The Dark Side of Social Media

Alarm bells, analysis and the way out

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The Dark Side of Social Media: a reality becoming more topical by the day

Expelling the darkness
“For everyone to use” was what the word social in social media was meant to mean back in 2004 when O’Reilly’s Silicon Valley guys coined the term Web 2.0. That liberation was fine as long as it would air voices out of the critical masses that had been oppressed by big commerce and the mass media elite. Unsurprisingly however, the social media groundswell thereafter also unleashed a frantic chaos in the name of democratization that, given our liberal values, wasn’t easy to contain.

Instead of stimulating a classical “aphorisms, epigrams and repartee” culture, as Tim O’Reilly wanted us to believe in the Fall of 2008, so-called social media today rather unify mankind in the caricature of rabbits caught in the headlights of their own mobile devices. The uniquely new focus of precious social media gadgets has brought us attention and knowledge deficits, financial and societal deficits that tend to darken the bright benefit which was so badly sought after.

From the beginning, for instance in Germany, there was a sound skepticism rising from the mere meaning of “sozial” since that word used to be exclusively related to true societal value as opposed to just popular (Latin “populus”), its intimate cousin vulgar (Latin: “vulgus”) or even worse. Many Germans still refuse to speak of “soziale Medien” and deliberately use the English phrase instead.

Many now openly have begun to question the social nature of social media, which should have raised eyebrows from the start given the intimate combination of social in its basic tribal sense and media as the platform for and mirror of our human egos.

These musings sum up our concern, not as to deny the bright side. We just need to continuously and actively expel its darkness to reap the benefits of social media.

Twelve selected sources from the past four years may serve as an initial reminder:

“Massive fail—the anti-social world of social media”

“Asocial Media is on the rise”
http://www.blindfiveyearold.com/asocial-media

“Social Media Madness—join or die”

“Terrorism 2.0: Al Qaeda’s Online Tools”
http://schedule.sxsw.com/2011/events/event_IAP5405

“The Dark Side of Social Media”

“Crime and Social Media Sites — Catching Criminals and Learning to Avoid Them”

“The 10 Types of Social Media Addicts”
http://mashable.com/2012/10/12/the-10-types-of-social-media-addict-infographic/

“The dark side of social media: Fake tweets during Hurricane Sandy”

“Call It Antisocial Media: Even Twitter Has a Dark Side”
http://blogs.hbr.org/cs/2012/12/call_it_antisocial_media_even.html

“Parents, Beware: Big Commerce is Watching Your Kids, Courtesy of Their Phone Apps”

“Huge rise in social media ‘crimes’”
http://www.bbc.co.uk/news/uk-20851797

“The 10 Types of Twitterers and How to Tame Their Tweets”
We never look up anymore
In the first week of January 2013 a Tumblr website put our society into a fearsome perspective. The website features a collage of images of people staring down at their cell phones. They are lost in time. Frozen in the moment. Their body is in meatspace, but their mind is in cyberspace. They are completely detached from their surroundings. The blog is created by a researcher on mobility who lives in Helsinki, Finland. The About page contains the following statement: “The world has gone mobile. We live in an information society and are connected to information anywhere we go, and whatever we do, 24/7. And that has changed how we as people behave. We never look up anymore.”

The blog went viral for some days. Newspapers from all over the world payed attention to the site. According to the international Metro the “New Tumblr illustrates our tech-dependent society”, tech website Mashable named it “Beautiful Tribute to the Tech Obsessed” and newspaper Daily Mail made the following statement: “Photos capture the way mobile phones have changed the way we interact with the world around us”.

The Tumblr website “We Never Look Up” visualizes the society we now live in. It creates awareness of the effect that social media and smartphones are having on our lifes. In an interview with Metro the creator made the following comment: “I’m not saying it is a negative thing, when done safely. It’s just that we need to be aware of that times change, and behavior as well. But in social context, with friends, etc., it’s kind of rude to finger on your mobile the whole time. My message is not to judge, just to make this behavior concrete.” Just like the creator of the Tumblr site, we have been keeping track of it all, of course: beginning with the English search string Dark Side of Social Media. The latest remarkable article under this heading — right before our own report went to press — was published in the South China Morning Post on 15 September. The observations that were made about whipped-up hatred were perfectly in line with our books Me the Media (2008) and The App Effect (2012). In fact, this report, The Dark Side of Social Media, is a further elaboration of the same issue.

Good grounds for our efforts present themselves on a near-daily basis. Lucid enumerations, such as Criminal Use of Social Media (2011) by NW3C, the American National White Collar Crime Center, are quite explicit. And according to recent statistics, a Facebook crime is being committed in the UK every 40 minutes. Social media are so easy to use, so fast, so accessible and so widespread, that this should not cause anyone any surprise.

The power of social, now open to all
Andrew Lam, the author of the Chinese Dark Side article, denounced the fact that “the power of social media, now open to all, means even fools can cause chaos in far-flung places, with only an ill-made video.” Lam was referring to the anti-Islam film Innocence of Muslims, which provoked worldwide emotional protests, one of which resulted in the death of Christopher Stevens, the US ambassador to Libya.

Me the Media deals with the “power of social media” which came into vogue in 2007 when, for the first time, more information was produced in one year than had been produced in total since the invention of writing, 5000 years earlier. It just goes to show how easy it was, even years
ago, to create and publish information oneself. Even more than *Me the Media, The App Effect* deals with what Andrew Lam calls the current “open to all”. The book’s most striking example of chaos is the riots in British cities in August 2011. Facebook, Twitter and Research In Motion were summoned by the British government directly afterwards to evaluate and account for the catalyzing role of social media and the BlackBerry Messenger app.

**Project X Haren**

Early March 2012 witnessed the release of the American film *Project X*, about a party for three young people that gets completely out of hand. In various places in the world attempts have been made to repeat similar events in real life. On 21 September 2012, a girl from Haren, in the Netherlands, announced the celebration of her sixteenth birthday on Facebook, but omitted to mention that it was a private party. The traditional press gave extensive publicity to the mistake and its potential unpleasant consequences. Subsequently, the hype’s snowball effect was reinforced by social media. Eventually thousands of young people came flocking from far and wide, partly aiming to turn the occasion into a *Project X* gone out of control. It resulted in violence, some dozens of injured people and millions of euros of damage, something that could not be prevented by the small number of Riot Control troops present at the time. The girl in question and her family had been put up elsewhere, the area around their house had been cordoned off as a precaution and street signs had been removed. But obviously the unwelcome visitors with their smartphones and location apps did not need signs of any nature whatsoever. Eventually it turned out that a German and a New Zealander had been the two great catalysts behind Project X Haren. Speaking of *fools that can cause chaos in far-flung places*...

**Alarm bells and analysis, but also a way out**

When we were working on the VINT books *Me the Media* (2008) and *The App Effect* (2012), it became increasingly apparent that the dark sides of social media definitely called for a chapter of their own. Not to gloat over them, but to expose the related developments and concerns, and to think about a way out. For this reason, you will find a three-stage rocket in this report. We start with a record of all sorts of alarm bells that went off throughout the years with increasing loudness. The subsequent part is an analysis dealing with ten jet-black consequences for 21st century Homo Digitalis Mobilis. And finally we present our way out, expressly avoiding political horns’ nests or events involving violence such as the British riots, the Arab Spring or Project X Haren. Instead, we tackle our ten distressing aspects, to use a mild definition.

Actually, they extend far beyond rioting and hooliganism, even beyond Facebook murder or suicide, if we may be so callous; they affect our soul, individually as well as socially. We imagine that the barb of hectic stress must be removed, something that can only be done on the basis of our behavior and with the help of our technology. It is a combination that has put us in an awkward predicament, but that may also serve as leverage — using the right vision as a starting point — to add value and humaneness to our lives apart from and with — definitely not without — social media. So alarm bells and analysis, naturally — but a way out as well!

**Pads and tabs: computers of the 21st century**

The definitive breakthrough of the tablet boom, in the autumn of 2012, was the perfect moment to publish the first complete edition of *The Dark Side of Social Media*. The mobile pads and the tabs that Mark Weiser predicted in so many words in the *Scientific American* as early as 1991 are now dominating the computer landscape. They are now “The Computer for the 21st Century”, as Weiser’s article was entitled, but “*Computing is not about computers anymore, it is about living*”, stated MIT Media Lab director Nicholas Negroponte in 1995.

The quality of that digital life is a hot topic at the moment. With social media, its hectic nature is explosively becoming apparent on all sides, upsetting the human dimension of our lives’ rhythm. In late 2011, comScore reported that “social networking” represented the major share of all Internet activity.
No Calm Technology
As early as twenty years ago, the prematurely deceased Xerox PARC visionary Mark Weiser was aware that the digital development would end in “pervasive” and “ubiquitous computing”, as he called it. But at the same time — in advance of a human way out — he predicted a situation of “Calm Technology”. Many technologies have indeed become invisible, but their effects are all the more noticeable in all their harshness. In a time when we have to visit a website like Calm.com for some peace and quiet, many will regard the concept of “Calm Technology” as an odd balancing act.

Kill your Web 2.0 life
It was not without reason that the frivolous Dutch initiative Web 2.0 Suicide Machine was launched in 2009: “to delete all your energy-sucking social networking profiles, kill your fake virtual friends, and completely do away with your Web 2.0 alter ego.” SuicideMachine.org delivered us in no time from Facebook, Twitter and LinkedIn, among others. After the website’s conclusions and the way out it offered, Facebook went into a state of shock and reacted by demanding the immediate discontinuation of all Facebook-related activities. SuicideMachine.org is no longer active, but under this URL the following liberating program still is:

You want your actual life back?
Wanna meet your real neighbors again?
Sign out forever.
Make the switch to Web 2.0 free life.

Stop Self-Procrastination.
Isn’t time really precious nowadays.
So many people you don’t really care about.
Unfriending has never been this easy.

Improve your relationship.
Get rid of stalkers.
Say goodbye with dignity.
May you rest in a better Real Life.

You cannot let technology rule you
The digital elite is well aware of all this. In Silicon Valley they deliberately send their children to schools where no computers are used. And at Boston University, in May 2012, Eric Schmidt of Google called on the assembled students “to please turn off the thing for one whole hour a day”. “You cannot let technology rule you.” That was his message and this radiates solicitude!

SlowTech pad and tab devices
Children in elementary school and adult students — they seem worlds apart, but we are all firmly in the grasp of the concepts of “mobile” and “social”. We have known and seen this for a long time, but it seems to be getting worse while becoming more generally accepted at the same time. If this is indeed the case, who are we to criticize such an obviously natural step in the development of mankind? Sure enough: “mankind” — that is the phraseology used by the Google crowd. For they are always on about “humanity” — preferably “augmented humanity”.

In May 2012, Joe Kraus of Google Ventures argued strongly in favor of “Slow Tech”, formulating a necessary human supplement to it. He began his appeal with a short film by Microsoft singing the praises of — would you believe — the Windows Phone as the device least likely to snatch us away from our physical environment. Windows Phones have deliberately been designed that way, and not without reason. Conclusion: “We need a phone to save us from our phones.” We will see how this works out with the Windows Phone 8 and the Microsoft Surface devices.

