Column: Gerd Leonhard – The ethics of Technology

The next 20 years will bring more change than the previous 300 years – and that's a conservative estimate.

If you don't believe me, please keep in mind that we are now crossing a crucial threshold; one that was previously unthinkable. Technology is no longer simply a tool, it is well on its way to becoming a creative force – and a thinking machine, as well.

If intelligent machines are to perform our routine work for us, we will need to train them, teach them, connect them to us – in effect making digital copies of ourselves, cloning our knowledge (and possibly some of our unique human intelligences) in the cloud. This will change us – and it will change our view of who and what we are, what we could be, and what machines are. And this is only the beginning.

Imagine this, if you can:

- Nanobots in your bloodstream monitoring and even regulating cholesterol levels
- Augmented, virtual, or mixed reality devices that look like regular eyeglasses or even contact lenses, giving you ready access to the world's knowledge in the blink of an eye
- The ability to connect your neocortex directly to the Internet and transform thoughts into action or record what you think
- Developing meaningful relationships with your digital assistants because they seem so real, so very human. None of this is as far away as you may think, and the societal, cultural, human, and ethical implications will be mindboggling. Clearly, we must prepare for this challenge today or we will fnd ourselves unequipped to deal with it later.

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> the right thing to do

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Defining digital ethics

Before we venture further into why ethics in technology will be crucial to our future, let's first try to define "ethics." Rifing off the late US Supreme Court judge Potter Stewart, I propose the following working definition: "Ethics is knowing the difference between what you have a right or the power to do and what is the right thing to do."

Today, we are standing at the takeoff point of exponential progress. Henceforth, change will no longer be slow and gradual but sudden and steep, and this goes for almost all areas in which scientific and technological progress is made – in AI and quantum physics, in nano- and biotechnology, cloud computing, solar energy, 3D printing, autonomous vehicles, and, most certainly, in IoT.

Technology, of course, is morally neutral – but only until we apply it. Let's imagine the world a mere ten years from now – some 50 to 100 times more advanced – a world where most science fiction has become science fact. It

is likely to be a world where literally everyone and everything around us is connected, observed, recorded, measured, and tracked, where at least a trillion devices are connected to the Internet of Things and where 80 percent of the (by then) 10 billion earthlings are connected at high speeds, on cheap devices, wearables, and via digital assistants and robots with which we can communicate as if speaking to a good friend. Add genetic engineering and the rapid convergence of technology and biology to this equation, and literally anything is possible. Exponential thinking, therefore, becomes mission-critical, both to realize opportunities and to foresee and address the consequential ethical challenges and moral quandaries. We need to find ethical frameworks that can keep up with this headlong pace. Without these, unrestricted, socially destructive growth will become increasingly toxic – a disaster just waiting to happen.

Getting an ethical upgrade

The bottom line is that we are now moving to a whole new era in technology. At some point in the next fve to ten years, it will no longer be about technical feasibility, cost, or time. Rather, it will be about why we are doing something at all – it will be about context, purpose, values, and goals. We will need to ask who is in control, who is overseeing and securing it. The real question is, of course: who is in charge of shaping our digital ethics? In my opinion, security in technology will only be as good as the moral, ethical, and political frameworks we create for them. The most advanced security technology will be useless if those who hold the keys act unethically, with evil intent, or with great negligence. In fact, the very same technology that is employed to protect consumers and users can be used to spy them out and manipulate them. IoT could turn out to be the biggest and most powerful panopticon ever built. Do we want this? Of course not! But to stop it from happening we will need to do more than improve our technological firepower; we must also redesign and embolden our ethical frameworks. We need to reach a global agreement on what is good for humanity in general – and what isn't. And we will need to find ways of enforcing these tenets. In many ways, this task might even be more daunting than creating the technology itself. Just remember: technology

doesn’t have ethics, but societies depend on them. Civilizations are driven by their technologies and defined by their humanity. Technology is not what we seek but how we seek it.

- Gerd Leonhard’s

new book out now

Technology vs. Humanity

Which side are you on?
Gerd Leonhard’s provocative new manifesto