat they will not agree on how to judge the threat. After all, this is a central lesson that the Humanities teach: radical upheavals in culture are inherent to society.

Nonetheless, the ongoing and upcoming upheavals and revolutions need to be discussed with scholarly knowledge and academic rigor. According to many interviewees in this book such discussion is not taking place as it should. The reasons are not only political, but also epistemological and methodological. ‚We were given the keys to the car with very little driver's education' and hence incur a high risk of 'derailment' on the digital highway, as Favro puts is. To stay with the metaphor: We also lack the time to look beneath the hood. Rather than pulling all the new toys apart in order to understand how they work we just learn how to operate them. There are too many toys coming out too fast. The frenetic pace of innovation has a reason, as Nadin makes clear: 'what is at stake is not a circuit board, a communication protocol, or a new piece of software, but the human condition. The spectacular success of those whom we associate with the beginnings lies in monetizing opportunities. They found gold!' When Nadin speaks of the 'victory of "We can" over "What do we want?" or "Why?"' it is reminiscent of Jonas' comment on *homo faber*. And like Jonas, Nadin addresses our complicity in this affair: 'The spectacular failure lies in the emergence of individuals who accept a level of dependence on technology that is pitiful. This dependence explains why, instead of liberating the human being, digital technology has enslaved everyone—including those who might never touch a keyboard or look at a monitor.' We need a 'reorganization of the digital,' Stiegler accordingly says, because the Web, ‚completely subject to computation

and automation,' is producing entropy, while the ,question for the future, not only for the Web, but for human kind is to produce negentropy.'

Of course, such negative assessment of the ongoing technological revolution is debatable. It is not only Mark Zuckerberg who, along with his wife in a letter to their newly born daughter, considers the world a better place thanks to digital technology, including of course the opportunity for people to connect and share.[23] Many others too expect advances in health care, social organization, and individual life from computation and automation. Nonetheless, if experts demand the prohibition of certain technological advancement citing predictable devastating consequences – take the *Open Letter from AI and Robotics Researchers* from July 28 in 2015 to ban autonomous weapons – one feels reassured that there is indeed an essential risk that many researchers and entrepreneurs are taking at our expense. This risk is not reduced to weapons and the scenarios of cyberwar (or worse: cyber terrorism) in a world after Industry 4.0 and the Internet of Things. It includes genetically-engineered viruses and self-learning artificial intelligence whose decisions exceed human capacity for comprehension. The questions such consideration raises are pressing: Where does the marriage of intelligence and technology lead us? Who or what are the driving forces? How did they get their mandate? And most importantly: Is it possible to stop them/it?

If we hear scientists who do research on invisible (killer) drones or genetic design we don't hear them refer to Friedrich Dürrenmatt's 1961 tragicomedy *The Physicians* where a genius physicist feigns madness so he is committed to a sanatorium and can prevent his probable deadly invention from ever being used. What we see instead is the excitement to overcome scientific problems with little qualms concerning humanity's ability to handle the outcomes. Technical discoveries, technological advancement will be made, where and when possible, regardless of the benefit to humanity. Some scientists defend their ambition with the notion that not scientists, but society must decide what use it wants to make of the technology made available.

Others, referring to economic and military competition, argue that there is no universal authority that has the power for binding decisions: If we don't do it, the enemy will. It is difficult to ignore this argument, even though dangerous inventions have been successfully banned worldwide, such as blinding lasers, by the UN in 1998. This said, it is also difficult not to consider those scientists opportunists who talk about excitement and competition rather than responsibility, while secretly being in contact with companies interested in producing the perfect embryo or an invisible drone.