Ultra-social and sensation-seeking
On the other hand, many people feel that smartphones and tablets do not snatch us away from the world at all; on the contrary. What better way is there to be in touch with all the thrilling media and with friends than with a modern screen device? Just when we are developing some degree of literacy, people won’t accept it, claiming that we are not part of this world, whereas we are actually more interested in everyday life than ever before.
Sherry Turkle of MIT takes a different view. “We are lonely but fearful of intimacy”, she says. And this is why we immerse ourselves so completely in our artificial world of technology. But is this really true? Are we not simply ultra-social, sensation-seeking creatures, and doesn’t an app device offer us full scope to develop the nature typical of our species? Here is our chance at last. Away with boredom!

In bygone times it was only the bookworms who could immerse themselves in a different and exciting world. With the advent of TV, this escape became available to everybody. Alright, neither situation represented the real world, and passive consumption is an activity too unbalanced for anyone’s good. But today? Interactive, real-time, an exciting media device, intellectual challenges, exploring unknown territory, gaining credits … Real life at last! Round-the-clock. All you can do today is point out that there are also other things that need doing. School, work … But surely that can be done between times?

**High degree of priggery?**

With little children it may be a different matter. You have to be careful in a stage of life when exploring should consist of more than experiencing digital media. Motor system, daddy, mummy and so on. This is why the digital elite consciously send their children to schools without computers. They have a point.

All in all, the dark side of social media seems to be a theme with a high degree of pedagogic priggery, but it fills all the renowned columns all the same. Whether it is “slave of the in-box”, a term coined by the NRC in a three-page splash full of visual violence (April 2012), or our friend Joost Steins Bisschop in Het Financieele Dagblad and on Frankwatching. Whatever stage of life he is in, man remains a child, certainly when new digital toys are entering his life.

**Homo Digitalis Mobilis**

According to Joost, we “describe the jet-black consequences of all the side effects of social media in *The Dark Side of Social Media* with a sense of nuance” … Today’s “Homo Digitalis Mobilis”, Joost quotes, “is on his way to becoming stupid, antisocial, sick in body and mind, is manipulable, exposed to terrorization and has as much privacy as an ER patient in the VU Medical Centre.” All too true.

Homo Digitalis Mobilis and the jet-black side of social media: that is indeed our line of approach. For, in the heat of the game with our social-mobile tennis ball cannon, all there is time for is quantity. The accessibility of text together with some image does the rest, for in this way anyone can join in. Being taken up by your mobile and your apps all day. This is the kind of literacy that we need like we need a hole in the head. Most of all today. The fact is that the go-with-the-flow of social media on mobile devices is the worst attack on our knowledge-based economy one can imagine.

**“Calm” IT offers full scope to human cleverness**

Let us make ourselves clear: we have nothing at all against social media. The modern aspect of “social and mobile” is obviously a breakthrough in the development of mankind. We, the authors of this report, are the last to deny this. But at the same time it is extremely important to adopt a very critical attitude towards this development.

We are all for technology, like Joe Kraus and Eric Schmidt. They both argue in favor of SlowTech: take it easy with that technology. This kind of advice is exactly in line with the tradition of Calm Technology, a new stage in IT. These are the soundbites of the nineties: “Technology is to create peace and quiet. For the more we can do on the basis of our intuition, the cleverer we are.” This is not the sort of thing we see people post tweets about nowadays, so that is still a long way to go.

One may even wonder whether “mobile” and “social” are not in fact thoroughly ruining the realization of Calm Technology. Joe Kraus thinks they are. He says we are wasting our unique human talents, as the constant attraction of our devices tends to shorten our attention span. This may be
a rather drastic way of putting it, but our ten major objections — our distressing aspects (see section 5) — still refuse to lie down. They may be today’s reality, but hopefully not tomorrow’s! Genuine Calm Technology is informative, not intrusive. It does not demand extra attention, thus leaving more room for our own mental capacities.

Our way out
The least we can do is practice SlowTech every so often — thus making sure that our devices do not gain the upper hand. “You cannot let technology rule you!” At the same time we will become more skilled in the meaningful usage of our screen devices and the makers will consciously try to minimize the dangers and drawbacks by better implementing the functionalities: particularly in a socio- and psycho-ergonomic sense.

To put it briefly, our way out — minimizing our ten major distressing aspects — is a matter of combining behavior and technology in a better way. Even to a point where it approaches the ideal situation of Calm Technology. Away with the impulsiveness and the maddening omnipresence of social and traditional media. And certainly in that combination!

As has been observed above, a behavioral component ought to be an inextricable part of this, for “SlowTech is a state of mind, not a lack of gadgets”, as the beautiful motto reads on wchulseiee.net, the website of Ewald Lieuwes. We find this behavioral component in the linking theme of “Digital Literacy”, a new literacy with at least the following eight principal areas. It is universally applicable, not just in education, for the very reason that there is still so much instructing to be done in the field of digital literacy.

By the end of 2012 the Royal Netherlands Academy of Arts and Sciences (KNAW) published a critical report warning about digital illiteracy. Dutch students threaten to become digitally illiterate. The situation is really urgent. The Dutch business community loses billions of euros each year.
PART I ALARM BELLS

2 2012, a bumper year for social media

Over the past eight years, ever since the first Web 2.0 conference in 2004, the digitalization of media has been a booming business, particularly through social media, smartphones, tablets and apps. Within three decades, the focus of the World Wide Web was deepened and broadened from pages (1994: the first annual World Wide Web conference) via people (2004: the start of Web 2.0) to, eventually, our living environment and our perception of it. A few billion people are online and we expect to have one trillion of devices and sensors on the web in 2014. Already now we are referring to the Web of the World instead of the World Wide Web.

But where does all this leave us? In her Christmas speech of 2009, Queen Beatrix regretted the loss of physical proximity and of solidarity. They seem to be losing out to the hectic stress of digitalization. We come across the same theme with the famous poet and Nobel Prize winner T.S. Eliot, long before the modern age of information. He wonders where the wisdom has gone that we seem to have lost in our passion for knowledge, and the knowledge that has been lost in more and more new information streams. In short: amidst all the current hectic situations, where do we still recognize true life? Eliot committed the following probing lines to paper. They are about the life, the wisdom and the knowledge that he feels we have lost in our pathetic craving for rapid progress:

Where is the life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?

T.S. Eliot, The Rock, 1934

“Get a life”, Eliot may have meant to say, for amidst all the stress and pressure — the corresponding Dutch one-word noun (“hectiek” — frenzy) has only been in Van Dale Dictionary since 1999 — all he experienced was chill and alienation. In many people, the present state of the web is creating similar emotions. In her memorable Christmas speech of 2009, Queen Beatrix dealt with it at great length, reading in a solemn voice:

In these times of globalization, speeds have gone up and distances have become smaller. Technical progress and individualization have made man more independent and more aloof. [...] Modern man does not seem to be greatly interested in his fellow humans. Today people are mainly concerned about themselves. We tend to look away from the other and shut our eyes and ears to the environment. Sometimes even neighbors are strangers nowadays. People speak to one another without having a conversation, look at other people without actually seeing them. They communicate through fast short messages. Our society is becoming more and more individualistic. Personal freedom has become unrelated to solidarity with the community. But without a certain sense of “togetherness” our existence is becoming empty. That emptiness cannot be filled by virtual get-togethers; on the contrary, distances are increasing. The ideal of the liberated individual has reached its end point. We must try to find a way back to what unites us.

There was an unstoppable advance of smartphones and apps in 2009 and the iPad added more than a little extra in 2010. Many people, including Jeff Dachis of Dachis Group, are over the moon and, in their view, the explosion of social media is the glorious hyper-targeting future of marketing. Just imagine, Dachis says: hundreds of millions of people volunteer their views and feelings on the social web, unconcernedly sharing their lives with others in great detail. That is 500 billion dollars worth of brand engagement, just like that. In early 2012, Twitter had 225 million accounts in all, there were over 800 million active users on Facebook and more than 135 million on LinkedIn.

There is skepticism with regard to the use of advertising. Right before Facebook went public, in March 2012, General Motors reduced its advertising budget for the social network drastically. But at the same time GM still spends three times that amount on involvement with the current
one billion Facebook users. There it is in its entire splendor: the real New Economy, where the Attention, Experience and Knowledge Economies converge — after 12 years, in the year of crisis 2012.

But with all the guilty pleasure and the constant sharing of trivia, what should happen now is that we must simply roll up our sleeves: economically and socially. This being the case, infobesitas, information addiction, constant distraction, counter-productivity, Facebook and retweet depressions do not come at a welcome moment.

**Facebook Depression**

*Medical practitioners now observe depression in teenagers that is not brought on by typical teen angst, but by Facebook. Researchers coin this symptom “Facebook Depression,” and teens who experience it are at risk of isolation and depression and may turn to inappropriate online resources that promote substance abuse, unsafe sexual practices, or aggressive or destructive behaviors. Unless parents monitor their child’s Facebook usage and ensuing behavior, they won’t know their child is depressed.*

Source: *Diagnosis: Social Media Syndrome* (2011)

**Retweet Depression**

*You are often thrown into bouts of manic depression when you discover that your tweets have not been re-tweeted enough. This depression often deepens when you find that your Tumblr posts have not been re-blogged, or your Facebook status updates have not been liked.*

Source: “Do You Need a Social Media Detox?” (2011)

Ironically enough, after it went public in March 2012 with an expected market capitalization of 100 billion dollars, Facebook seemed predestined to become the digital fast-food counterpart of the equally valuable McDonald’s chain. Both enterprises are characterized by the same fastfood culture: massive, accessible, fast and plentiful. Not only did Facebook fail to make the 100 billion, its stock exchange value even saw a gradual drop to 45 billion in early October 2012. Nevertheless it meant that Facebook realized an excellent large-cap (10-200 billion) quotation, only second to mega-cap.

Regardless of their value, Facebook, Twitter, LinkedIn, Tumblr, Flickr, YouTube, Google+ and many more social media are absorbing all attention and shaping our perception of the environment, while they contain more than enough knowledge and information for a full day’s work and more. What with the information overload and the multitasking, McKinsey felt in early 2011 that enough was enough:

*A body of scientific evidence demonstrates fairly conclusively that multitasking makes human beings less productive, less creative, and less able to make good decisions. If we want to be effective [...], we need to stop. [...] The widespread availability of powerful communications technologies means employees now share many of the time- and attention-management challenges of their leaders. The whole organization’s productivity can now be affected by information overload. [...] Resetting the culture to healthier norms is a critical new responsibility for 21st century executives.*

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Problems with media are very diverse and have always existed, but the “social” intensity we observe today is definitely an overkill. The *Global Social Media Adoption in 2011* report by Forrester Research demonstrates that social media adoption is often considerably over 80 per cent and has practically complete coverage in Chinese urban areas. The easy access through smartphones in particular causes a disproportionate call on people’s time. This has been proven by much quantitative research in recent years.

