Artificial life expert: We are in danger of losing control of our technology and our lives

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Future technology will be more intelligent and more living than most people can imagine today. We need clear guidelines on how to implement and use technology, or else citizens will lose their rights to their identity and their life. This is the prediction by Danish professor and expert in artificial life in a new international book about the future of technology.

It is already happening every day: States, intelligence services, Facebook, Google and smartphones collect detailed data about everything in our lives: Our job situation, our sexual orientation, which movements and political views we support and what events we participate in. Governments and security services store our emails and phone calls and they know where we are and when. Authorities monitor how much we pay in taxes and have access to our medical records.

"One may think it is harmless if Facebook knows that I drink too much or have sexual relations outside my marriage, or that I love strawberry jam. One may also think that authorities only look in our data if there is reason to suspect a crime. But leaderships change. Historically, we know that democratic governments can be taken over by dictatorships. Remember that democratic elections put the Nazis in the German Reichstag. A dictatorship has a completely different approach to control or punishment. In such a state data could be used to persecute citizens rather than to protect and serve them", says Steen Rasmussen, a professor of physics and director of Center for Fundamental Living Technology, Department of Physics, Chemistry and Pharmacy, University of Southern Denmark. Professor Rasmussen is also an advisor on digital technology and future emergent technology for the Danish Ministry of Higher Education and Science and the European Commission.

"I believe the problem will escalate dramatically in the near future, if citizens do not protest. The technology is complicated and has developed

explosively in the last generation, which means that neither our decisionmakers nor our media understand what is going on - and more important, they cannot imagine how technology could be used differently."

Steen Rasmussen points out that there are good technological possibilities to solve the problem.

"We could, for instance, modify our digital infrastructure, so it is the individual citizens and not the state or the big companies that own our data."

In the book "Beta-Life - Stories from an A-Life Future", an international group of researchers and writers worked together to give an insight into how the world might look like in 2070. Professor Steen Rasmussen is scientific consultant on a story by Sarah Dean.

The story is about a little boy, his parents and his PM - Personal Maker, an advanced 3D printer - that can print almost everything that the little boy could wish for. But behind the boy's innocent play, we get a glimpse of a monitored society where it is not the boy and his parents who have control over the PM. Instead, other powers have patented the technology in the boy's PM, and hence there is no free and democratic access to or use of the technology. Instead the boy's playing is guided by hidden controllers with their own agenda.

"I'd rather not be a part of such a society. I do not want international monopolies, a government or other authority to collect my data and prevent me from sharing my ideas and what I create and produce, with whom I want. My data, my opinions, my ideas and what I make must belong to me. The individual citizen's data must be protected from abuse", says Steen Rasmussen.

According to Professor Rasmussen, there are no miracle cures, but there are better technical solutions than the ones we have today. These solutions require a restructuring of our digital infrastructure - first of all, different degrees of encryption of our [private data](#) are needed so that only the individual citizen can see everything. Imagine that we store private data in a "garden" and in a "house". In the "garden", authorities have access to some information, while only the individual citizen has access to the "house", where most private data are kept. The content of the "house" must be encrypted so deeply that it is technically very difficult to access.

"If authorities want to get their hands on the "house"-data, they must go to court," says Steen Rasmussen.

"We need laws that ban Facebook, Google and others from storing data about us unless we allow them to. As these services often need to make money, we could pay a small amount every month for their services. In this way they earn money from us directly and not from spying on us and selling our [data](#)."

"Also it is not good that we can readily be identified on the Internet. It should be possible to conduct online transactions without our whole identity following the transaction. In principle it should only be possible for companies or authorities to access our identity in the context of digital transactions if there is a legal basis for it. This must however be weighed up against the possibility of giving criminals easier play on the Internet. There are great business opportunities for truly democratic countries to develop the first democratic digital infrastructure. Citizens in the rest of the world would of course want to buy such an infrastructure afterwards.

Professor Rasmussen calls for an understanding that things are not acceptable, as they are today. And he would like decision-makers and

media to wake up and understand that [digital technology](#) allows for much better solutions than we have today. Solutions that put the citizen in the center - not the state or large multinational companies.

  More information: Beta-Life. Stories from an A-Life Future. Edited by Ra Page, writer / editor at the publishing house Comma Press and Martyn Amos, Professor of Novel Computation at Manchester Metropolitan University. 390 pp. Publisher: Comma Press, England. E-book and print. Published with the support of Training and Research in Unconventional Computation in Europe. Released: October 27 2014.

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