

BOOK REVIEW: THE BIT REVOLUTION BY GERNOT BRAUER

As with many other people, my knowledge of the "AI & Digitalization & Big Data" congeries is made up of random fragments. One day you come across a culture-critical 4.0 essay, followed by an alarming study on "5G-contamination", days later you read an anthem about the boundless optimism in Silicon Valley and then a muddle-headed plea for a trans-human AI Utopia.

Artificial Intelligence

The bottom line is that little remains memorised and each additional input promotes a rather frustrating fishing in the murky. Sometimes you feel like Mrs. Merkel, who a while ago told her intercepting friend Obama, "Internet is a new territory for all of us". And so the vast majority prefers to keep their fingers off the data topic, hoping that experts in the US and China will yet settle, somehow, for the better, if possible....

In the midst of this discomfort, I got hold of the recently released book by Gernot Brauer: "The Bit Revolution - Artificial Intelligence takes control of all of us in business, politics and society."

The reading turned out to be a real bonanza, not only because reading pleasure, increment of knowledge and explanation of even the most complex issues go hand in hand.

First, Brauer leads us step by step through the history and the most important developing stages of the data revolution up to the present of 2018. Quasi along the way the smattering concepts such as bots, blockchains and bitcoins are finally explained, the rooms of the darknet are being described as well as the ghostly inner life of the Big Five Kraken, such as Google, Facebook, Amazon, Microsoft and Apple is laid out in detail. There are also plenty of anecdotes, hacker stories and a wide range of quotes coined by Einstein, Heisenberg, Jobs, Musk, Lanier and Curioni [1].

Doc Searls and the Kraken

With every chapter it becomes more obvious that we find ourselves on the threshold of a new age, of a cognitive revolution and an - at this pace - unprecedented quantum leap for the human race - here and now! And this explosion of intelligence leaves us no choice. We need to allow fore AI, whether we like it or not, because we're on the global information superhighway, racing at the speed of light - right into the middle of one of history's greatest adventures.

And it speaks for the author's sovereignty to let even keen critics of AI speak, such as Doc Searls [2]: "If we treated Google and Facebook as normal infrastructure, like roads or power plants, they would be inspected by civil servants periodically. But nobody knows what happens there with the Kraken because their data centres are absolutely obscure. "

And even Brauer does not have any illusions about their imperial and data-driven spying on their customers deep into the subconscious, including the calculation of their future behavior.

But the horror visions should not stop us from resolutely fighting for our digital maturity and allowing ourselves for a confident life in the virtual universe. Everyone should be able to take care of a clever and creative transformation of himself into bits and bytes to preserve his dignity and privacy in this cold new territory.

Brauer's Plea

In order to gain such a prerogative of rating over ones data and their interpretation, one must, however, deal with the technical procedures and see through the mechanisms and logic of the algorithms in order to use them as cleverly as possible. Brauer describes how this works and encourages the reader to become and remain his own webmaster. When self-learning robotic machines one day escape their programmers, degradation of us humans to cyborgs and cybernetic toys becomes a threat indeed.

Brauer's plea is for a rational and knowledge-based man-machine synthesis in which artificial and humane intelligence will cooperate.

From the many social aspects which Brauer deals with in respect to AI – e.g. financial markets, health, transport, trade, research, Industry 4.0 -, I would like to pick out a very important point, namely the chapter about how we in Germany actually position ourselves in the face of AI:

In point of fact scepticism -both overt and covert - prevails. A nostalgic pseudo romantic "Everything used to be better in earlier days" pervades analogue thinking in this country. Throughout the generations, a yearning for the happy voices from marketplaces, folk festivals and schoolyards - Rousseau instead of smartphones - is growing. These fears of the apocalypse are conveyed by the current statements of former Facebook managers such as Sean Parker, Justin Rosenstein or Chamath Palihapitiya [3], who are remorseful of the destructive consequences of their creation.

Bodywork

Even if it is not outspoken openly, millions of millions hope that the whole digital spook soon may turn out to be a meander and a technological dead end road - like flights to the moon or

nuclear bombs. And even those who just a decade ago celebrated social media as a tool of a new, democratic and transparent society look at the wide-open Pandora's Box with growing affright.

Without going into the pros and cons of Big Data, it turns out that in Germany AI has a puissant image problem.

Torn between enthusiasm and nostalgia, mental and political stagnation proliferates. People postpone, comfort, ponder, weigh, wait, set up working committees and organize meetings where the buzzwords of digitization are chewed on anew.

Without waiting for German indoctrination, in California the unrestrainedly dynamic and transnational demarcation thinking and in China the unopposed progression of a total state-capitalistic pervasion explode. By the way: What is referred to as AI has been running for 50 years now. And all stakeholders agree on the fact that by the year 2020, the various processes of exploration and experimentation will be completed and the phase of practical implementation will occur where corporations, states or societies have prepared for it.