Taking all these matters into consideration, this *The Dark Side of Social Media* trend report is definitely qualitative in its nature. We urge reflection, present our reasons, and offer a way out. To individuals and organizations alike. Social media are a reality and their intensity may well cause the negative sides to gain the upper hand, if we do not take care. “Reality is that which, when you stop believing in it, doesn’t go away,” to use the admirable expression by the science-fiction author Philip K. Dick, and this is certainly true for the dark side of social media.
Three Two kinds of Social Media Deficits

Ever since our book *Me the Media*, published in 2008, we have been looking at this theme from a structural point of view. To start with, we can conclude that, by their very nature, “social media” have many dark sides. What else can you expect: “social” and “media” rolled into one. We distinguish two major complementary areas: the domain of man and the domain of business. Here lie the main origins of our anxiety: in culture and in economy. We have ranged the perceived and measured negative consequences of social media for organizations and individuals in our Social Media Deficits chart. To be perfectly clear: we are not concerned about deficits (failings) in the application of social media, but rather about shortcomings, “mutilations”, that are due to or are stimulated by social media. They are twofold:

- Cultural, social-psychological and cognitive: forms of “Attention Deficit (Disorder)"
- Business and macro-economic: forms of “Financial Deficit”.

Obviously, the two are closely related. Instead of the usual term Attention Economy, we increasingly see the concept of Attention Deficit Economy popping up, from which communication and culture cannot be dissociated. In this context, an instinctive addiction to social media causes a lazy kind of Attention Economy, a superficial Experience Economy, and the failure of the Knowledge Economy.

As a rule, the positive effects of social media receive plenty of attention, particularly from marketers and adherents of the so-called Cognitive Surplus that the Internet stirs up in mankind. All the wonderful things we can do with it… Absolutely true, but do not forget the caricatural and dark sides that go hand in hand with it and often have the upper hand.

Of course, on the basis of our competitive spirit, caricature and disruption have always dominated in the media. There are plenty of examples, like Bambi and Breivik, the Gremlins and Goebbels. The media are the megaphone of our intellect, and that is primarily used instinctively, as a rule.
4 Addiction in the Attention Deficit Economy

Apart from obscenities and generally everything we prefer to deny, with social media we have certainly allowed things to get out of hand. The things hurled into the world by the majority of Facebook and Twitter adherents are a pathetic pastime in economically benevolent times, when fortune smiles on us and success just falls into our lap. Now that we really have to roll up our sleeves to keep our jobs and scrape an income together, we come to realize that we do not have the time to share all our thoughts and activities with others for hours on end. However, old habits die hard, for the smartphone full of apps is burning a hole in our pocket and our purse. These habit-forming gadgets have popped up more and more frequently of late, in relation to revolt, crime, riots and terror. Small wonder, maybe, in times of crisis and perhaps there is not so much new under the sun.

Our feelings with regard to social media are best characterized by ambivalence. This is only natural, for we intensify our own behavior by means of social media. We may aim to create as much co-operation as we like, but in many cases the behavioral intensification ends in a caricature rather than anything else. As we know, much social media behavior is not particularly intentional. Most of its manifestations are outpourings: status updates, feel-goods or feel-bads. For the most part, social media behavior is letting oneself be carried along by a gulf stream of new incentives: “social interaction on top of social communication”, as the English Wikipedia aptly puts it. This may all too easily evoke a feeling of inspirational serendipity, and that subjective experience is a major reason why social media behavior is turning into social media addiction. In a positive case, that behavior or addiction intensifies the intended focus and flow, in a negative case the opposite is true — when it distracts us from what we should really be occupied with.

Potentially, “social interaction on top of social communication” shows great promise for organizations, but in point of fact we are not quite sure how to deal with it. Andreas Kaplan and Michael Haenlein, who are frequently quoted in the context of social media, put it as follows in their article “Users of the World, Unite! The Challenges and Opportunities of Social Media”, which was published in Harvard Business Review early 2010:

The concept of Social Media is top of the agenda for many business executives today. [Many] try to identify ways in which firms can make profitable use of applications such as Wikipedia, YouTube, Facebook, Second Life, and Twitter. Yet despite this interest, there seems to be very limited understanding of what the term “Social Media” exactly means.

We are not sure how to deal with them; we do not know how they will work out. What we do know by now is that failing to decide a proper course for social media does cost a lot of money. It has all been articulated quite clearly in the IDC report Cutting the Clutter: Tackling Information Overload at the Source (2009), including obvious solutions. According to research by Harmon.ie and uSamp, entitled I Can’t Get My Work Done! How Collaboration & Social Tools Drain Productivity (2011), businesses are losing more than $10,000 worth of income per employee on an annual basis, specifically due to digital interruptions. With an hourly wage of $30, this comes down to one and a half hours per working day. Of the respondents, 10 per cent indicate that they miss deadlines, 21 per cent complain of information overload, 25 per cent lack the time to think deeply and creatively, and 33 per cent mention a general inability to work properly or efficiently. Almost 60 per cent of the interruptions take place in the context of co-operative and social tools, such as e-mail, social networks, text messaging and instant messaging, in addition to switching between applications. A striking 45 per cent indicate that they are unable to work longer than a mere 15 minutes on end. The report shows that digital addiction, or Online Compulsive Disorder is omnipresent: at work and at home.

We no longer live in an Attention Economy, but in an Attention Deficit Economy. This parallel with AD(H)D is drawn more and more frequently, by referring to Atten-
Attention Deficit Social Media Disorder (ADSMD) for example. We may well wonder if this is perhaps simply a regularly recurring perception. After all, didn’t the renowned author and art collector Gertrude Stein sigh: “Everybody gets so much information all day long that they lose their common sense” — and this was in 1946, the last year of her life. It is certainly true, only the disturbing level of the present information overload due to social media is unique in history. It must be for this reason that the latest book by Maggie Jackson, the “muse” of IORG (Information Overload Research Group), is very aptly entitled Distracted: The Erosion of Attention and the Coming Dark Age (2008). As far back as 1998, Linda Stone, who had a fine record with Apple and Microsoft, among others, coined the term Continuous Partial Attention in this context.
PART II ANALYSIS

5 Ten jet-black consequences for Homo Digitalis Mobilis

The addiction to social media on mobile devices, and all the hypes, hopes, hints, hazards, etc. that we share daily, seem to have become so excessive that there is mention of irresponsible time-consumption, to say the least. As a result, a proper and lucid focus on what is genuinely important has become impossible and instinct is taking over. The following ten jet-black consequences of social media are looming up everywhere. We are becoming stupid, anti-social, we are egocentric and are stumbling around with blinkers on; we are even becoming physically and psychologically ill. Our memories are degenerating and we are prey to manipulation, monitoring, terror, and urge for sensation. Privacy no longer exists. Every one of these developments is a restriction and a deviation: ranging from tunnel vision and lack of individuality to illness and psychotic exaltation.

Nothing new under the sun? What do you think about an intensification, intimization and addiction that are unprecedented in the whole of human history?! As stated, the social media mania is rather inconvenient in times such as these. We really do have something else to do rather than just hanging around in our mobile social media circles via all kinds of crap apps. In order to gain real benefit from social media, we should start by dealing with them in a cautious and focused way — less instinctively and impulsively. Fortunately an increasing amount of attention is being paid to this development. Messages about the Back Side, the Dark Side, the Flip Side, the Nasty Side, the Other Side and the Ugly Side of Social Media succeed one another at a rapid rate.

1 Social media make us stupid
At the end of his book The Big Switch: Rewiring the World, From Edison to Google, Nicholas Carr asked himself if the Internet truly made us smarter, as many people assume. On this topic, in-between several articles and blogposts, he wrote the book entitled The Shallows: What the Internet Is Doing to Our Brains, for which he was placed on the shortlist for the Pulitzer Prize 2011. Carr believes that all multimedia and social violence on the Internet blunts and dulls us. In his opinion, people are increasingly behaving as web browsers, although the Internet is no more than an unstructured bundling of links. The fact that we devote so much attention to it frustrates the process of in-depth thought. In section 9, “Dumbing-down anxiety”, we take exception to this theory, as a part of the way out that we are offering.

The debate about smart and dumb has a lengthy history thanks to the Internet. In the book with the eloquent title The Dumbest Generation: How the Digital Age Stupefies Young Americans and Jeopardizes Our Future (Or, Don’t Trust Anyone Under 30), dating from 2008, Mark Bauerlein, a professor of English at Emory University, articulated his dissatisfaction. Perhaps it may indeed be the case that: “Social media simply spread emotions faster than reasonableness”, as Phil Baumann, CEO of CareVocate, stated. Is that perhaps the problem of the 21st century? Whatever the situation, it remains a hot issue, with its culmination lodged in social media, at least for the time being.

In the article that appeared in the NRC (national Dutch daily newspaper) entitled “We are suffering from obsessive digital collection rage”, Anouk van Campen and Jan Truijens Martinez made a number of interesting supplementary observations that we fully underline. Translated from Dutch, the essence of the article is as follows:

Because we register everything and do not need to remove it, we are approaching a turning point where viewing our photos and reading all the opinions we leave behind on the Internet consume more time than the life that remains to us. […] We keep things not because they are memorable moments but because we do not dare to lose a moment. We are increasingly afraid to
lose our importance if we are not constantly experiencing special moments and are showing that to others. [...] While we are attempting to find ever-more moments and to store them, we are changing into spectators of our own lives. We are watching rather than actually experiencing, [...] 

The memory becomes more important than the actual experience of the moment, while we build digital walls around us. The new human being is no longer the leading actor but a voyeur in his or her own life. [...] Exactly because we are converting everything into something memorable, each moment becomes less valuable than the next one. We consistently seek the confirmation of a moment that is even more beautiful and significant than the previous one. But if everything becomes equally important, everything gradually becomes equal to nothing.

In this context it is interesting to see how this situation developed historically. We do this in section 8, where we can check how it all happened via the Web History tutorial by Erik Wilde and Dilan Mahendran.

To round off this first jet-black consequence for the modern Homo Digitalis Mobilis, we establish that the prevailing emphasis on the dark sides of social media is now beginning to shift to interest in finding a way out. However, all warnings remain undiminished in force!

2 Social media are making us anti-social

In her book entitled *Alone Together: Why We Expect More from Technology and Less from Each Other* (2011), technology sociologist Sherry Turkle, borrowing a famous phrase from Marshall McLuhan — “We shape our tools and thereafter our tools shape us” — declares that modern technology is changing us: “We are shaped by our tools. And now, the computer, a machine, on the border of becoming a mind, was changing and shaping us.” Although social media connect us, says Turkle, in fact they are only driving us into ourselves. Technologies make it easier to have no personal contact at all. Why should you telephone if you can send an SMS message? It is perhaps not without reason that the abbreviation SMS is currently being read as Social Media Syndrome. We often dig out our phone because we think that we have received a message, although that turns out not to be the case. Looking at this phantom behavior, we can ask who is in charge — human beings or technology? Similar to Nicholas Carr, Turkle also nurtures concern about the present state of affairs. She is afraid that technology will ultimately turn against its creator.

