

Author: Jan Willem de Graaf

Emerging Technologies from a psychological perspective

Abstract:

Technology has always been a very distinctive feature of human existence. Technology is to humans what nature is to other organisms: our host. Man is nature, but through technology – humans came to stand against nature and its biodiversity; technology is now a global enterprise, advancing on a scale and pace that has never been seen before. The paper argues that this poses a threat not only to the planet and biodiversity but above all to humans themselves. A psychological perspective is chosen, that of the thinking and feeling person, which is contrasted with emerging (smart) technologies. It is concluded that man is not a rational “machine”, but a small-scale storyteller, a provider of meaning, especially emotionally involved with each other. Systems and standardization stand in the way. But as globalized humanity faces the dangers of diminishing (bio- and cultural) diversity, we need the unifying power of technology to restore balance.

Keywords: Cultural Diversity, Digitization, Emerging Technologies, Evolutionary Adaptation, Psychological Perspective, Simplification

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Authors:

Prof. Dr. Jan Willem de Graaf:

- Saxion University of Applied Sciences, M.H. Tromplaan 287513 AB Enschede, the Netherlands, Email: j.w.degraaf@saxion.nl, Email: <https://www.saxion.edu/>

Introduction

Short term planner

From a human point of view, our journey through history appears to be a great success. 7.8 billion people are alive right now (7.1 per cent of all 110 billion people that have ever lived), which make up 36% of all mammalian

biomass. In addition, 60% of the total mammalian biomass is made up of consumption cattle, so only 4% is left for all other mammals (Bar-On et al, 2018). Seventy % of all birds on earth are poultry, mostly chicken, again kept for our consumption in factory farms. Obviously, our evolutionary “flaws”, which also include a slow reproduction rate – a very long gestation period with usual 1 offspring per litter – are successfully bypassed. Our own slow biological reproduction capabilities have been compensated by external reproduction technology, which is reflected in transferable culture and technologies such as storytelling, ideas sharing, instrument use, copy-paste technology, and now monocultures.

Cultural diversity is under pressure, we are approaching the world through the same streaming services and social media apps. As a result, we increasingly communicate through the same images, music and even speak the same language: English. Both English and (smart) technology are colonising forces, that have achieved what seemed impossible for thousands of years: Babylonian confusion of tongues is now largely evaporating! While we take advantage of the products that multinationals serve, we are increasingly colonised by them: ITL, in the loop.

The entire human enterprise, the development of culture and technology and thus the exclusion of evolution, rests on special human mental – psychological – capacities, and as a result, emerging technology must also be viewed from a psychological perspective. Monocultures began to form our thoughts, needs and wishes in a global state. They produced a gigantic melting pot in which biological and cultural diversity declined. However, infinite growth from finite resources is impossible. In this speech I will highlight a few aspects of emerging technologies from a psychological point of view.

A brief history of technology

Technology has side-lined biology; Evolutionary adaptations are very minimal (a little more or less pigment in response to the conditions of the sunlight), resulting in really only one human race (Jorde, 2003). Therefore, racial discrimination is actually cultural discrimination. To understand human behaviour and its motives, we need psychology instead of biology, because human cognition/emotion has not really changed in the few hundred thousand years of our existence.

By nature, we had to divide tasks into caring for the children/community and providing food. There were times of scarcity and abundance. We were constantly on the guard for dangers lurking everywhere. In times of plenty, much was eaten and converted into body fat, because times of scarcity were always lurking. Psychological fundamentals, deeply rooted in the genome are: collaboration (looking for partners), caring for each other, hunting, suspicion and short-term planning. However, in our large-scale organized technological world, our biological 'shortcomings' are compensated. Machined predictability has replaced uncertainty, while we did not change psychologically. We still make up for our insecurity through suspicion and friendship, and especially through consumption in times of abundance. But now, in the rich world, there is a constant abundance of food, information, and partners that make us obese or anorexic. Short-term gratification is an ancient psychological mechanism that remains visible in our modern existence. Obesity in the mechanized world and hunger in the non-mechanized world, which moreover has to contend with the dire consequences of our global colonization that place a heavy burden on the planet and the environment. Biodiversity is declining, environmental disasters are common and our (grand) children will have a very difficult time keeping the inherited world liveable.