According to Brauer, a large majority in Germany does not see AI as a fact, but more or less as a hype, boom or fashion trend.

As hopes are being dashed one by one, the smartest brains go to the US. Not few of these IT professionals predicted quite openly that - when it comes to autonomous driving - for the German automotive industry in the near future only the bodywork will be left.

Prisma Analytics

Although Brewer sometimes becomes exasperated of German lethargy and timidity, and in particular of the Merkel era's typical waiting out, blocking out and esperance , he also finds positive examples. Among them Munich-based Prisma Analytics [4] stands out, a small team, that, largely unnoticed, became a global player in the field of data intelligence.

Over many years of development work, innovative methods of real-time data acquisition have been virtually single-handedly transformed and shaped into a global leading enterprise in the fields of computer sciences [5], big data, artificial intelligence [6] and above all, predictive analytics "[7].

In practical terms major banks, corporations, governments, NGOs and administrations are provided with sound forecasts on financial, political and social developments, with information on mitigating risks regarding geopolitical and macroeconomical issues, and, above all, with constantly updated forecasts on economic and political trends and crisis prevention, for example on migration potentials, weather disasters , famine, epidemics or the threat of collapsing markets.

Since merging with Blackstone's database, Prisma Analytics has signed deals with governments in the gulf region, with some operators of the world's largest trade ports and with the state of Malaysia.

To find out more about the spirit at Prisma Analytics, Brauer has met and discussed several times with the mastermind **Frank Otto Schlör** (62). Before Schlör plunged into the Big Data Kingdom, he studied as a self-taught mathematics, psychology, sociology and philosophy - from the ancient Greeks and Romans to Kant, Hegel, Nietzsche, Schopenhauer and Wittgenstein.

The Intelligent Planet

Therefore, in the broader sense of applied philosophy, his approach to AI accrued, namely to intertwine the mental and the physical realities in a universal software.

However, in order to recognize and interpret reality as objective as possible, a final machine filter is required after the gathering of data, because, according to Schlör: "No computer will ever be as unpredictable and dangerous as humans. AI is far safer, more accountable, predictable, and ultimately more humane than man has ever been in history. Too often, the thin layer of civilization cracks and the strangely misty-eyed human proves to be a murderous predator, marked by greed, hypocrisy, vanity, and hatred. Most of the times even his pity induces terrible results. "

For this reason alone, humans will fail where AI algorithms do their job - unaffectionate and tirelessly.

One can imagine this as lots of supercomputers, globally interconnected with tens of billions of sensors and cooperating knowledge centres based on a unified language, freely accessible and politico-ideologically independent. By doing so, KI is helping to establish an intelligent planet with a new world mentality and an optimized way of life for all participants who enjoy the recapture of human freedom by delegating routine and bullshit jobs to big data.

A Carnage Full of Relish

Let's get back to the German aspect. If it were not so dramatic, it could be described as touching, when major fractions of politics and economy prayer-wheel-like repeat that one is also working towards a European solution regarding AI. Let's remember: Exactly one year ago, the impertinent CEO of Facebook, Mark Zuckerberg ^[8] dictated with apparent contempt the list of questions for his 15-minute answer monologue to the European Parliament with its 28 member states and 500 million citizens.

Gratefully enchanted, the ancestral warriors hung on the lips of the data tycoon. So, if you count on Brussels for "digitization", you might as well wait for the Messiah.

Europe is a much too heterogeneous patchwork of different languages, cultures, economies and legal systems. In addition, countless internal resentments proliferate within, since in the foreseeable future they have no consistent market in mind, but rather a joyful carnage full of relish. However, there is no time to lose when it comes to AI.

In addition, the concerns of the privacy advocates block rapid action. Many of them are justified, but the warnings in their anachronism are often reminiscent of banners and posters of the sailors' uprisings. Flanked by the witticism of politicians overwhelmed by big data, the polyphonic veto culminates in a mix of ethical appeals, fair-trade reminders and offers for talks.

The Basis for an Ecosystem

Both Brewer and Schlör now see the great opportunity for Germany precisely in bringing this German scepticism and the legacy of humanist idealism into play. That means, roughly speaking, to play the ethical card between the high-risk California delusion and the no less borderlining Chinese hubris, and seeking free AI niches in which reconnaissance and critical reason are as necessary as they are profitable.

