YOU PROBABLY AREN’T A CYBORG

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I feel the soft skin of his wrist—nothing. Confused, I press two fingers firmly to the prickly underside of his five o’clock shadowed chin—still no pulse. I warm my stethoscope and press it to his chest; the echoing sounds I hear are foreign to me. Intrigued, I take my stethoscope away and—rather inappropriately—put my ear to his chest: the whirring sound I hear reveals that this man is part machine. He chuckles at my morbid curiosity, as does the attending physician. The Oxford English Dictionary defines life as “The condition that distinguishes animals, plants, and other organisms from inorganic or inanimate matter, characterized by metabolic activity and the capacity for functions such as growth.” This man has an artificial heart; he shouldn’t be alive. When we insert an artificial heart—a LVAD (left ventricular assist device) or a Jarvik 2000—into a human being, are we undermining part of the definition of what it is to be alive? What are these people, who are granted life by an inorganic device?

A heartless man was the last thing I expected to encounter in my internship. I expected to see tubing and lots of blood, to hear the irregular pump of a patient with cardiomyopathy, but I did not expect to meet anyone whose only audible internal sign of life was a faint whirring, like a computer fan. The idea of pulseless life is difficult to wrap one’s head around. We tend to associate such scientific innovations with the future—fantasies of flying cars and jet packs—but the artificial heart is real, now. It is a response to the fear of heart failure in a world where there are not enough organic hearts to go around. Designed after the “Archimedes screw, a machine that raises water to fill irrigation ditches,” the artificial heart keeps blood flowing through the body at the steady pace of 6 tablespoons per second (Stix).

There are more than 20,000 people in the world walking around with no pulse, their half-dead hearts being pumped for them from the inside out (Stix). Some don’t even have human hearts anymore; their hearts are long gone, having been replaced by an artificial heart or an assist device that allows
them to live some semblance of a normal life whilst on the waiting list for a transplant heart. There are two types of artificial hearts: the total artificial heart—the Jarvik 7—and the machines placed inside the heart, assisting weakened cardiac muscles to pump blood from the inside out—the Jarvik 2000 or the LVAD. An artificial heart apparatus is placed in the chest, anchored inside and synthetically bound to the outside of major arteries with tubing called a drive line, which is attached to a wire outside the body. The wire is then attached to a small monitor and power system which controls the output or rotor speeds of the device and can be worn about the waist (Maddox). Thanks to recent advancements in artificial heart technology, there are fewer patients lying in hospital beds in critical condition, their chests hooked up to tubing, rhythmically moving up and down to the forceful pump of machines. Now, more and more people—those with better insurance plans—are able to walk out of the hospital with better chances of survival and the newer, sleeker, more efficient models. Some—those with enough money—even use their artificial hearts to keep track of their time left to live, or rather, to prepare themselves for death.

This system of artificially provided longevity allows the young to live and the older the time to say goodbye, provided that they simply plug themselves in and recharge their batteries for an hour each day. But of course, this technology comes at a cost. Dr. Robert Jarvik invented and, in 1982, first successfully implanted the artificial heart, his only goal being the “development of a heart that [was] reliable, permanent, and ‘forgettable’” (Williams). In his effort to save lives, he didn’t consider that the successful implementation of a nonorganic vital organ could and would be perceived as the first step toward human-machine singularity. Previous inventions like the iron lung and oxygen tank have limitations, while the artificial heart confounds us by being both inorganic and easily portable. Only now that artificial organs can literally be printed, ready for implantation, are we starting to explore the ethics of this technology. Dr. Arthur Caplan, of The Hastings Center for Bioethics, has concerns about the ethical issues inherent in the use of the mechanical hearts, and, in particular, about “who would pay for them . . . [We] are talking about a procedure and device that could cost each patient $30,000 to $40,000 . . . You’re talking about a very expensive device that could save lives, but which the cost the majority of people can’t afford” (qtd. in Williams). It
is a Darwinian idea that the strong and adaptable will survive, but we live in an age in which longevity can be bought. Only the wealthy can afford these devices, putting those without equal means at a disadvantage. In response to this economic divide, which promotes survival not of the fittest but of the richest, doctors and bioethicists search for a more egalitarian distribution method for artificial hearts. So far, they have failed to establish any successful long-term distribution plans.

The ethics of artificial organs are complex even for those who can afford them. In our age of biotechnological advances, we have developed the assumption that we can simply replace a faulty organ with a spare—organic or otherwise. It is not unusual for humans—even those without artificial organs—to think of their bodies in a mechanical sense. In his essay “The Fit and the Dead,” Mark Greif brings to light the mentality of the “Machine-Man”: “Today, when we conceive of our brains as computers, the image of a machine-man, whether Descartes’s or La Mettrie’s, has an old and venerable quality” (11). Greif further explains that “[b]lood pressure is hydraulics, strength is mechanics, nutrition is combustion, limbs are levers, joints are ball-in-socket” and our hearts, in turn, are engines (11). We have come to believe that our organic parts are “disposable”: they can be fixed or replaced as easily as the parts of a car. According to Greif, a doctor becomes a “mechanic who wears the white robe of an angel,” and we the machines he services (13). Greif attempts to understand the modern obsession with our critical “numbers,” the ones that are evaluated when we go to the doctor’s office, which supposedly tell us how long we are going to live and what our quality of life will be (12). When discussing artificial hearts, we insist that the critical numbers be more specific. What is your pulse rate, what is your blood pressure, what is your output percentage? For those with artificial hearts, these numbers are incredibly low.