We won't get a healthier planet with lifestyle programs and new technologies if we don't understand the psychological mechanisms behind overconsumption. “I want it now, while I still can! Today there is food and Netflix, tomorrow is uncertain”. Politicians let companies invest in smart technology, smart houses, robotics, AI, so that we can even more easily compensate for our human shortages. A technocratic (robotized) world evokes a lack of recognition and an experience of meaninglessness. Meaninglessness increases insecurity and thus causes more overconsumption, which in turn calls for new control technologies. This is a vicious circle, which ultimately threatens our very survival.

Simplification and dichotomies

George Boole (1815-1864) developed the algebra for a truth function in a logical system: true or false. Something is blue, or something is not blue. A Boolean function can only have either of two values (off or on, 0 or 1). However, not all things of value can be captured in Boolean functions. Is art true, or is science true? And if it appears to be possible to capture something in such function, the value cannot be determined. Is something art or not? Is something beautiful or ugly, good or bad, new or old? Trying to capture our world in Boolean values will turn out to lead to absolutism (populism) and simplification. Something is news or fake news.

Philosophers are often considerably more modest with truth claims than other scientists. Philosopher Richard Rorty (1932-2007), for example, argued that a perspective is impossible with which one can rise above all other perspectives on reality to determine which perspective is correct or true (Rorty, 1995). Technology unifies for example through smartphones, apps and social media on which we present a dream version of ourselves to virtual friends. But if we happily trumpet our thoughts and it deviates from mainstream truth/reality, or even sounds like a conspiracy theory, rules and regulations force tech companies to isolate us, or even to shut us up.

Our world can be described as an extremely complex system (consisting of millions of complex subsystems), which cannot be captured with simplifications. We can't even rely on what we experience as real, as psychological illusions show. Lotto and Purves (1999) showed in 1999 that even blue is not always blue. We have learned that we live on a gigantic sphere, without falling off. Do we experience this? Of course not, we experience our life in the flat plane, and we experience that things fall off a ball, but not off a table. That's because of gravity, we say in unison when a child asks us why we don't fall off our "ball". Our knowing suppresses our experience here because they simply don't go together. Imagination, fantasy, and dreams preceded new insights, and wisdom would never come if every step on the road to insight had been fact-checked.

Through digitization (simplification) - social media technology - the dichotomy between fact and fake, our moral compass is being obscured. For thousands of years, cardinal (or religious) virtues dominated policy: prudence (wisdom), fortitude (courage), temperance and justice (righteous). Science has traditionally been a "value-free" enterprise, which is mainly capable of producing guidelines retrospectively with regard to emerging methods and technologies. Policymaking has traditionally been a "value-full" (valuable) enterprise, prospective, driven by fundamental values (virtues). The power that BigTech has acquired around the world has all too easily dissuaded policymakers from intervening. Instead, policymakers started to act like over-the-top scientists, contemplative, based on facts, which, however, only become available long after the introduction of new technology. This gives policy a retrospective - distant - character...

Decreasing diversity

Technology unifies for example through smartphones, apps and social media on which we present a dream version of ourselves to virtual friends. In the melting pot of the world's ubiquitous social media, buying and streaming services, "consumers" worldwide react the same. Worldwide we "regress" to global employees or entrepreneurs - recognizable in more and more countries. Global styles, with dominant apps, images, culture and language. Local cultures and languages (and especially dialects) are lost every year. With the emergence of the world citizen, man has become standardized by globalized (technological) machinations: ITL. As humanity, we have become such a globally oiled machine that we have come to dominate the planet, with all the dangers that entail.

Due to technology, natural enemies hardly exist anymore. Therefore, virtues (rather than Boolean truth), represented in conscience, are essential to maintain balance and diversity. With power comes responsibility. Giving and taking must be in balance, both in the immediate environment and on a global level. Someone with

a conscience is actually an "economic" person. Economic in the sense that this person does not consume more natural resources than the environment can provide.