Here is a quote from an interview from Brand eins magazine [9] with IT expert Richard Socher: "What you should not forget are the location advantages that Germany has regarding AI. The country has a very good health system. Why can't you create a nationwide, anonymised database into which, for example, all brain computer tomography is fed? That would be a tremendously valuable dataset to train and improve machine-learning systems. Thus, these data would be kind of public domain, with the help of which the Federal Republic could become a world leader in medical AI, because it can develop excellent algorithms based on these records. That could be the basis for a whole ecosystem of start-ups. "

Using the example of the financial market, the managers of Prisma Analytics make it clear that the future may look brighter than Orwell's vision of the human avatar in the cage of a machine regime: "Big data has long been the means of choice for the financial markets, giving the hedge fund guys and the banks the advantage of a fraction of a second in order to make billions in profits at the expense of the somewhat slower competitor. By 2025, this factor will have dissolved into the plain air. From then, all knowledge will be available to all interested parties on a global platform at the same time. This will not only destroy the basis for destructive speculation, but also will allow all producers and consumers to view and redesign all products and services for the benefit of everybody. "

The Final Statement

After reading the 340 pages one will have to take a deep breath. A textbook cannot do much more - no matter if the reader is a digital novice or an insider. The absence of the annoying jargon of most big-data nerds and Brauer's renunciation of an out-of-the-box demeanour and moral attitude are also immensely beneficial. Instead he provides facts - also quite a lot of uncomfortable ones - and backs this up with detailed sources, backgrounds and an extensive fact check website.

To whom the good is closer than it's contrary, Brauer gives a final statement to take along: "AI has the ability to respond to and to work for what helps everyone on earth. This requires ongoing intercultural research, dialogues and interactive collaborations. We have all the tools at hand to make our planet a sustainable, peaceful, solidly united community. "

And as a consolation to those who deal with the pros and cons of AI, let it be said that there is not a single person who can think ahead in this field for more than a two years timespan.

Information about the book

Gernot Brauer

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Sources and Comments

Werner Karl Heisenberg (1901-1976) was a German physicist and scientist. For the substantiation of quantum mechanics, he was awarded the Nobel Prize for Physics in 1932. Steven "Steve" Paul Jobs (1955-2011) was an American entrepreneur. Together with Steve Wozniak and Ron Wayne, he founded Apple Computers in 1976. Elon Reeve Musk (born 1971) is a Canadian-American entrepreneur and investor. He is renowned for his involvement in the formation of the online payment system PayPal as well as the private space company SpaceX and the electric car manufacturer Tesla. Jaron Lanier (born 1960) is an American computer scientist, artist, musician, composer, author and entrepreneur. With VPL Research Lanier ran from 1984 to 1990 a company for the development and marketing of virtual reality applications. Alessandro Curioni is an IBM fellow, Vice President of IBM Europe and Director of the IBM Research Lab in Zurich.

[2] David "Doc" Searls (born 1947) is an American journalist. He is a supporter of open source software and since 1999 editor-in-chief of the Linux Journal. As a blogger, he writes mainly on the internet and society matters

[3] Sean Parker (born 1979) is an American Internet entrepreneur. He was a consultant to Facebook Inc. and is co-founder of Napster, Plaxo and Causes. Justin Michael Rosenstein (born 1983) is an American software programmer and entrepreneur. Chamath Palihapitiya (born 1976) was a Facebook executive and is a venture capitalist and founding CEO of Social Capital.

[4] By its own account, Prisma Analytics combines big data analysis and artificial intelligence. This should give every decision maker the opportunity to translate data into usable knowledge. Artificial intelligence and big data are to be used so effectively that "an international standard for unbiased, reality-oriented decision-making is created", as stated on the company's homepage.

[5] Computer Science is the study of theory, experimentation, and technology that forms the basis for the design and use of computers.

[6] Artificial Intelligence (AI) is a branch of computer science. It deals with the automation of intelligent behaviour and machine learning.

[7] Predictive analytics is a field of data mining (the systematic application of statistical methods to large databases in order to identify new cross-connections and trends). It deals with the prediction of trends and the probable future. At the heart of Predictive Analytics is a variable (predictor) that is measured for a unit or individual to predict future behaviour.

[8] EURACTIV (from 22 May 2018): Mark Zuckerberg live at the European Parliament. At <https://www.euractiv.de/section/innovation/news/mark-zuckerberg-heute-im-eu-parlament> (retrieved on 22.5.2019).

[9] Brand eins: Interview with Richard Socher - "The clock is ticking". At <https://www.brandeins.de/magazine/brand-eins-wirtschaftsmagazin/2019/digitalisierung/richard-socher-interview-die-uhr-tickt> (retrieved on 22.5.2019).



Wolf Reiser

Reporter and Essayist | [Webseite](#)

Wolf Reiser is a reporter and essayist and commutes between Munich and Athens. He is the author of several books, radio plays and film scripts for all noteworthy papers in German-speaking countries. Further information at www.wolf-reiser.de.