Perhaps we mistake the actual problem if we only focus on the "black sheep" among scientists and engineers. Maybe it is really the *human condition* that is at stake here, though in a different way than addressed by Nadin. To turn to another, much older German philosopher: In the third proposition of his 1784 *Idea for a Universal History with a Cosmopolitan Purpose* Immanuel Kant considers the 'purpose in nature' that man go 'beyond the mechanical ordering of his animal existence' and gain happiness from the perfection of skills. The means to do so is to constantly develop the utmost human capacity of reason, from generation to generation, bestowing each with ever more refined technology: hammer, steam-engine, electric motor, computer, artificial intelligence. To Kant, this teleological concept of (reason in) history is entelechic; he presumes (as many of his contemporaries did) a development for the better. To later thinkers, however, such as Hannah Arendt in her 1968 *Men in Dark Times*, the idealism of the enlightenment looks like 'reckless optimism in the light of present realities', i.e. the achieved capacity of mankind to destroy itself with nuclear weapons.[24] As mentioned, since then the advances in human intelligence have brought many more powerful means to life that can end or suppress human life.

Maybe Kant's optimism is the result of a premature conclusion from the third proposition in his *Idea* (to gain happiness from the perfection of skills, i.e. unlimited research) to the eighth proposition (the philosophical chiliasm, i.e. perfection of humankind). There is a tension between theoretical reason (that drives us to explore and invent as much as we can) and practical reason

(that should forbid certain inventions). It is a tension between the *homo faber* as 'compulsive executer of his capacity' and man's ‚responsibility for distant contingencies' to use Jonas' words. It is a tension between the enthusiastic "We can!" and the cautious "Why?" and "To what end?" to refer to Nadin again. In the new Faustian deal, that Nadin speaks of, the devil is the computer or rather: artificial intelligence, with which we trade better judgment for fulfilled desires. The obvious risk of such a deal is the extinction of men or their being locked in or out by post-human intelligence as addressed in 2015 by Alex Garland's *Ex Machina* and as early as 1968 in Stanley Kubrick's *2001: A Space Odyssey* which renders Kant's generational relay race of ever better tools as result of ever better use of the human capacity of reason in a famous and alarming short cut.

However, the metaphor of Faust leaves room for hope. If we perceive the new Faustian deal in the spirit of Johann Wolfgang Goethe, it is open ended. For in Goethe's play the bargain between Faust and Mephisto is not a "service for soul"-trade but a bet. It is Faust who self-confidently dictates the rules of the bargain:[25]

> *If the swift moment I entreat:*
> *Tarry a while! You are so fair!*
> *Then forge the shackles to my feet,*
> *Then I will gladly perish there!*
> *Then let them toll the passing-bell,*
> *Then of your servitude be free,*
> *The clock may stop, its hands fall still,*
> *And time be over then for me!*

Since Faust, who finally turns into a restless and somewhat reckless entrepreneur, wins the bet and is saved, we may look calmly on the new deal. Even more so in light of another important detail in Goethe's *Faust*, Mephisto's ambivalent nature announced when he introduces himself to Faust:

> *[I am] Part of that force which would*
> *Do ever evil, and does ever good.*

Such ambiguity and contradiction has long attracted German thinkers, as for example the Christian mystic Jacob Böhme who, in the early 17ᵗʰ century, understood the Fall of Man, i.e. the use of reason, as an act of disobedience necessary for the evolution of the universe. Two centuries later the negative as precondition of the good, the clash of antithesis and thesis was called dialectic. Georg Wilhelm Friedrich Hegel, who was influenced by both Goethe and Böhme, considered contradictions and negations necessary elements for the advancement of humanity. Before him, Kant employed contradictions as the dynamic means of progress when, in the fourth proposition of his *Idea* for example, he discusses the 'unsocial sociability' of man that finally turns 'desire for honour, power or property' into 'a *moral* whole'. The negative is the vehicle for the implicit purpose of nature with which Kant substitutes God and which, in the ninth proposition, he also calls providence. In light of this concept of dialectic progress Mephisto's further self-description sounds harmless:

> *The spirit which eternally denies!*
> *And justly so; for all that which is wrought*
> *Deserves that it should come to naught*

However, the confidence that everything bad is finally good for us may be nothing more than the "reckless optimism" that Arendt detects in the Enlightenment's spirit of history and humanity's role in it. What if we can't count on that dialectic appeasement any longer after the advancement of a certain capacity for destruction? What if providence turns out to be exactly what Mephisto says: simply negation (rather than Hegel's double negation) with negative results for all of us? What if we really ‚should get rid of the last anthropic principle, which is life itself' – as Felinto paraphrases the Argentine philosopher Fabián Ludueña – and accept a ‚universe without a human observer' rather than assume ‚man is the final step in the development of life'? What if technology turns out to be less an act of liberation from the determinations of nature than an obsession, entertained by the 'purpose of nature,' humans can't help even if it finally kills them? What if the ride we undertake in that "car"

on the digital highway does not have, as a kind of "divine algorithm," a built-in emergency brake in case human reason turns out to be devastating?