In our time, however, it is impossible to directly relate what we take - energy and electricity for our mobility, life and work - with what the planet can give (and restore). We are governed by our own "successes" in an economy where our immediate existence seems completely separate from the model of infinite growth from finite resources underlying it, in which high-tech giants calm our global consciences extraordinarily comfortably with bread and circuses: games, social media, filter bubbles, and other new must-haves. But our conscience may well be our life jacket, for It is older than any modern technology and given by Mother Nature herself. Technology can help gain insight. Getting ready for a smart world means: listen (again) to your conscience, to the virtues, focusing on your immediate living environment and realizing that even heating or cooling our homes requires superpowers, which we also have to justify.

Copy-paste

Mass production and communication technology – copy-paste – produce monocultures. This has led to an increase in overall material wealth but at the cost of a disrupted global ecosystem and climate. Since 2017, the mass-produced by man – steel, plastic, asphalt, etc. – weighs more than all organic mass (plants, animals, microbes, etc.) combined, while in 1900 this was "only" 3% (Elhacham et al, 2020). In 20 years, the anthropogenic weight will double again, if we continue at the current rate. Certainly, copy-paste has already gained momentum with the rise and spread of printing in the 15th/16th century, but now, with the world-wide-web and social media platforms and giants like Amazon and Alibaba, it seems unstoppable. Yet life itself is also a form of copy-paste. What is "good" and what is "wrong" copy-paste? Transformation is a key concept to understanding the distinction.

Transformation depicts both community and communication. For example, tumour growth - "wrong" copy-paste - takes place without transformation. Unlike other new cells produced in a body, tumour cells duplicate without taking into account the needs of other cells, let alone adapt to them. There is no community that involves producing according to the needs of the others. That's what living organisms do, and because tumour cells don't, that's why they cause damage. Another example forms a regime such as Stalinism, a massive top-down imposed control system that does not accommodate the actual needs of local participants. Non-transformational duplication is non-communicative and therefore blind copy-paste.

Transformation means diversifying and evolving, adapting and learning by doing, playing, or working. From a single start position to millions of actualizations, that's how culture evolves. Through copy-paste that is not blind, but communicative: everyone produces according to power and receives as required. Human culture is a joint venture. As philosopher Kwame Anthony Appiah (2012) defines, culture is not an organic whole, but a constantly changing collection of expressions, thoughts and habits that are nobody's property. It goes wrong when possession is claimed. Back in our complex society, modern reproduction and mass production techniques provide exact copy-paste capabilities that make it easy to claim possession by extracting the transformational (communicative) aspect from expressions, making their items in an economy of supply and demand. Petrified items, stripped of friendship ties, literally de-humanely packaged to be able to sell. The identity of what are by nature the carriers of cultural expressions – people bound together in connections and societies – has been swapped for the label of, for example, the record company that has come to claim the rights of a traditional through mass production.

Repetition without transformation, without accounting for new facts, can take many forms, from tumour cells to pumped-around conspiracy theories, from mechanized music to even lots of officially recognized news "facts". Unfortunately, much "digitization" is hardly anything other than blind copy-paste. In my opinion, we must stand up for our virtues, our positive humanity, and in doing so we must recognise that not all new (smart) technology is good. Movement is not the same as progress. We can condemn technology applications, just as bad behaviour. However, this is not a black and white task. Some technology is positive, such as Wikipedia, which fully meets the definition of community and life, and is therefore transformational. Waging

war remotely by breaking into or fighting with a drone or trolling in another continent is downright bad. But virtually all modern technology is somewhere in between these extremes. Social media, streaming services etc. can be both bad and good. But very little would remain if, by magic, all copy-paste without transformation - the blind replication - were to disappear. A huge playing field for authentic human enterprise and imagination would remain. Outside the loop!

