

Brain and technology

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Last week I ended with a quote from the Danish philosopher Søren Kierkegaard (1813-1855). With regard to my chair "brain and technology" Kierkegaard cannot remain unspoken. He was an astute genius who foresaw the effects of the technologicalization of society: "I will only be understood long after my death, if a few politicians manage to force unnamed crowds into soldiers' boots and Europe will be bleeding from the consequence of both nationalism, and mass production" (in Scholtens, 1972).

In 1846 he made another important statement in this context: "Ultimately, all destruction will come from the natural sciences." Kierkegaard warned that both technology (technocracy), and the emergence of the crowd would be the "abortion on every form of originality". According to him, the subjection to technique (machinations) will change the common man into a directed crowd, characterized by boredom, fear of loneliness, fear of being different, fear of originality and fear of death. Although these statements are almost 200 years old, they are still surprisingly topical. In what way is this shift from individual to crowd possible?

In his popular book *Thinking Fast and Slow* (2011), Nobel prize winning psychologist Daniel Kahneman describes two systems of thought. System 1 is fast and automatic and based on intuitions, wordless comprehension and first impressions. On the other hand, system 2 always requires cognitive effort - thinking - and giving conscious attention to things. System 1 is low energy consuming and works in parallel: many processes can be processed simultaneously. Because system 2 works serially - central attention is like a focussed spotlight - it is both slow and energy consuming. That is, because there can only be attention for one aspect at a time central attention costs relatively much energy. After a lot of training, system 1 can eventually be controlled by system 2, so that we will have to rely less on first impressions and gut feelings. This is a necessary precondition for both competence, and individuality/authenticity. Both systems are crucial for development.

It is possible to link the balance between system 1 and 2 to the increased number of diagnosis autistic spectrum disorder (ASD) in the last decades. People differ during their development and also in relation to the relationship between system 1 and 2. Autism could be described as a different balance between system 1 and 2. The tacit, automatic understanding and intuitive feel of system 1 is the main everyday system to most (neuro-typical) people. However, the autistic enters the world mainly from system 2. Precisely because the world has become "automated" through technology and globalization, people who do not participate automatically and who are less controlled by such automated machinations, are all the more striking. As a result there is an increase in the number of diagnoses ASD, with a "catch-up" in adults.

Incidentally, a paradox is visible here, to be able to invent, program and understand the formal language from which technology and science are generally understood and produced, system 2 is important. As a result, people with ASD are indispensable in the high-tech industry. However, to fit in the "machinations", system 1 is of utmost importance.

Although there is an increase in the number of diagnosed ASD diagnoses, to return to Kierkegaard the increase in neuro-typical people is actually the real problem. Many people seem to enjoy their role as "consumption cattle", while every human being has the possibility to become a unique (authentic) individual.

The crowd is untruth, Kierkegaard said, and that sheds an extra light on my column Neuro-typical Spectrum Disorder, a few weeks ago. A neuro-typical crowd has arisen that is guided by technology (strongly depending on system 1). Nowadays many people believe bio-determinism that states that we are our brain! There is even a company that claims to be able to derive a good job from a brainscan: brainfirst! This brings us back to the 19th century knobbling, the phrenology! Looking from the autistic spectrum to Kierkegaard: "truth always rests with the minority"