3 Ego-tripping, cocooning, tunnel vision

Dumb and anti-social can be pursued into the realms of narcissism and ego-tripping. This development goes hand in hand with an even more serious problem. On the basis of information in our profiles, the Internet and social media will automatically bury all true serendipity if we do not watch out, and thus also eliminate an important source of creativity and innovation, resulting in increasing cocooning and tunnel vision. At the end of March 2011, Eli Pariser stood on the stage of TED to give an outline of his latest book *The Filter Bubble*. The impulse for this was the follow-
ing statement by Facebook founder and CEO Mark Zuckerberg: “A squirrel dying in front of your house may be more relevant to your interests right now than people dying in Africa.” This was just too much for Pariser. It made it clear to him what was fundamentally wrong with personalization on the Internet. People online are not aware of the fact that information is being filtered for them. Personalization categorizes people even more and blinds the user: “It’s your own personal, unique universe of information that you live in online. What’s in it depends on who you are and what you do. But the thing is, you don’t decide what gets in, and you don’t see what gets edited out.” And in this way we end up in one big reinforcement, with the danger of mediocrity instead of democracy. But actually that complaint is something that has been heard down through all the ages. In the case of social media, however, the extra problem lies in the speed and the large quantities involved. As a result, we all run the risk of losing our grip on things. Anticipating the way out, it is essential, primarily as an individual, to attach serious conclusions to this development.

At the beginning of 2012, the Facebook data team published the report called Rethinking Information Diversity in Networks. According to this study, the so-called “weak ties” in someone's network are genuinely of great importance:

We found that even though people are more likely to consume and share information that comes from close contacts that they interact with frequently (like discussing a photo from last night’s party), the vast majority of information comes from contacts that they interact with infrequently. These distant contacts are also more likely to share novel information, demonstrating that social networks can act as a powerful medium for sharing new ideas, highlighting new products and discussing current events.

### 4 Social media are making us (mentally) ill

Anyone who reflects seriously on Pariser’s objections can be troubled by these, but that is something that will affect us whatever we hear. Humans are simply not capable of processing everything that comes to us via the Internet and social media. Our brains freeze after a certain amount of information. In the article entitled “I Can’t Think” that appeared in Newsweek at the beginning of 2011, various scientists all expressed the same opinion. Too much information leads to erroneous decisions. We become irritated, overloaded, we lose our grip on things. In fact, it often leans toward psychotic behavior, according to Phil Baumann in his blogpost Beware Psychosis in Social Media (2010) and his presentation 8 Stages of Social Media Psychosis (2010). Besides qualifications such as the Dark Side and the Ugly Side, we also encounter ominous terms such as depression, neurosis, psychosis and mania being used in relation to social media. (We shall save the danger of digital dementia until the way out.) We have known this for long enough, as is demonstrated by this quote from Computable, October 1996:
It is an old message. Communications scientist Van Cuilenburg has been broadcasting it for more than ten years. However, according to psychologists, a new feature is that it is time to classify “information overload” as a cause of medical illness. The managers whom they interviewed complained about stress, uncertainty, headaches and other equally vague and irritating afflictions. This means not only that decisions are made too late as a result of having to deal with too much information—“I’ll just wait for the info-graphics of Tielanus”—but also to a situation in which the overloaded administrator simply does not dare to take the decisions that are absolutely necessary. A remarkable detail is that the research was carried out by Reuters, one of the largest suppliers of information in the world. Now that everyone can exchange information with one another via computers, it can be expected that this phenomenon will only manifest itself much more clearly in the coming years.

Young people, whose minds are still in the process of formation, are currently subjected to a 24/7 bombardment of digital information. They are busy with text messaging, Facebook, Twitter, YouTube, etc. They are glued to their computers, smartphones and game consoles for hours on end. The American Academy of Pediatrics is unhappy with this situation. In the report entitled Diagnosis: Social Media Syndrome, dating from March 2011, a warning is given for Facebook depressions, among other things (see also section 2).

Recent studies have clearly shown the addictive effect of social media. For example, Wilhelm Hofmann of Chicago University’s Booth Business School demonstrated that Twitter is more difficult to resist than cigarettes or alcohol. Hofmann even claims that primary needs such as sleep and sex are inferior to the longing to use social and other media. Research by Diana Tamir and Jason Mitchell shows that sharing information about yourself stimulates the brain in much the same way as when you consume food, have sex or receive money. Facebook, Twitter, Pinterest and other social media are brain-candy or the new endorphins.

The management of Google, Apple and Yahoo prefer to be sure rather than risk being sorry. They send their kids to Waldorf schools, where computers are prohibited and classes are given with old-fashioned schoolboards, books, and real teachers.

Google, Apple and Yahoo executives are sending their children to California’s Waldorf schools, where computers are banned. The masters of the e-universe appear convinced that computers “reduce attention spans and inhibit creative thinking, movement and human interaction”. Classes have reverted to using blackboards, chalk, pens, paper, books and even teachers.

Source: “The private school in Silicon Valley where tech honchos send their kids so they DON’T use computers”

In the first week of January 2013, Nic Newman, a digital strategist and former BBC Future Media executive, wrote an article “Will digital addiction clinics be big in 2013?” for BBC News Magazine. In his article he described several trends for the coming year. He foresees new opportunities “for Internet-free rural retreats or sessions to relearn the art of conversation without interruption, hesitation or deviation”.

5 Social media corrode our memories
On the Internet we click constantly from link to link: we scan the web. Research has indicated that we primarily use our short-term memory for this. However, this does have one large drawback, as we can only remember around seven things in our short-term memory at any one time. If there is an information overload, this memory shuts down. We scarcely use our long-term memory anymore, although this is the basis of our personality. What will the individual of the future look like? Will we all have changed into digital couch potatoes? Will we all have succumbed to the so-called “goldfish syndrome”, where attention spans of a few seconds and an absence of memory are the norm?

Cyborg anthropologist Amber Case studied the way in which people and technology affect one another and jointly evolve. According to Case, people have externalized their own evolution by making all kinds of tools. The use of tools and other resources has mainly had an influence on the physical aspects of human development. But with the com-
puter, it is different. Computers are not an interface of the physical manifestation of humankind, but an intermediary of our consciousness.

In the study *Millennials Will Benefit and Suffer due to their Hyperconnected Lives* produced by the Pew Research Center, Case was asked about the consequences of modern technologies upon our brains. In her view, the most important effect is that our memories are changing:

Memories are becoming hyperlinks to information triggered by keywords and URLs. We are becoming “persistent paleontologists” of our own external memories, as our brains are storing the keywords to get back to those memories and not the full memories themselves.

In section 9, “Dumbing-down anxiety”, we shall advance a number of perceptions and reflections on this topic in the framework of our way out.

### 6 Social media are extremely manipulative

At the end of 2010, Timm Sprenger and Isabell Welpe, two students at Munich University of Technology, published their thesis *Tweets and Trades: The Information Content of Stock Microblogs*. Their stock market prognoses can be followed via the website TweetTrader. The following two expectations are particularly interesting. The first is that Twitter “will increasingly offer more specialized versions of the service”, while the second is that their results “demonstrate that users providing above average investment advice are retweeted (i.e., quoted) more often and have more followers, which amplifies their share of voice in microblogging forums”. Twitter users with a good reputation therefore have more clout. Their tweets are disseminated more by the RT mechanism and thus have greater influence on the prediction. A major danger lurks here. The price of stocks and shares can easily be manipulated in this way. This is merely a minor example. Other forms of Social Media Manipulation, such as those implemented by institutions like the army and local governments for example, were also revealed in 2011:

One of the most terrifying examples is the #cut4bieber case. In the beginning of January 2013 a photo wherein teen idol Justin Bieber was smoking pot went viral. On the subforum “/b” of the Internet message board 4chan, a breeding ground for memes, one of the readers posted the following message in a thread: “Let’s start a cut yourself for Bieber campaign. Tweet a bunch of pics of people cutting themselves and claim we did it because Bieber was smoking weed. See if we can get some little girls to cut themselves.”

Immediately after this message, various fake accounts on Twitter were created where pictures were posted of girls who cut themselves. All these posts were provided with the hashtag # CuttingForBieber, #CutForBieber and #Cut-4Bieber. Unfortunately, the joke worked. Soon real photos of girls who mutilated themselves by cutting in their arm, were posted on the Internet. One of the girls even put up the following message: “It hurts, but I do it for my Justin”.

It wasn’t the first time that the 4chan Bieber fans took the piss. Earlier they started a rumor that Bieber had cancer and called on real fans to shave their heads to support Bieber.

The US military is developing software that will secretly manipulate social media sites like Facebook and Twitter, using a fake online identity to influence the conversation on the Internet and spreading pro-American propaganda.

As reported by the Guardian, a California-based company has been contracted by the United States Central Command (USCENTCOM), which oversees US military operations in the Middle East and Central Asia, to develop software that is described as an “online identity management service” which will allow one person to control more than 10 separate identities throughout the world.

Web Experts considers this project similar to China’s efforts to control and restrict freedom of expression on the Internet. This project also allows the US military to create a false consensus or discussion in online forums, cornering unwanted opinions and any comments or statements that are not in accordance with government objectives.

Source: “US Develop Software Social Media Manipulation” (2011)
7 Social media fuel Big Brother situations
The previous example was an instance of two Big Brother situations: in the US and in China. Closer to home, the daily statement of De Telegraaf newspaper site in the Netherlands on 25 July was: “Internet should be better monitored.” The reason behind this was the attack on the Norwegian island of Utøya on the previous Friday. The statement was elucidated as follows: “The Norwegian mass murderer Anders Behring Breivik was extremely active on the Internet. He kept blogs in which he aired his radical extreme right-wing ideas. Do you think that the government, not only in Norway but also in the rest of Europe, is sufficiently directed toward what is happening on the Internet? What do you think? Could the drama have been prevented if people had paid more attention?” The answer to the last question was a whole-hearted yes. The present flood of digital data can be excellently used to predict the future better. Predictive Markets and the Google Prediction API are good examples of this. Alarm bells could and should have started ringing when Anders Behring Breivik posted his only tweets.

8 Social media encourage terror
The previous example could have occupied this spot, under the heading of “terror”. The real-life cases are again almost innumerable, unfortunately. On 4 August 2011, 29-year-old Mark Duggan was shot by the metropolitan police in London. He died later from his wounds. The death of Duggan was the cause of massive rioting in London and other British cities. Social media, especially Blackberry Messenger from Research In Motion, played a major role in the spreading of the rioting. The Blackberry Messenger makes it possible to send an encrypted message to a large group of people. Thanks to a unique PIN number, only the receiver can read the message. It was only due to a huge presence on the streets — more than 16,000 officers were on duty at the height of the rioting — that the government was able to control the unrest. On 11 August, David Cameron, the Prime Minister, addressed the House of Commons. He reflected on the role social media had played: “Free flow of information can be used for good. But it can also be used for ill. And when people are using social media for violence we need to stop them.” The British had had first-hand experience of the message articulated by Evgeny Morozov in his book The Net Delusion: The Dark Side of Internet Freedom. After the riots, Research In Motion, Facebook and Twitter were summoned to an audience behind closed doors. Facebook commented on the invitation:

We look forward to meeting with the Home Secretary to explain the measures we have been taking to ensure that Facebook is a safe and positive platform for people in the UK at this challenging time.