Despite learning from the past and despite predictive analytics: with regard to the future we are blind. We may, hearing the diligent workers around us, celebrate the arrival of a better world, while in fact people are digging our grave, as it happens to Goethe's Faust. After a symbolic dialogue with the Sorge (which means *worry* but also *care* in German) whom he dismisses and who punishes him with blindness, Faust mistakes the Lemuren digging his grave on Mephisto's order for his workers building a dam to defy nature.[26] Is this our situation? Are we, without worries and care, blind about the implications of our actions? Are we facing an inhuman, adiaphorized society while hoping big data and algorithmic regulation will make the world a better place? Are we turning ourselves into objects of "panoptic" control by pursuing datafication and the ubiquity of smart objects? Is the rise of the machine the end of men? To come back to our philosophical references: Does Hegel's Absoluter Geist (the single mind of all humanity that becomes self-aware and free through the march of reason) reach its destiny in the form of artificial intelligence? Is the Kantian capacity for reason fulfilled once human consciousness is passed on to machines? Or is it rather overdone?

There are many questions to be raised in light of ongoing technological development. Media literacy, without a doubt, is important and has to move on from vocational "How"-questions to critical "What for?"-questions, from "How can I use these media?" to "What do they do to us?" It is important to understand media in their historical context and from an anthropological perspective. As the following interviews demonstrate, in such endeavor not only contemporaries such as Nicolas Carr and Sherry Turkle can be helpful and inspiring but even pre-digital ancestors such as the French Blaise Pascal and the Swiss Max Picard. If the discussion aims at a philosophical treatment rather than a phenomenological approach people tend to turn to Gilbert Simondon, Manuel DeLanda and Vilém Flusser. As these

interviews show there are more techno-philosophers to be (re)discovered for the discussion needed – and as this introduction suggests, Goethe's *Faust* and Böhme's mysticism could, should, be part of it.

Notes

1.   Perry Barlow: *Declaration of the Independence of Cyberspace* (1996) (http://homes.eff.org/~barlow/Declaration-Final.html)

2.   Jon Katz (1997): "Birth of a Digital Nation", *Wired* 5.04, April 1997 (http://archive.wired.com/wired/archive/5.04/netizen_pr.html). Katz soon extend his essay into a book: *Media Rants. Postpolitics in the Digital Nation*, San Francisco: Hard-Wired 1997. The following quotes are from the essay at the given source online.

3.   See the NET Mundial conferences, the EU court "right to be forgotten"-decision on May 13 in 2014, or the turn of advocacy groups to the Federal Trade Commission to ban Facebook's frictionless sharing project in 2011 (www.cnet.com/news/groups-ask-feds-to-ban-facebooks-frictionless-sharing). A case in point from this book is demonstrated by Johanna Drucker stating that, if she had a say about the issues of the Internet, she would "get the FCC to protect us against the domination by private enterprise and corporate interests" (p. ...).

4.   "We are at war with our own products and with our overwhelming technological skills", wrote Klaus Lenk in his article "The Challange of Cyberspatial Forms of Human Interaction to Territorial Governance and Policing", in: V. Brian Loader (ed.): *The Governance of Cyberspace*, London, New York: Routledge 1997, S. 126-135: 133.

