Feelings of a Cyborg

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ABSTRACT

In this article the two authors describe their personal experiences in experimenting as Cyborgs by having technology implanted in their body which they have lived with over a period. Each experiment is dealt with in a separate section. In each case the nature of the experiment is briefly described along with the results obtained and this is followed by an indication of the personal feelings and emotions felt in and around the time of the experiments.

Keywords: Cyborgs, Emotion, Experiments, Feelings, Technology

INTRODUCTION

Both authors of this paper have taken part in a series of experiments to investigate the merger between humans and technology, essentially becoming cyborgs (Warwick, 2013) in doing so. Clearly this raises feelings within the person that are different to those of everyday life. What we have attempted to do in this paper is give some indication of what those feelings and emotions amount to.

Experiment 1

On 24 August 1998 the first named author became the first human to have a Radio Frequency Identification Device (RFID) as a token of identity surgically implanted in his upper left arm. In its simplest form, such a device transmits by radio a sequence of pulses which represent a unique number. The number can be pre-programmed to act rather like a PIN number on a credit card. So, with an implant of this type in place, when activated, the identity of the person can be specified by a computer. The device implanted measured 22 mm by 4 mm diameter. It was held in place by a couple of stitches.

An RFID implant does not have its own battery. It has a tiny antenna and microchip enclosed in a silicon or glass capsule. The antenna picks up power remotely when passed near to a larger coil of wire which carries an electric current. The power picked up by the

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antenna in the implant is employed to transmit by radio the particular signal encoded in the microchip. Because there is no battery, or any moving parts, the implant requires no maintenance, so once it has been implanted it can stay there. The RFID implant allowed the author to control lights, open doors and be welcomed “Hello” when he entered the front door at Reading University.

The main reason for selecting the upper left arm for the implant was that, at the time, we were not sure how well it would work. It was reasoned that, if the implant was not working well, it could be waved around until a stronger signal was transmitted. It is interesting however that most present day RFID implants in humans are located in a roughly similar place (the left arm or hand), even though they do not have to be. Even in the James Bond film, Casino Royale (the new version), Bond himself has an implant in his left arm.

**The Experience**

Before receiving the implant there were a variety of technical questions such as how to sterilize the implant, whether it would migrate in my body and if it might break. Also, having even minor surgery, when you don’t have to for medical purposes was something to be faced. I didn’t really worry too much about the possibilities of anything going wrong until maybe the day of the operation. But everything went well and it worked just as we hoped so I was very pleased.

Two things really stick in my mind about the whole experience. One is that it was great fun. Walking around the Department and having doors open for you automatically is fantastic, you actually feel quite powerful. But I never imagined it would receive the sort of media coverage it did at the time. For the next few weeks all I seemed to be doing was media work. Then when the implant was removed a couple of weeks later I felt something was missing, doors didn’t open automatically for me any longer. There was certainly a sense of loss for a few days.

**Experiment 2**

On 14 March 2002 the first named author received his second implant. This time it consisted of the first use of the BrainGate microelectrode array (shown in Figure 1) in a human. This event had considerably broader implications in extending human capabilities for example. The array was implanted into the median nerve fibers of the author during two hours of neurosurgery in order to test bidirectional functionality in a series of experiments.

A stimulation current directly into the nervous system allowed information to be received, while control signals were decoded from neural activity in the region of the electrodes. A number of experimental trials were successfully concluded (Warwick et al., 2003; Gasson et al., 2005): In particular:

1. Extra sensory (ultrasonic) input was successfully implemented.
2. Extended control of a robotic hand across the internet was achieved, with feedback from the robotic fingertips being sent back as neural stimulation to give a sense of force being applied to an object (this was achieved between Columbia University, New York (USA) and Reading University, England).
3. A primitive form of telegraphic communication directly between
Android Robots as Telepresence Media
www.igi-global.com/chapter/android-robots-as-telepresence-media/84952?camid=4v1a