In the Netherlands, we have been faced with the case of the so-called “Facebook murder”, where the 15-year-old boy Jinhua K. killed Joyce “Winsie” Hau, from Arnhem, in January 2012. Winsie’s former bosom friend, Polly, hired K. to commit the murder. The reason for the murder was the gossip that Winsie had spread on Facebook about Polly.

9 Social media fuel our desire for sensation
On 26 February 2011, a severe seaquake occurred off the coast of Chile. Dozens of people died as a result. The quake had consequences not only for the land. A tsunami developed and sped towards Hawaii. Various social media presented a map that indicated the time at which the Hawaiian coast would be flooded. Hawaii had 15 hours to go. At the moment of climax, after everyone had counted down on Twitter, nothing happened. Absolutely nothing. Only a small wave drifted into the Bay of Hawaii. And that was it. Quite a let-down. People on Twitter were angry. They had watched their devices for the whole day — for nothing!

As a result of another earthquake and the subsequent tsunami of 11 March 2011, a nuclear catastrophe occurred in the Fukushima I nuclear power plant in Japan. After that, live transmissions from people who directed their webcam...
toward a Geiger counter were broadcast on Ustream. In real time, pictures showed how people in the affected area were struck by the ever-increasing radiation. Some transmissions attracted more than 10,000 viewers.

This calls to mind the film Untraceable. In the film, a serial killer posts live films of his victims on the web. At the bottom of the image, a counter registers the number of visitors to the site. The counter must not exceed a given number, otherwise the victim will meet a gruesome end. Of course, thousands of people log in. The snuff movies spread virally and the victims die one after the other. “The more people who watch, the faster the victim dies.” Social media ensures that the dividing line between information and sensation is wafer thin.

This is underlined by what Craig Silverman calls the “Law of Incorrect Tweets”. People are often more interested in erroneous information than in the rectification that follows. For instance, actor Jeff Goldblum was erroneously declared dead in a New Zealand newspaper. He had apparently died after a fatal fall on the film set. Rectification of this news item was made almost immediately, but the unholy tidings persisted on Twitter. Ultimately Goldblum had to appear on The Colbert Report television program to halt the rumor mill.

Social media put an end to privacy and creativity

The introduction of Google+ at the end of July 2011 revitalized an old discussion. Should you use your real name on the Internet? On Facebook this has been obligatory for some time, while on Twitter you can call yourself what you like. At the moment of introduction, Google+ was still undecided. During a presentation in January 2010, Mark Zuckerberg, the CEO of Facebook, stated the following on the topic of privacy: “People have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people. That social norm is just something that has evolved over time.” In Zuckerberg’s view, privacy is not an issue. Privacy simply no longer exists in the current era.

It is not strange that Zuckerberg holds this opinion. In the article entitled “What Facebook Knows”, Tom Simonite declares that Facebook is perched on a golden mountain of data. According to Simonite, Facebook only needs to find a way to sell all the possible insights that they could obtain from this abundance of data:

Example of a panopticon.
One potential use of Facebook’s data storehouse would be to sell insights mined from it. Such information could be the basis for any kind of business. Assuming Facebook can do this without upsetting users and regulators, it could be lucrative.

The world according to Google and Facebook calls to mind the panopticon (Greek for “all-seeing”), an architectonic principle described by Jeremy Bentham, the English philosopher of the Enlightenment, in 1791. A panopticon makes it possible to control, discipline, guard, study, compare and upgrade groups of people. The building consists of a tower with a ring of cells surrounding it. Each of these cells has two windows, one facing outward and the other facing the tower. One watchman in the tower is sufficient to guard, know and control all the residents. We do not need to look far to see the similarity with Facebook: looking outward through the window, we feed Facebook with the data on which the platform runs, and through the window inward, Facebook controls our digital data shadow with us having control of its use and exploitation.

“Visibility is a trap”, wrote the French philosopher Michel Foucault, and this statement seems to be becoming more and more relevant to our age. We give our data to random platforms and “if you are not paying for the service, you are the product”. This point is also touched upon in the book Digital Vertigo that has been written by the so-called anti-christ of Sillicon Valley, Andrew Keen:

Today as the web evolves from a platform for impersonal data into an Internet of people, Bentham’s industrial Inspection House has reappeared with a chilling digital twist. What we once saw as a prison is now considered as a playground; what we considered pain is today viewed as pleasure.

The playground to which Keen refers is the field of digital media, where we play with content and build on our online identity. To many people, living in this digital panopticon is no hardship but rather a pleasure. This is perhaps the greatest challenge to every proponent of privacy. What if the crux of the privacy problem lies in normalization, that the masses not longer view it as an issue, as Zuckerberg comments. However, the question remains as to whether or not people are simply complying with the discipline exerted by the power institutions of this decade: Facebook and Google.

Christopher Poole is the founder of the 4chan message board, a digital breeding ground for memes. On Monday 17 October 2011, Poole gave a speech during the Web 2.0 Summit in San Francisco, and uttered surprisingly harsh words about Google and Facebook:

We all have multiple identities. And that is not something that is abnormal. It is just a part of being human. Identity is prismatic. There are many lenses through which people view you. We are all multifaceted people. Google and Facebook would have you believe that you are a mirror. There is one reflection that you have. [...] But in fact we are more like diamonds. You can look at people from any angle and you can see something totally different and yet they are still the same.

According to Poole, we have arrived at a crossroads, where we have to choose how we wish to deal with our online identity. Should we opt for the path that Facebook and Google have paved for us, or will we choose 4chan, the path of anonymity, the path on which nothing is fixed, the path where chaos rules?

What’s really at stake now is the ability to be creative and expressive on the Internet. And I especially worry about young people. Part of growing up is finding out who you are, what you are passionate about, what you are interested in, being an idiot. Making mistakes.

Poole is talking about identity and anonymity and about creativity and expressiveness on the Internet. About being human. In Poole’s view, if there is no longer anonymity on the Internet, this will entail the death of creativity.
To obtain a picture of what we can expect in the realm of cyber attacks and crime, we sought advice from Websense, a company that has been producing security software since 1994. The following seven predictions, which Websense claims can be made with a large degree of certainty, are far from trivial and, unfortunately, are once again intimately linked to social media.

1. At the top of the list, in huge bold letters, there is a serious warning about naïve use of social networks and social media. Websense cautions about the dangers of cyber crime, and your social media identity may be more interesting than even your credit card. We have now become accustomed to Social Security Numbers and credit card data being stolen and sold online, but in the coming year the online mafia will intensively switch its attention for the first time to our social media IDs.

2. The second warning is directly related to the first. The most important blended cyber attack will come via our so-called “friends” on social media and networks. We currently have campaigns on TV against phishing e-mails, an increasing number of so-called “Advanced Persistent Threats” are also on their way, based on social forms. Playtime on social media is definitively over.

3. OK, where are we most active on social media? That’s right, on our mobile devices. Next year we will encounter a surge of more than a thousand cyber attacks on smartphones and tablets. This has been on the cards for years, and we were ultimately hit by the first real mobile malware in 2011. Botnets and exploits have now also appeared, because, in the post-PC era, criminals and hackers have switched their attention to mobile devices.

4. In the technical domain, mobile platforms and the use of Google, Facebook and Twitter mean that the so-called “safe” SSL/TLS tunnels (Secure Sockets Layer/Transport Layer Security) for corporate IT can cause a blindspot. This occurs when security tools are not capable of decrypting in the tunnels. As a result, such flawed products have no idea of what is going in and out of the business network.

5. As an extension of the previous point, this warning is a rather simple one: Containment Is the New Prevention. It means that there must be permanent supervision of whether or not data are leaking away or are infiltrating via network connections. This is done by installing a containment zone that is constantly monitored. If unusual traffic is taking place there, the route in or out can be closed and the data in question can be analyzed. Organizations with the proper software will be right on top of the problem and the appropriate action can be automatically taken within seconds.

6. There are also sufficient external (social!) factors that form a source of concern, such as the Olympic Games in London, the presidential elections in the US, and the infamous end-of-the-world predictions. This kind of happening can always be used to prepare and implement large-scale cyber attacks. This will take place via search engines, but also increasingly via social media and networks. We have all underestimated this risk. At present, we still do not associate social media with cyber crime, but that is going to change forever in the near future.

7. To summarize everything in the final point: the dangers of “social engineering” — a pleasant euphemism — and malevolent anti-virus products will increase enormously. Particularly the so-called “exploit kits”, the software packages that enable systematic attacks, will play a major role in this context. Attention will be shifted from the installation of anti-virus tools to the installation of system tools, for defragmentation and a faster Internet connection, for example.
7 The macro-economic Social Media Deficit

Comparing sums of money, the cost of the information overload has gradually grown, step by step, to equal a quarter of annual government expenditure. It is almost as high as the current budget deficit. These are American figures, but they are causing great concern to European organizations too. The Netherlands, for example, is a world leader on many fronts in social media. At the beginning of 2011, the overload counter recorded 997 billion dollars: only a fraction away from the magical trillion boundary. Since as far back as 2007, the Basex Research Agency and the Information Overload Research Group have been advocating the reduction of information overload in terms of size and sort, for a lack of focus and flow (and filters) corrodes the productivity and innovation capability of organizations. Whereas the US was faced with a cost of 650 billion dollars in 2007, the cost has now risen to almost twice that. The latest insights and stories are presented on the website www.overloadstories.com.

A national Information Overload Awareness Day was organized in October 2010 and 2011 (see: www.informationoverloadday.com) and, in its heyday, the Information Overload Research Group had a horde of people backing it, including Intel, Google, Microsoft, IBM, Xerox and universities in various countries. In the wake of this success, companies such as Wavecrest nowadays supply organizations with web monitoring & reporting software. With such software, it is possible to identify network users who form a potential hazard to productivity or reputation, as it is so eloquently expressed on the Wavecrest website. Social networks receive special attention, although the Information Overload Research Group regards work interruptions and information overload in a broader sense. At the very least we can conclude that it is not particularly smart to willingly dispense with our focus and flow.

Tip: Examine a number of YouTube videos on Information Overload, such as Do you suffer from Information Overload Syndrome — IOS? and Information Overload — The Movie, both dating from 2009.
“Growing at an accelerated rate toward a Smarter Planet on the digital power we have developed.” That is the aspiration of IBM, among others, on various fronts. But what do we think about it? Complaining seems to be all the rage at the moment. We are less capable of concentrating. We continually divide our attention among various digital stimuli. This is largely the consequence of the imposing range of social media, in combination with the sensory temptation that issues from mobile screen devices. Digital distraction seems to be the accepted norm these days and apps make this even easier. They function as enticing signs to guide us to exactly that corner of the digital universe that we are eager to see. Chatting, news, Twitter, Foursquare, Facebook, Google+, Wordfeud, sudoku, sport, sex, shopping, photos, video, you name it. Moreover, we prefer to be lazy rather than tired — a feature that humans have never managed to alter down through their whole evolution.

