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**The New Technologies and
How They Change What it
Means to Be Human**

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Abstract

Our new physical technologies, including the Internet of Things and synthetic biology, are rapidly advancing beyond our social technologies, including governance, law, education, and social norms. This growing gap between our physical and social technologies increasing generates discomfort and disruptions in our lives. Our main challenges and opportunities are in part to understand, develop and implement these new technologies for the common good and in part to understand how to update our social technologies so that they can again address the physical reality. Humanity has previously been in similar situations e.g. when our societies transformed from agrarian to industrial. Besides great technological and societal changes, the past Industrial Revolution also brought about new narratives about the world. Because our old industrial narratives no longer make sense, the old authorities break down and give way to ad hoc populism as well as attack on democracy and globalization. At the core of our current technological and societal changes lies technologies that mimic life and intelligence, and these technologies are increasingly connected with all of us via the Internet. I'll present some of the key scientific underpinnings of these technologies, show their increasing societal impacts, as well as outline how these changes transforms what it means to be human. I'll conclude by proposing a framework in which the scientific community and the arts can come together and investigate the technological, economic, institutional, and cultural challenges and opportunities. Such collaboration would enable the development of new and much needed narratives about our rapidly transforming world, which are needed to constructively engage policymakers, the press and the general public.

Bio sketch: Steen Rasmussen is a Danish physicist mainly working in the areas of artificial life and complex systems. He is currently a professor of physics and a center director at the University of Southern Denmark as well as an external research professor at the Santa Fe Institute. He co-developed the Transportation Simulation System (TRANSIMS), which was implemented by the US Department of Transportation in the early 90s. He co-directed the Urban Security Initiative and worked on integrated simulation framework and web-based disaster migration tools. He also implemented the Critical Infrastructure Protection which is now implemented by US DHS. He's a co-founder of the European Center for Living Technology (ECLT) in Venice, Italy, and also of the Initiative for Science Society and Policy (ISSP). Professor Rasmussen has published 112 peer reviewed science papers (incl. Science, Nature & PNAS) and given 200+ invited presentations at international meetings to date. Over the last ten years he has consulted on science and technology issues for the European Commission, the Danish Parliament, the German Reichstag, and the US Congress.