For what Big Tech companies are praised, psychologists/psychiatrists would end up in jail. If they don't want to end up behind bars, politicians must also have a very good story if they carry out an operation in which thousands of people lose their jobs, with all the social and psychological consequences that entail. Disruption should never be an end in itself for them either. To disrupt means to dislocate, unhinge, disorganize, disjoint, put out. However, major tech companies and, among many others, futurologists are heralding disruptive technologies as the rescue that will help us take the next step towards a technological utopia, where no one has to work or put in any effort at all. For everything that is really important to us, we must make an effort. Psychologically, we attribute success internally, such as to our efforts and talents, and failure to bad circumstances (external factors). No effort, no internally attributed success, or put it bluntly, no guts, no glory! If one practices long enough, he/she can learn to sing with perfect pitch and add extra expressiveness with very small "deviations". Social media even can make us sick: mass social-media-induced illness (Müller-Vahl et al., 2021).

Beyond Babylon

While cultural diversity is under pressure, we are approaching the world worldwide through the same streaming services and social media apps. As a result, we increasingly communicate through the same images, music and even speak the same language: English. Both English and smart technology are colonising forces, that have achieved what seemed impossible for thousands of years: Babylonian confusion of tongues is now largely evaporating! Virtually all human cultures have been colonised by both the global language English and (smart) technology. Both "settlers" are seeping into every human soul around the world, economically driven by Big Tech's marketing formulas. Many boundaries would eventually blur, shifting both political governance and science from the front lines to the rear. Our world is increasingly ruled by multinationals, which have gradually taught humanity to dream, play and speak in one world language through a lot of (smart) technology. Big Tech plays a superhuman role in the lives and dreams of every citizen of the world. Just like in ancient times, where devout people felt God in every aspect of their existence, technology has become an integral part of our existence. While the Babylonian confusion of tongues has been razed to the ground, a new - Big Tech - Babylon has arisen. While we take advantage of the products that multinationals serve, we are increasingly colonised by them.

Concluding remarks

Man is nature, but through culture/technique – technology – humans came to stand against nature and its biodiversity. Because humans are so bad at adapting to their environment, they have made it a power to adapt the environment to them, with the result that the planet is now far from in balance. In addition, the already limited natural flexibility of man is lost in the globalized reality of standardization; a non-transformational copy-paste reproduction. The global technological reality also serves human interests only very partially. Convenience is not the same as meaningful, movement and innovation is not the same as progress. Man is not just a rational "machine", but above all a small-scale storyteller, a provider of meaning, especially emotionally involved with each other. Disruption is not necessarily good. Psychological knowledge should be included in the assessment of new technologies, such as the need for connectedness, planning and executive functioning, attribution of success and failure, emotion and perspective. This now happens far too little, life-changing (disruptive) technologies are often only investigated for such aspects years after their introduction. Standardization stands in the way. A paradox emerges: the globalized humanity is now confronted with the planet and its biodiversity, but we need the unifying power of technology to restore the balance. This is a very important, but extremely difficult task for the new generation!

At a time when Evidence Based Practice is preached just about everywhere and no rational person can be against it, it is difficult to argue with this. Yet a distinction must be made between the facts and the argument from which the alleged facts derive their "truth". How emerging technologies are received, what the consequences of large-scale implementation are in terms of psychological well-being or sustainability, cannot be determined in advance on the basis of "facts", simply because there are no facts at the beginning. When the first cars came on the road, there were few or no fatalities and there was no air pollution yet.

There is too much of a wait-and-see attitude on the part of governments, policymakers and researchers towards emerging technologies. They do not seem to want to burn themselves with argumentation until there are enough facts. By then, however, it is often too late. Now, for example, that with the Corona epidemic, online meetings have become common, the term Zoom Dysmorphia is increasingly appearing in scientific publications: people who have started to detest their own image (continuously distorted from one angle from below, with a nose that is too big, etc., (see Rice et al., 2021), and as a result start to experience psychological problems and/or turn to plastic surgery. In closing, in regulating emerging technologies, psychological needs should be taken into account!

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