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The human is and will always be the greatest and most advanced technology the world has ever known

Abstract

We must rethink the way the internet is built in order to unleash the potential of technology for healthcare as this sector is still mainly an analogue sector waiting to be digitally transformed. By bringing human at the center of gravity and allowing it to freely consent to the use of its personal data, we can provide three immediate benefits: Consent, Traceability, Protection. The main question that the *TransHumanCode* book asks is "Are we building a better future for humanity with the help of magnificent technology or are we instead building a better future of better technology at the expense of humanity?" We must learn to put humanity first instead of getting caught up in the promise of technological advancement. Humans have been able to adapt, morph, and compromise in every situation we have faced over the centuries and have been able to maintain dominance. We must approach the promises of technology with the same adaptability. The Health sector transformation is going to be revolutionize by Artificial Intelligence of Things "AIoT" acting as the brain that will power the nervous system of the network of IoT health related identities and objects. With the introduction of 5G, the ecosystem will continue to grow at a much faster rate as 5G will enable the connection of every object, person, and machine. AIoT will embed AI into the core health system infrastructure components including Root of Trust, semiconductors, and edge computing. Specialized APIs are then used to provide interoperability between health applications at the device, software and platform level to optimize system and network operations. Data processed through AIoT is then collected and made accessible to extract value and enhance health intelligence and knowledge for the ecosystem. AIoT also enables secure automation of actions and business decisions based on real time data and enables IoT to work independently with minimal human support, unlike the current state of the market which requires that all actions be coded in advance based on pre-defined scenarios. With the use of AI algorithms and predictive maintenance implemented through AIoT, health IoT devices will have the capability to dynamically determine actions to take decisions and self-program based on analytics and customer defined knowledge, resulting in lower operating and maintenance costs for health providers.

The most complex information-processing system in existence is the human body. If we take all human information processes together, i.e. conscious ones and unconscious ones, this involves the processing of 1024 bits daily. This astronomically high figure is a million times greater than the total human knowledge of 1018 bits stored in all the world's libraries. The human is and will always be the greatest and most advanced technology the world has ever known. Doesn't it then make the most sense to place the understanding, improvement, and utilization of humanity as today's highest priority?

Unfortunately, it is easy to lose sight of our preeminence in the grand ecosystem—especially during an era in which it is tempting to lean on technology to lead us into the future we desire. Do we really believe that technology—technology that we created mind you—can become more complex and necessary than we are? Can the created ever really supersede their creator?

It is a question you have to answer for yourself. We all do. And together we must collectively decide if we are building a better future for humanity with the help of magnificent technology... or building a future of better technology at the expense of humanity. There is really no simpler way to put it. The future is still in our hands. But a future is possible in which we are not in control. There would be no one to blame but ourselves.

Humanity is once again faced with playing its own protagonist or antagonist, and the conclusion has not yet been written. The wave of advances preceding our current technological brink is just as noteworthy as it was during the turn of the twentieth century—from Robert Metcalfe's first Ethernet in 1973 and Cerf and Kahn's first Internet in 1975 to Jobs and Wozniak's first personal computer in 1976 and Berners-Lee's World Wide Web in 1990. These thrilling advancements spawned the first browser, the first search engine, the first social network, the first smartphone, and the first app. Technology is now accelerating further with developments like virtual reality, Blockchain, digital currency, Artificial Intelligence, and robots.

Today's technological world was built, and is governed, by the minds and resources of a few hundred thousand people. As a result, we are living in a society in which the richest 1%—most of whom made their fortune in technology—have now accumulated more wealth than the rest of the world put together. Through our concession to technology, we have unknowingly authorized an economy for the 1% instead of creating an economy that works for the prosperity of all, for future generations, and for the planet. This imbalance will be accelerated if we do not collectively remember the value inherent in humanity at large and begin to put the rights of people ahead of the rush to profits.

We-the-global-community have the opportunity to tap the minds and resources of 7.5 billion people interconnected by more than 50 billion devices through the rapid growth of the Internet of Things (IoT)—the aggregation of all connected devices around the world. Consider the implications of this. Consider what this means for humanity's ability to create, innovate, and problem-solve in a swift manner on a massive scale. If we can use technology to access the processing capability of the entire population—the original vision of World Wide Web creator Sir Tim Berners-Lee—we can ignite the equivalent power of more than a billion Summit supercomputers. It is no stretch to assert that the best future we can imagine for the most people is more available than we think. We just must seek it more than short-term convenience.

These solutions and improvements we desire are within our grasp, many of them within our lifetimes, if we take the necessary steps to cement ourselves in the seat of authority and accountability, one technological advancement at a time, those already created and those still to come.

We must constantly ask ourselves: what is prevailing – humanity or technology? And we must do what is necessary to ensure our answer is humanity, and always humanity, the world over.

Some believe we should unconditionally render control of our future to the machines. They base their beliefs on something called technological singularity, which hypothesizes that the artificial intelligence already present will eventually cause an intellectual explosion resulting in a powerful computer super-intelligence that would, qualitatively, far surpass all human capabilities. The great fault in this hypothesis is that it does not account for the spiritual and moral mores of humanity that set us apart from every species on the planet—characteristics like intuition, empathy, vision, conviction, and ingenuity that stems from a constant desire for better. Computer programs will never match human complexity, its range of emotions and tribal characteristics.

