Name: Elizabeth Parent

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Summary: DESIGNING FOR EMERGING TECHNOLOGIES

The evolving technologies of this century are enhancing human interaction, but disrupting the economic order at the same time. The emergence of the Internet of Things (IoT), advanced robotics, additive fabrication and synthetic biology have the potential to change the way we live, similarly to the invention of electricity, railroads, and the telephone in the twentieth century. Today, these new technologies have the potential to alter trillion-dollar industries.

In his text, Jonathan Follett describes the disruptive potential of four major emerging technologies.

First, the IoT (machines communicating with each other using sensors) allows for giant webs of data to be created, involving many different systems such as healthcare, commercial, roadways, etc. With wearables coming into play, more data can be added to the web. With intelligent design and the opportunities existing, these may eventually replace smartphones.

Second, robotics has become a subject of great fascination in recent years. For designers, ensuring that robots do not cause the negative impacts as depicted in many major Hollywood films is a priority. For now, robots will likely be used primarily in labor-intensive factories.

3D printing allows us to create objects quickly for prototyping, replacing broken parts, and other uses where it would be costly and time-consuming otherwise. Using this technology, it is even possible to create housing; 10 single-story homes in a day. 3D printing has also helped us in the field of medicine. Ultra-light prosthetic limbs can be created this way for a relatively low price.

Last, genomics and synthetic biology has seen quite a disruption already. The price of sequencing the human genome has decreased exponentially in only a decade. We can now

create targeted drugs for fighting illnesses and can alter the fabric of biology and human evolution.

These innovations have the potential to drastically disrupt the society in which we currently live. We now have new demands set by these innovations, notably aspects of design. We want our experiences with this new technology to be clear, elegant, and enjoyable. Designers are in increasing demand to connect man to machine.

There are eight design tenets to keep in mind when working with emerging technology. We must identify the problems correctly, meaning recognizing the bigger issues and having the correct support and research done in a variety of fields. We must learn constantly, understanding what has and has not worked in the past. To think systemically, we must consider the grander scheme of things; the web which our product will become a part of. Working at a variety of scales allows us to catch potential issues early on, and to understand the goals of the project. People and technology become connected through good design. A design should also provoke and facilitate change rather than doing what has already been done. Designers should work on cross-disciplinary teams to polish every aspect of the design. We should also be willing to take responsible risks. While results may vary, taking a risk can often lead to innovation and a technological step forward.