If the saying “practice makes perfect” leads to splendid new inventions, that can be regarded as a good development. But if half of the world population subsequently becomes mere consumers, this gives rise to a number of serious problems. Concentration is seldom focused. Ready knowledge is declining rapidly. Addiction is on the increase. And, worst of all: we gratify ourselves with eye-candy and sensual appearances. Superficial communication has become the norm and we only experience an intense group feeling online. In that context, we live in our own, rich digital fairground, from which we resolutely exclude our immediate surroundings — and everything that requires more focus and intellectual effort.

It was no different with television, portable music players and computer games. But now, in the post-PC era, this individually experienced abundance is perhaps assuming scary proportions. Screen devices and apps are the new beads and bangles, by means of which we can permanently gratify and measure our physical, mental, social and intellectual conceit. All four stultify, due to a lack of focus. In this way, the average Earthling is becoming a caricature of himself. We are becoming even lazier and run the risk of continually paying most attention to the wrong things. If this becomes too much, we are prescribed an anti-ADHD pill such as Ritalin, which is also popular as a party drug. In vernacular speech, Ritalin is often described as “vitamin R”. The fact that it is amusing says enough. It seems to be completely accepted that humans, as social creatures, are becoming increasingly anti-social in their physical environment. And perhaps even stupider. (Wikipedia devotes considerable attention to the smarter-or-stupider discussion; see en.wikipedia.org/wiki/Is_Google_Making_Us_Stupid.) Perhaps we are becoming more rapidly addicted to all kinds of things via our social media addiction, as indicated by recent research by CASA, the Center for Addiction and Substance Abuse, among American teenagers of 12-17 years. Does the addiction relationship come from an excess of the wrong examples? Or does the cause lie even deeper than that? Losing oneself in fake intelligence and social surrogates does not look so very smart. How did we get this far?

How did we end up in this post-PC era? Into which historical trend does this development fit? Surfing with intent will bring us to the Web History tutorial that is given at the UC Berkeley School of Information. Unfortunately, smart and determined searching also seems to be a dying art these days, and probably the various apps and “information at your fingertips” contribute even more to this evolution. We do not want search engines but finding services. In itself, this is a logical demand, but the present finding services largely consist of common-or-garden information. Still, we are now able to respond to the first question, concerning how we ended up in this digital swamp — and with this, in a smarter-stupider debate. In their Web History tutorial, Erik Wilde and Dilan Mahendran teach us the following.

The history of the Web in a nutshell
We owe our present “Global Information Space”, as thus articulated, to the inventor Tim Berners-Lee, but the idea
is at least a century old. There is no continuous line in the events that have taken place since then, as many of the details of this development remained unknown or have simply been forgotten. And it is certainly not remarkable. It is about the description, documentation and deployability of human knowledge and experience. In fact, we should begin with the ambition that Denis Diderot and Jean d’Alembert displayed with their *Encyclopédie*, the first volume of which appeared in 1751, toward the end of the European Enlightenment. The aim of this *Encyclopédie* was simply to present the order of and connections between items of human knowledge, and particularly the general principles of each science and practical discipline, as well as the most important facts and events.

In their tutorial, Wilde and Mahendran then skip more than a hundred years. In 1895, Paul Otlet began work on the *Mundaneum*, his bank of world knowledge, which he himself described as a “kind of artificial brain”. He created more than 12 million cards, which served in a physical hypertext system *avant la lettre*. In 1934, Otlet considered electronic implementation. In doing so, he stepped into the footprints of Wilhelm Ostwald. With the money that Ostwald had retained from his Nobel Prize for Chemistry in 1909, he funded Die Brücke: an international institute for the organization of intellectual work. Ostwald envisaged a “world brain” something similar to the idea expressed by Otlet. In 1937, H.G. Wells published his article “World Brain: The Idea of a Permanent World Encyclopaedia” as an appendix to the new *Encyclopédie Française*. Wells passionately believed that the total body of human knowledge could be accessible to everyone anywhere in the world in the near future. Science in general, but also common citizens, would be able to find the piece of knowledge they needed:

> There is no practical obstacle whatever now to the creation of an efficient index to all human knowledge, ideas and achievements, to the creation, that is, of a complete planetary memory for all mankind. [...] It can be reproduced exactly and fully, in Peru, China, Iceland, Central Africa, or wherever else [...] it is a matter of such manifest importance and desirability for science, for the practical needs of mankind, for general education and the like, that it is difficult not to believe that in quite the near future, this Permanent World Encyclopaedia, so compact in its material form and so gigantic in its scope and possible influence, will come into existence.
In 1927, Emanuel had built the first electronic document retrieval system. You enter a number, press a button, and the required microfilm document appears three minutes later. Wells later had the same principle in mind for his *World Brain*, as did Vannevar Bush for his *Memex*, de *memory extender*, which he described in 1945. The Memex illustration on the previous page shows a remarkable similarity to today’s tablet devices.

The pace increased dramatically from 1960 onward. In that year, Ted Nelson began the first computerized hypertext project, called *Xanadu*. In 1974, his book *Computer Lib/Dream Machines* inspired many digital pioneers. NLS was the first working hypertext system: the oN-Line System of Doug Engelbart and his Augmentation Research group. They also invented the mouse and the windows principle. Eventually these initiatives grew to become NoteCards by Xerox Parc in 1984, and HyperCard by Apple Computer in 1987. In 1980, Tim Berners-Lee built the ENQUIRE hypertext system, named after a reference work from the Victorian era. Four years later, that was suitable for other types of computer, and Berners-Lee presented the *Distributed Hypertext System* in 1989. This was intended to be flexible and intelligent. It supported various computers and operating systems, automatically recognized patterns, and reproduced the most recent situations via so-called *live links*. We had landed in the PC age and Web 1.0. Web 2.0 followed after the turn of the millennium, and now we are in the post-PC era with an increasing number of screen devices. These are becoming ever-cheaper and more powerful, they have a *Natural User Interface* (NUI) instead of a window/mouse interface (GUI), and we can choose from an assortment of millions of apps.

This is how simple it is: we can summarize 33 slides in less than 700 words and a picture. Has your interest been aroused and do you want to know more? If so, check it out. See the YouTube video about how Paul Otlet imagined his *Mundaneum* in 1934. Wikipedia gives comprehensive descriptions of this. Put Facebook and Twitter aside for a moment, and direct your sole attention to a theme that will fascinate and educate you.
PART III THE WAY OUT

9 Dumbing-down anxiety

A mixed blessing? This question was bothering the Egyptian king Thamos when the god Toth offered him the art of writing, as a transition from prehistory to history. Thamos’s fear has come down to us from Socrates and Plato. Putting things in writing, the king feared, is bound to make us forgetful. Clearly this king would have imposed some restraints on the Internet.

Our memory is dear to us. This is something that has always existed and has nothing to do with Alzheimer’s Disease. Michel de Montaigne too, in the 16th century, worried about his poor memory. Obviously, this was most appropriate to the father of skepticism, who was systematically asking himself what he knew in the first place. Even before Plato’s days, it had struck the Greek poet Simonides of Ceos that mnemonics based on location and space enabled the fallible human memory to retain information considerably better. Simonides laid the foundation of the “Ars Memorativa”, the art of remembering. Nowadays the journalist and author Joshua Foer, a perfectly ordinary American young man, is the living proof that Simonides’s so-called memory palaces and other devices can function quite well. The examples above are from his book, which was published early in 2011 under the title Moonwalking with Einstein: The Art and Science of Remembering Everything. The Dutch edition is entitled Het geheugenpaleis: de vergeten kunst van het onthouden (The Memory Palace: the Forgotten Art of Remembering). The book deals with Foer’s experiment to train his memory. Eventually he was so good at remembering things that he won the annual USA Memory Championship in 2006. His achievement is so remarkable — not in the least in this time of digital distraction — that the book is going to be adapted for the silver screen by Columbia Pictures.

In spite of the Foer case, anxiety continues to rankle. “Internet Alters Memory” was the headline of The S latest in the summer of 2011. Recent research by Columbia University, entitled Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips, had proved it. It is so tempting to be precipitate. What exactly is changing? Is it about physiological matters? Are our brains changing? Is our memory changing? Is the use of the human memory/processing faculty subject to structural change? Or is it solely about how we do things, given the opportunity? As a first expression of adaptive skill. Internet in front of you, so start browsing. Assuming that tomorrow everything will still be exactly the way it was: search process and results. Funny that we tend to rely on that Google Effect. And likewise on the App Effect nowadays: on information and knowledge — presented in easily manageable chunks — that we do not even have to look up anymore.

Unlike the suggestive headlines in The S latest and other publications, the researchers themselves very cautiously referred to “processes of human memory” that are changing. What is changing in any case, or perhaps: what is “only” changing, is our behavior. The Google Effect may
equally well be a prelude to a better understanding of matters in their structural context: “Perhaps those who learn will become less occupied with facts and more engaged in larger questions of understanding.” It sounds rather pompous and not very scientific.

Nicholas Carr, shortlisted for the Pulitzer Prize with his book *The Shallows: What the Internet Is Doing to Our Brains*, which broaches the subject of loss of concentration and intensity of experience, could not agree more with Sparrow and her team. He concludes his blogpost about their research as follows:

*We are becoming symbiotic with our computer tools, [...] growing into interconnected systems that remember less by knowing information than by knowing where the information can be found. [...] We must remain plugged in to know what Google knows.*

These are established, but not particularly world-shattering facts. Nor is the title of the blogpost, *Minds Like Sieves*, an epoch-making insight. Simonides of Ceos was aware of this, and in the Netherlands the internationally renowned Professor Willem Wagenaar made minds like sieves his magnum opus. The abstract cliffhanger that Carr used to end his blogpost is significant:

*As memory shifts from the individual mind to the machine’s shared database, what happens to that unique “cohesion” that is the self?*

Memory, the brain, the mind, and now “the self”: a kind of soul and relic of psychoanalysis and the Gestalttherapie. Are antiquated abstractions such as these supposed to elucidate the discussion, in the year 2013?

The same goes for analogies that have been the steady companions of the memory discussion and the brighter/stupider debate throughout the centuries. Even today, we sometimes still refer to “racking one’s brains” when some hard thinking is required, and hear the somewhat archaic expression “the cogwheels of our brains”. After mechanics came the computer, and the notion of artificial intelligence. We have always had the idea that someday digital technology would surpass our own intelligence. Many felt that this came true when the IBM computer *Deep Blue* defeated world champion Gary Kasparov at chess in 1997. But, all in all, the question as to what intelligence really is still stares us in the face. Possibly one of our awkward abstractions is the best answer. When it comes to analogies, we have now embraced the MRI scanner, which shows us what is going on in the brain. Even to a neuronal level. But we do not have a very clear conception of how that correlates in concrete terms with our favorite abstractions: memory, brain, mind, self, soul, intelligence, being bright or stupid — to put it mildly. A more differentiated view can make subtle distinctions with regard to discussions about this, which can easily turn out to be too black-and-white.
We never cease to be amazed at the things happening around us. Ever since Aristotle, such amazement has been the first step towards understanding. So it is not surprising that this is what marked the beginning of this trend report. Amazement at how social media have changed our lives. Whether people are on the road, at home, at work or in a place of entertainment: it never takes long before they reach for their mobile device. Everyone uses or wants to use the smartphone and the tablet, and most of all their own apps. Magnificent, all that “tech” — never before was it so wonderful and intense.