5.   Stephen Ramsey: "DH Types One and Two", Blog entry on May 3rd, 2013 (http://stephenramsay.us/2013/05/03/dh-one-and-two)

6.   Alan Liu: "Where is Cultural Criticism in the Digital Humanities", in: Matthew K. Gold (ed.): *Debates in the Digital Humanities*, University of Minnesota Press 2012, 490-509. Liu defines cultural criticism as "both interpretive cultural studies and edgier cultural critique" (p. 491). Dave Parry ("The Digital Humanities or a Digital Humanism") addresses the conflict "between a digital humanism of computational technologies as adjectival modification of humanities research trumping a digital humanities of humanities-based research into the digital" and concludes: "it seems to me that the dominant type of digital

humanism privileges the old at the expanse of the new" (in: ibid., 429-437: 434).

7. Tom Scheinfeldt: "Why Digital Humanities Is 'Nice'", in: Gold, Debates, 59-60: 59. The most digital humanists may engage in, Scheinfeldt notes, are methodological debates which are solved either empirically or pragmatically.

8. Tom Scheinfeldt: "Sunset for Ideology, Sunrise for Methodology?", in: Gold, Debates, 124-126: 125.

9. See the interview with Johanna Drucker in this book, p. ....

10. Liu, Cultural Criticism, ibid., 494.

11. For the second type see Ramsey's blogpost (footnote 5), for the third wave see David M. Berry: "The Computational Turn: Thinking About the Digital Humanities", in: *Culture Machine* Vol. 12 (2011), p. 4 (www.culturemachine.net/index.php/cm/issue/view/23).

12. Jennifer R. Whitson: "Gaming the Quantified Self", in: *Surveillance and Society*, Vol. 11, Nr. 1-2 (2013), 163-176: 173.

13. See Umberto Eco's essay "Towards a Semiological Guerrilla Warfare" (1967) and the concept of *détournement* by the Situationist International.

14. Stanley Aronowitz: „Looking Out: The Impact of Computers on the Lives of Professionals", in: Myron C. Tuman (ed.): *Literacy Online. The Promise (and Peril) of Reading and Writing with Computers*, Pittsburgh 1992, 119–137: 133.

15. Victoria Wanga, John V. Tuckera, Kevin Haines: „Phatic technologies in modern society", in: *Technology in Society*, Vol. 33, No. 1 (2012), 84-93.

16. Matt Richtel: *A Silicon Valley School That Doesn't Compute*, The New York Times, October 22, 2011 (www.nytimes.com/2011/10/23/technology/at-waldorf-school-in-silicon-valley-technology-can-wait.html?_r=0); Nick Bilton: Steve Jobs Was a Low-Tech Parent, The New York Times, September 10, 2014 (www.nytimes.com/2014/09/11/fashion/steve-jobs-apple-was-a-low-tech-parent.html)

17. George P. Landow: "Hypertext as Collage Writing", in: Peter Lunefeld (ed.): T*he Digital Dialectic. New Essays on New Media*. Cambridge, MA, und London: MIT Press 1999, 150-170: 156.

18. Deborah M. Edwards, Lynda Hardman: "Lost in hyperspace: cognitive mapping and navigation in a hypertext environment",

in: Ray McAleese (ed.): *Hypertext: theory into practice*, Edinburgh 1999, 90-105.

19. Hans Jonas. *The Imperative of Responsibility.* Chicago: University of Chicago Press 1984, 26. Originally published in German in 1979.

20. Ibid., 9, 142, 9.

21. Evgeny Morozov: "The Real Privacy Problem" in: *MIT Technology Review* (October 22, 2013); www.technologyreview. com/featuredstory/520426/the-real-privacy-problem

22. While "data pollution" here refers to the cultural 'pollution' Morozov addressed, there is no question that digital media also cause real environmental pollution as for example Jussi Parikka strikingly demonstrates in his 2014 study *The Anthrobscene*.

23. Mark Zuckerberg and Priscilla Chan: *A letter to our daughter*, December 1, 2015 - https://www.facebook.com/notes/ mark-zuckerberg/a-letter-to-our-daughter/10153375081581634

24. Hannah Arendt: *Men in Dark Times*, San Diego 1968, 84.

25. Johann Wolfgang von Goethe: Faust I, translated by Walter Arndt, Norton Critical Edition, New York, London 1976, 41 (verse1699ff.). The following quotes ibid. 33, verse 1335f. and 1338-1340.

26. Ibid., 289-294.