Greif asserts that our obsession with health is, in fact, remarkably unhealthy. When our obsession with quantifiable health moves from the superficial—what is my percentage of body fat?—to the “critical”—your heart is operating at eleven percent efficiency—we become obsessive in a different way: “how can I stay alive” becomes “how long can I stay alive?” Some want an artificial heart for longevity rather than for pure medical reasons, concerned with the quest for immortality. In this quest to stay young forever,
through Botox, plastic surgery, diet, exercise, or an artificial heart, eternal youth “becomes an essential aspect of [their] identity . . . more preoccupying even than [their] thoughts and dreams” (13). They hope to “discover what excellent numbers [we] can become, and how immortal” (13). As medical knowledge advances, we become more aware of our mortality; as this awareness increases, so too does our desire to find ways to prevent ourselves from aging and dying. We refuse to accept that one day our hearts will stop. The very existence of the artificial heart raises questions of morality and our unwillingness to die: we are afraid of spending our two billion heartbeats the wrong way, and we are desperate enough to pay big money for some extra time. Intent on living as long as possible, we are beginning to walk toward singularity, willing to become inorganic by choice rather than necessity. We are becoming machines in the stereotypical science fiction movie, covered in the organic material formally known as the dermis. Maybe the inorganic parts we choose to accumulate will result in our brains being hooked up to computers, floating vats of green goo that keep us sustained. Science fiction and reality are beginning to blend together, all because we fear that our organic bodies will fail us.

In this discussion of the ethics of artificial hearts, I must also acknowledge the emotional connotations that the heart bears. We associate our deepest emotions with the organ that sustains life. It is perhaps for this reason that we have an intense fear of losing it. It is one thing to experience the loss of an eye or a limb. But to lose a heart, to have it replaced with an inorganic part—this terrifies us. We fear becoming something else entirely—something less fleshy though more reliable—that we will begin to live a “reduced existence,” will have lost our emotional center (Greif 15). Phantom Limb Syndrome can also pertain to organs—patients with implanted parts may feel and mourn the loss of a vital organ, but what, really, has changed?

During my summer internship, I remember standing in on a procedure in which the patient, after having had cardiothoracic surgery, had wires removed from her chest. I asked her if she felt any pain—her answer was no. For there are no pain receptors on the heart (Fernandez-Caggiano). She did, however, express a certain sense of unfamiliarity towards her new heart: she knew it was not hers—obviously it wasn’t hers—but she felt a difference. She felt an ache where her old heart had been—this should be impossible. She felt
empty. She told me that she did not feel like herself; she was nostalgic for that absent presence, craving something now dead. The patient considered her heart an entity that could literally feel.

Patients with artificial heart transplants experience such a nostalgic craving on a level that none whose hearts still beat within them, nor those who possess the heart of another, can possibly fathom. These artificial hearts are not replacements, but placeholders: they make us feel biotic but also less than human, more something else. The beat of these machines is so different to the natural rhythm in which their bodies used to move that many patients have reported feeling “off kilter.” What causes these patients’ distress? Are we really so different after artificial heart surgery? I suppose it would be strange to know that there is a small computer inside your sternum, to know that your new heart will only stop if a doctor stops it for you. Or maybe it is disturbing by nature of the responsibility it demands: if you forget to charge it, the “heart” will short out—your final moments will be marked by the painful realization that the technology in your chest has failed you.

There they are, these pulseless beings breathing in the air of the living when they are waltzing with death to a beat that is, for all intents and purposes, man-made. It must be terrifying. Medical professionals attempt to discern why our bodies are failing us as we flatline before their eyes: is it cardiac failure, has the brain ceased to function? It is interesting to note that when faced with a patient on the verge of cardiac failure, the medical industry finds it completely logical to replace the dying part with a gently used model. Yet in the case of brain death, we find it acceptable to “pull the plug” rather than finding a new brain. But how is the replacement of one major organ any less ethically significant than that of another? In either case, we are tampering with things that I can’t say truthfully we have the authority to tamper with. Only after 20 years have bioethicists, scientists, and politicians come to question the morality of the artificial heart. We, as humans, have yet to discover the full scope of our limitations. It is perfectly logical to fear evolution guided toward singularity: watch a science fiction film, and be terrified. But we must recognize that the artificial heart has the capacity for ultimate good: it saves lives. Having an artificial heart does not necessarily reduce one’s humanity physically or metaphorically—our equality of existence is not inherently changed. The heart itself has only a physical function, for all those deep
feelings of love and pain aren’t taking place in our hearts—they’re all in our heads.

WORKS CITED


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