Digital technology and functionality are closely interwoven in our lives — to such a degree that the pet name “tech” has now come to stand for one big addition: the sum of technology, economy, culture and history. It affords an excellent perspective on reality and the future: according to the Swedish firm of Berg Insight, 98 billion mobile apps will have been downloaded in 2015. And they all contain our attention, experience and knowledge. You name it, there is an app for it nowadays. And most of them have that social component: it is standard these days.

There it is, the real New Economy — admittedly, twelve years from date — based on the other three tipped to do the job: the Attention, Experience and Knowledge Economies. Still not enough, it is true, to gloss over the current debt crisis of banks and nations in less than no time, but all the same... All in all, one would expect people to be surprised, or at least to have noticed this, consciously or unconsciously.

Apart from all the amazing “tech” changes around us, what really matters is the ensuing effects. On the one hand there is this serious crisis, and on the other the enormous boom of apps on the most powerful and easy-to-use small computers ever. The combination of attention, experience and knowledge — consciously linked to our social-minded nature and the human intellect — should enable us to reap profits, businesswise.

Going through with it, from the social Web 2.0 to Social Businesses and a Social Society: that is the message. Similar to the way the established e-business once began (Pizza Hut, 1994) with the e-commerce consumer experiment. Eight years later, Social Business is the natural next development of e-business. Being focused on people-first, commitment and transparency, Social Business dovetails with the consumer experiment of Web 2.0, which started in 2004.

The radical growth of mobile social media is in sharp contrast with the relatively gradual growth in large sectors of the economy. Here too the demand for a decisive and bold way of handling social media is directive. We should embrace social media and steer them in the right direction. This is what marks the growth process, in which new structures emerge that in due course turn out to be the basis of new radical growth and prosperity in the rest of the economy. What is currently being done there is primarily cutting dead wood and sitting out the winter in preparation for a new cycle — as with the seasons.

The remarkable “tech” character (technological + economic + cultural + historic) of social media also manifests itself in cultural clashes. Actually they are of all time, but they are currently more intensive than ever due to the digital awareness and other forms of empowerment, such as hacktivism. Countercultures and subcultures such as WikiLeaks, Anonymous and Occupy, to mention the most conspicuous, need to be fitted in by means of transparency and commitment. Conscious efforts to steer them in the direction of Social Society and Social Business form a basic prescription against many dark sides of social media.
The Age of Context is coming

What can we do against the invasion of social and mobile technology and their content, which upset our rhythm on a 24/7 basis, distract and enrich us at the same time? In any case, for most of us it is hardly an option to train our overburdened brain in such a way that we are distracted less often or less quickly. Rather it is up to new digital tools to ignore the immediacy of real time and to present messages in the correct context.

The continuous state of distraction can be overcome by "undesigning" the culture of multitasking and constant updates, says media theoretician Geert Lovink in his book Networks Without A Cause. Technology must be made subservient to us again, by aiming to realize a situation where attention takes the place of distraction for example. To that end, a suitable context needs to be created that draws our attention.

In his article “The Future is not Real-Time”, Joshua Gross formulates a similar thought. An e-mail from a friend had given him pause to think. The remark: "We're exposed to more content than at any time in our lives yet the amount of time to consume it isn't increasing" caused him to write the following words:

I believe the future is not real-time. Instead, we will find ways to artificially stem the constant flow of information through algorithmic summarization. We will find ways to bring information we are truly interested in back to us at a pace and time that is more manageable. Instant notifications will be reserved for those few precious individuals and apps that absolutely need our attention, rather than those that simply want it. [...] The real-time web is a bit like a fire hydrant—either the valve is opened or closed, but there's no filter to stem the flow; we become the filter for the massive flow of information. Content should always feel like a gift, not a burden. To turn it into a gift, we need to start focusing on ways to control the flow.

Here the concept of Right-Time Experience is central. Uncontrolled real time should make way for controlled right time. Experiences should not impose themselves on us, but sway to changes in the context of the users, in a manner of speaking.

In Program or be Programmed (a pamphlet with ten commandments for the digital age), media critic Douglas Rushkoff argues in favor of the following philosophy and the most practical way out when it comes to the dark side of social media: “do not always be on.” The same point of view is held by Clay Johnson in his book The Information Diet: A Case for Conscious Consumption. He makes out a case for a balanced diet, for consuming information in moderation:

The classification and categorization of information are always subjective, and sometimes controversial. Do not worry nearly as much about achieving some set standard of balance, or even emulating my diet. Worry about consuming consciously, and making information—and our information providers work for you, rather than the other way around. Form healthy habits, and the right balance will follow from it.

Unless connectivity becomes faster, bigger and cheaper, we increasingly tend to adopt an “always on” status. Our devices and, as a kind of continuation, our human system too, are "extensions" of the online universe and vice versa. The devices we use place us right in the centre of a torrent of e-mails, tweets and other updates. We give up our thoughts in exchange for the false goal of immediacy, as if we could survive in a permanent state of readiness.

We take a stand against technology without any sense of time and moderation, but it is a battle that cannot possibly be won. A solution, in fact Rushkoff’s number one in his list of ten recommendations, is to be “not on”. A different solution is the shift towards context. Not to being anti-social, which is often the case in real time, but in-context. These are two basic principles for a new stage of technology that calls for attention at the right moment without constantly distracting.

The technology evangelist Robert Scoble is the co-author of the book Naked Conversations: How Blogs are Changing the Way Businesses Talk with Customers. In conjunction with
Shell Israel, he is currently working on a new book with the interim working title *The Age of Context: How it Will Change Your Life & Work*. This book deals with how, at last, software understands us as individuals:

*It’s about personalizing what you see wherever you look online, based on what the technology thinks you should see. It’s about harvesting and sharing mountains of human data and a new and imprecise field called predictive behavior.*

In a way, technology is becoming intuitive. We already pointed this out in our free trend report *We the Web: Defusing the Big Data Frenzy*:

*The cellphone is no longer a device for the purpose of communication only. Via context-conscious apps, for example, mobile devices of all kinds and sizes will be the principal gateway between the physical and the digital world. [...] What we want—as yet perhaps largely unarticulated—is that the web knows where to find us on the basis of digital footprints and real-time behavior. The web has to know what we are looking for; we need to be rid of search commands.*
In the summer of 2012, the Gartner Research Agency published its annual hype cycle. In relation to the previous hype cycle, a number of technologies are new, although they may have had a place in earlier versions. This is stated literally in the information leaflet. Gartner indicates that we ought to see a total of forty-eight “2012 technologies” in combination, depending on our interests and needs. But a clear overall picture is lacking, while all the pieces of the puzzle are available. Now that the broad contours of the digital puzzle have been fully developed and dressed, we have a good basis to distance ourselves from all the technological tumult.

Following Gartner’s advice to try to see various technologies in their proper context, we examined the Big Data cluster because that is currently making a breakthrough. Across almost the entire hype-cycle rollercoaster – from “Inflated Expectations” via “Disillusionment” and “Enlightenment” on to the “Plateau of Productivity” – we encounter the following nine categories. Big Data itself to start with, then Social Analytics, In-Memory Database Management Systems, Activity Streams, Audio Mining/Speech Analysis, In-Memory Analytics, Text Analytics, Speech Recognition and finally Predictive Analytics. The distribution of these coherent and occasionally inextricably linked technologies — almost 20 per cent of all “2012 technologies” — is enormous. The above-mentioned nine categories cannot be separated in this way other than on the basis of divergent argumentations. Therefore, Gartner’s hype cycle is little more than a flattened roller coaster or, at best, a Babylonian discussion print. But there is already enough confusion of tongues!

Instead, we wish to look for convergence: at the way in which our life fits together, businesswise and in private. MIT Media Lab director Nicholas Negroponte commented as far back as 1995: “Computing is not about computers any more, it is about living.” And he was right: in the 21st century, digital will be a part of life itself and will help shape that same life. The reciprocal relationship will be expressed in connections between apps, analytics, (big) data, media, mobile and social. All these technologies will be aligned to one another under the term “SlowTech”.

### Technology Trigger

- Wireless power
- Hybrid cloud computing
- HTML5
- Gamification
- Big data
- Crowdsourcing
- Speech-to-speech translation
- Natural-language question answering
- Mobile robots
- Autonomous vehicles
- 3D scanners
- Automatic content recognition

### Expectations

- Silicon anode batteries
- Internet of things
- 3D printing
- Complex event processing
- Social analytics
- Private cloud computing
- Application stores
- In-memory DMS
- Augmented reality
- Activity streams
- NFC payment
- Internet tv
- Audio mining/Speech analytics
- Near field communication
- Cloud computing
- Machine-to-machine communication services
- Mesh networks: sensor
c

### Plateau reached in:

- <2 years
- 2-5 years
- 5-10 years
- >10 years

### Acronyms

- NFC: Near field communication
- DMS: Database management systems
- BYOD: Buy your own device
The Slow Web movement

In 1986 the Italian Carlo Petrini protested against the opening of a McDonald’s restaurant in Rome. That was the starting sign for the Slow Food movement, as opposed to fastfood. The movement strives for the preservation of traditional and regional dishes, and encourages the cultivation of plants and seeds and the keeping of livestock within one’s own district or community.

The Slow Food Manifesto resists the yoke that the Industrial Revolution has laid upon the shoulders of humanity. The focus on speed has diverted us from the truly valuable things in life. We should stand still for a moment or even just slow down, in order to find natural enjoyment once again:

Born and nurtured under the sign of Industrialization, this century first invented the machine and then modeled its lifestyle after it. Speed became our shackles. We fell prey to the same virus: “the fast life” that fractures our customs and assails us even in our own homes, forcing us to ingest “fast-food”. Homo sapiens must regain wisdom and liberate itself from the “velocity” that is propelling it on the road to extinction. Let us defend ourselves against the universal madness of “the fast life” with tranquil material pleasure.

In the article “Cinema isn’t dead, it’s just different”, Jim Emerson was the first to write about a sort of Slow Food movement for the web: “We need a Slow Internet Movement along the lines of Slow Food and Slow Cinema, if we’re really going to take advantage of the archival nature of the web. It’s not just about being first and fast and superficial; it’s an opportunity to consider a spectrum of arguments and evidence.”

Shortly afterwards, his remarks were picked up by Rebekka Blood who, in her article entitled “The Slow Web (plus: the modern experience of film-watching)”, was the first to use the term Slow Web. She explained that the popular web can be compared to a “hyper-paced newspaper” in which the announcements follow one another at lightning speed, without managing to communicate the relevance of a certain article. Articles are nothing more than digital snacks, fastfood for digital junkies. According to Blood, the Slow Web can be compared to a book. It is something that is not worked off in one go but is something in which you have to invest time and energy, something that brings pleasure as it slowly permeates your thoughts.