What if the information being compiled on you does not tell the full story? What if what you are looking for, aiming for, is deeper than a dozen digital imprints a day? Most critically, what *else* can be done with the information these companies have on you?

In a world where we are increasingly influenced by the technology we use, the more we use the more we lose our freedom to be human.

The pot of gold for modern technology is compiling, translating, and selling your identity, personal data, and behavior to marketers of other companies who need this information to sell you their products. This algorithm, called behavioral targeting, effectively uses technology's translation of your behavior to influence your future decisions. It sounds harmless at face value; seems little more than astute marketing in the modern age. The easy conclusion is that we do not have to let it affect us. Perhaps you don't believe it does? Unfortunately, this prevalent path for monetizing technology does more than improve corporate marketing efforts. It changes what we think about ourselves, which directly influences how we act and who we become.

A 2016 *Harvard Business Review* (HBR) study showed that behaviorally targeted advertisements imply social labels on us that we embrace because we believe our technology's conclusions are accurate, perhaps even more so than our own. In the study, 188 undergraduate students were exposed to an ad for a high-end watch that they believed was either targeted to them or not targeted at all. The test administrators then asked the students to rate how sophisticated they perceived themselves to be (the subjects had also been asked the same question before the test). The results show that “participants evaluated themselves as more sophisticated after receiving an ad that they thought was individually targeted to them, compared to when they thought the ad was not targeted.”

“In other words, participants saw the targeted ad as reflective of their own characteristics. They accepted this information, saw themselves as more sophisticated consumers, and this shift in how they saw themselves increased their interest in the sophisticated product.”

HBR took these results a step further. They administered another study to determine if the changes in self-perception from the ads would extend to behaviors beyond purchases. In short, they did. This time a group received a behaviorally targeted ad for an environmentally friendly product and, like before, subsequently rated themselves as “greener” than they had before the study. They were then asked to donate to a pro-environmental charity. Most were more willing to give money after receiving the targeted ad than before receiving it. In other words, the targeted ad telling them they were green swayed them to act more greenly.

While this is a small sampling, it demonstrates that the permissions we have given to technology to date are more than harmless, and the outcomes are not benign. Today's technology can mold who we are, what we do, and who we become—for commercial purposes, not humanitarian ones. If we are to become a better world, we each must flip that script.

While you might not mind the timely product and service suggestions dotting your inbox and flanking your screens, the implication of your daily concession to technology is much more than accepting

commercial governance for greater convenience. At the heart of it all, behind a veiled reality few can see, you are outsourcing your humanity to a shortlist of companies who, while possibly well-meaning, can never fully protect you, never wholly represent you, and never facilitate the realization of your hopes and dreams. In most cases, they are doing the precisely opposite – undermining your basic human will and rights.

This is much bigger than an economic concern. We are talking about a real and present threat to humanity's livelihood in the universal ecosystem. We are the pinnacle of existence, the crown of creation. For this to remain true is no longer a forgone conclusion. We have unknowingly created our greatest nemesis in the global story—our modern-day Frankenstein. But we still have control over the story's ultimate outcome. We must wield that control willingly and wisely.

When Sir Tim launched the World Wide Web nearly thirty years ago, the purpose was not monetary. His vision was for it to foster collaboration between universities and scientists in an open, uncontrolled, and accessible manner. It quickly grew into a tool that expanded all of humanity's ability to learn from one another, help one another, and collaborate to improve the world. This was a beautiful thing. Today, however, Berners-Lee's profound humanitarian invention has evolved into an estimated \$2 trillion industry with a handful of platform companies vying for control. This has led Berners-Lee to confess that the Web has lost its original egalitarian spirit. At the 2017 World Economic Forum, he plainly said, "It has not yet become what it was intended to be." More recently, in an article for *Vanity Fair*, Berners-Lee was more to the point, admitting that the Web has "failed instead of served humanity, as it was supposed to have done."

While it is commendable that many tech titans, with Facebook at the forefront, have made it clear that they aim to ensure that 7.5 billion people can access the Web and connect to over 50 billion devices by 2020, a conflict of global proportions has arisen since these corporations are subject to shareholders and market cap obligations. In other words, they must monetize the Web by converting it into their own private network in which their users become their products. The shareholders and board members of these companies are far less interested in helping you make more friends than in how to best capitalize on your social data graph. The reason why many of their services are free or very cheap is because you pay them with the traits of your humanity which are sold to advertisers for everyone's profit but yours. While we are finally wising up to this reality, there is much work still to be done to untangle the influential web we have wrapped ourselves in. The book in your hands is an important beginning.

Over the previous three industrial revolutions, humanity employed water and steam to mechanize production, then electric power to create mass production, and finally electronics and information technology to automate production. The Fourth Industrial Revolution has been growing from the Third for the last half century and it is characterized, according to renowned German economist Klaus Schwab, "by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres."

This blurring is a highly promising prospect if deployed properly. Global problems like clean water and cancer that have remained for decades, are now solvable in the present. Global mandates like education that have seemed unattainable for decades, are now a reality in our lifetime. But as it stands, the blurring of spheres that Schwab describes has largely led to the abuse of humanity's resources and the loss of our grip on the future.

The essence of the human spirit and the hope of humanity is freedom: the freedom to be ourselves, to express our personal convictions, and to become the best version we can become. In truth, we are more than human beings; we are human "becomings". What we collectively become writes the script for our world's future. Are we becoming the best version of us?