In the summer of 2012, the article “The Slow Web” by Jack Cheng was the subject of much attention. Chang outlined what the Fast Web is, and why we should not want that:

What is the Fast Web? It’s the out of control web. The oh my god there’s so much stuff and I can’t possibly keep up web. It’s the spend two dozen times a day checking web. The in one end out the other web. The web designed to appeal to the basest of our intellectual palettes, the salt, sugar and fat of online content web. It’s the scale hard and fast web. The create a destination for billions of people web. The you have two hundred twenty six new updates web. Keep up or be lost. Click me. Like me. Tweet me. Share me. The Fast Web demands that you do things and do them now. The Fast Web is a cruel wonderland of shiny shiny things.

The Fast Web is a place where we actually do not wish to be, regardless of how tempting it may seem. In his article, Cheng contrasts a number of Fast Web features with those of the Slow Web.

• Real-time versus Temporary — To explain this difference, Cheng cites the Instapaper application. It is best to keep matters that require our serious attention until we have time to absorb them properly.
• Randomness versus Rhythm — Randomness means that we are continually distracted. Every tweet or Facebook update splinters our attention. It is much better to consume information at fixed times.
• Stressful versus Moderation — Moderation plays a major role in the Slow Web. The aim is to use our time as effectively as possible. Virtual Personal Assistants, such as Siri from Apple, will play an increasingly greater role in the Slow Web of the future. They will have to ensure that the right information reaches us at the right time.

• Information versus Knowledge — “Information passes through you; knowledge dissolves into you.” You must be able to take action on the basis of information. This can only be done when the information has been converted into knowledge. Applying knowledge as a force, as a lever, by gathering data from all sides, storing, processing, sharing and capitalizing on them, will become an important new principle in the Big Data era.

In the meantime, a Slow Web Manifesto has appeared, for people wishing to repossess their lives and no longer be slaves to technology. Although the Real-time web certainly has its merits, immediacy ought to make way for more courtesy, in-context response and the human measure. New technologies such as Siri from Apple, the Kinect movement interface from Microsoft, Project Glass and Google Now, and IBM’s Watson all contribute to rediscovering the human measure, due to the fact that we no longer have to spend our time on technologies and applications that do not take time into account. The saying “Standing still is the same as regression” does not apply in the case of the Slow Web. We must indeed stand still in order to reflect on things and let them sink in. Only in this way can we take the next steps in a well-grounded way.
With an excess of irresistible technology, taking responsibility for our own behavior is easily said. Life has never been so splendid, with our smartphones, tablets and apps. Particularly the direct connection to the senses and the link of social media to our emotions — everything interactive and in real time — makes the tsunami of digital stimuli almost more realistic and more exciting than life itself. Media philosopher Marshall McLuhan articulated the following memorable words on this theme in the 1960s:

> All media are extensions of some human faculty. Mental or physical. The wheel is an extension of the foot. Book is an extension of the eye. Clothing is an extension of the skin. Electric circuitry is an extension of the central nervous system. The extension of anyone’s sense displaces the other senses and alters the way we think. The way we see the world and ourselves. When these changes are made, men change.

Since the dawn of mankind, it has been part of our nature to throw ourselves into all kinds of adventure and recklessness, and seek an end to tardiness and toil. But the current substitution of real life for digital tumult is of an unprecedented extravagance and persistence.

In 1971, the introduction of the Intel 4004 microprocessor was the starting signal for a new era, the beginning of the digital revolution. In the past 40 years we have rolled out the architecture of a network by means of which everything and everyone is linked up. The direct consequence of this is the immense quantity of information — Big Data — that inundates us on a daily basis.

It is becoming increasingly evident that we can make significant economic and social adjustments on the basis of all this information: data are a new form of oil. This is only possible if the complexity of the network fades into the background: becomes invisible, as it were.

In 2007, Steve Jobs presented the very first iPhone and called it a post-PC device. The device shows how we can make use of the underlying technology in a human way. We no longer have to crawl under desks to connect all kinds of plugs, sockets, cables and wires; we are no longer confronted by frozen software; we now have technology that fits seamlessly with our senses. It is the start of the humanization of digital technology.

Now we have to develop consciously from nerd into human being: we are no longer slaves to, but masters of, technology. This is only possible with new intelligent technology that assists us, that supplements or improves us, as it were. If we do not do so, we will drown in the ever-increasing flood of information.

And this is where our own behavior and our notorious “personal responsibility” appear on the scene. Technology and human behavior are inextricably linked, and the more powerful and attractive our digital achievements, the firmer we should be able to stand on our own two feet. Recidivism to bad habits remains a danger — particularly our “tenjet-black consequences” as outlined in section 5 — although an occasional derailment is also acceptable. But, in general, we will have to toughen up and offer resistance to all temptations, particularly those of social media, including games, and the screen devices on which they operate. This sounds somewhat moralistic, but this is reality.

As far back as 2007, the South Korean KBS World Radio observed on its website that we had entered the world of well-thinking rather than that of well-being. After all, it was stated, “well-being” means little if we can no longer remember what we have eaten, regardless of how healthy the meal may have been. Altogether, this was a typically Asian way of making things clear, as it was a bridge to the theme of Digital Dementia. By this we mean the fact that our memory, or our calculation skill for example, is drastically reduced due to our dependence on external digital sources of knowledge such as smartphones and apps. Why should we remember things nowadays when our digital resources do this for us, completely automatically and in real time? No, distancing ourselves a little from this technology will do us no harm and will benefit our memory training, especially when we are young — at least too young to suffer from a digital form of Alzheimer’s Disease.
We therefore wish to recommend the following four golden rules-of-thumb:

1. Do not forget that our memory becomes tangibly poorer if we do not train it.
2. Accordingly, you should try to remember as many telephone numbers, names, poems, sayings and aphorisms as possible, just like memory champion Joshua Foer advocates in his book *Moonwalking with Einstein* dating from 2011.
3. Try to put aside all digital devices and grow toward a new balance and less dependence.
4. Read books, articles and watch films; to subsequently discuss them with others and exchange ideas.

In combination this is a very important part of our Digital Literacy. It is directed toward avoiding sinking into Digital Lethargy or worse: Digital Dementia. It is a question of self-discipline. Behavior and technology go hand in hand here, oriented to the place we allocate to our digital privileges in our life. Insight and responsibility – well-thinking, in short — are what it’s all about, for our individual and collective well-being.

In 2012, Manfred Spitzer, the renowned German psychiatrist and professor, published his book *Digitale Demenz: Wie wir uns und unsere Kinder um den Verstand bringen* (“Digital Dementia: how we can wise up ourselves and our children”). This is quite a claim, and the criticism was, of course, that he regarded such developments too pessimistically and that we would teach ourselves to cope with such resources. The issue of how many victims arise in the meantime, people that could have been helped by a little guidance, has not been addressed in this context.

In his book entitled *Hyperaktiv! Kritik der Aufmerksamkeitsdefizitkultur* (“Hyperactive! Critique of Attention Deficit Culture”) the German philosopher Christoph Türcke points out that we are currently in an obsessive distraction situation that is producing serious socio-cultural disturbance. In addition, entertainment and divertimento are leading to stress rather than relaxation. ADD and ADHD, as structural cultural deviations, are the result.

But, at the end of this report, we will not begin all over again by setting off alarm bells and unleashing analyses, which are so strongly interwoven with an attempt to find a feasible way out. Instead, we prefer to conclude with thirteen tips for a happy and fulfilling life, provided by Manfred Spitzer at the end of his *Digitale Demenz*:

- To start with, eat well and healthily.
- Take at least 30 minutes’ exercise a day.
- Do not live in your own conceptual world, but in the here-and-now.
- Pursue feasible goals.
- Help other people, without self-interest and financial profit.
- It is better to spend money on experiences than on things.
- Surrender to music now and again, sing whole-heartedly.
- A good mood stimulates the brain areas for positive feelings.
- Be active and sweep obstacles from your path.
- Make life easier for yourself where you can.
- Go out for a meal with friends instead of always hanging around on Facebook.
- Spend enough time in natural areas, certainly if there are children with you.
- Avoid digital media wherever possible, and this applies especially to children.

On the basis of these tips, we can certainly instigate several interesting discussions. But as a cognitive neurologist and psychiatrist, Spitzer is not joking here. He regards the problems of (digital) tumult in a much larger perspective and in an extension of what the SlowTech/Slow Web movement advises us. It is in line with what MIT Media Director Nicholas Negroponte observed in 1995, and what we repeat here for the third and last time, namely: “*Computing is not about computers anymore, it is about living*.”
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The Dark Side of Social Media

Microsoft’s study on interruptions found:

Average of over four interruptions per hour

Interruptions were characterized as a nuisance

Over forty percent of disrupted tasks were not immediately resumed

On average, workers are interrupted once every 10.5 minutes

28% of the day is spent on interruptions and recovery time

23 minutes is the average time it takes a worker to get back to their assigned task

0.7:1 ratio

45% of workers believe they have to multi-task to work on too many things at once

Tasks done in parallel take the average user 30% longer than tasks performed in a sequence

 Interruptions will cost the American economy almost $650 billion dollars a year

1 billion + posts on Facebook every day

405 minutes on Facebook per month

1 of every 5 page views is an intrusion

700,000 messages sent every second

62 billion e-mails sent every day

28% of Facebook users visit

112 e-mails sent and received per day

400 million tweets per day

The average user spends 89 minutes on Twitter per week

175,000 tweets per second

1 million new accounts added every day

How often do you unfollow?

RedeApp.com

Download the iOS App Now!
Alarm bells and analysis, of course — and also a way out!

therefore not without them — more value and humanity.

to give our lives beyond and with the social media — and
done through our behavior and with our technology.

These go much further than rebellion and disturbance,
even further than a Facebook murder or suicide — if we
may be so callous — because they penetrate right into our
individual and social being. The frenzied and painful barb
must be excised from the social media. That can only be
done through our behavior and with our technology.

This combination has put us in a difficult position, but
on the basis of the right vision it can also serve as a lever
to give our lives beyond and with the social media — and
thus not without them — more value and humanity.
Alarm bells and analysis, of course — and also a way out!

Justification
When we were working on the VINT books Me the Media (2008) and The App Effect (2012), it became
increasingly evident that the darker sides of the social media more than deserved their own elucidation. It
was not to amuse ourselves but rather to examine the developments and the accompanying concerns, and
to deliberate on a way out. Accordingly, you will find a three-stage rocket in this work.

We begin with a chronicle of all kinds of alarm bells
that have gone off in the course of time and seem to be
ringing even louder now. Then the reader is presented
with an analysis section that starts with the jet-black
consequences for the 21st-century Homo Digitalis Mobilis. In conclusion, we offer our way out.

We have explicitly avoided political pitfalls such as the
recent riots in the UK, the Arabian Spring or Project X
in Haren, the Netherlands. Instead, we grab our ten jet-
black consequences by the horns.

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Alarm bells and analysis, of course — and also a way out!

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