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Messy Bodies: From Cosmetic Surgery to Mind-Uploading

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I wish I were a machine. I don't want to be hurt. I don't want human emotions. I've never been touched by a painting. I don't want to think. The world would be easier to live in if we were all machines.

Andy Warhol

We all have bodies, or more precisely, we all are bodies—living bodies, feeling bodies, thinking bodies, but bodies nonetheless. And those bodies that we have and are, are obviously not perfect. There's a lot that they cannot do, which means that there is a lot that we, to the extent that we are those bodies, cannot do. We cannot, for instance, swim like fish, we cannot run like a cheetah, and we cannot fly. We may be able to think and understand things, but only as long as our brains are functioning properly, and there are a lot of things that we cannot understand, no matter how hard we try, and a lot of things that we forget, all because of the limited capacity of our brains. Here, too, our bodies are to blame. And even though we have built machines that more than make up for all these bodily deficiencies, that allow us to move in water a lot faster than fish, on land a lot faster than cheetahs, and even in the air a lot faster and higher than the most powerful bird, and others that allow us to think and remember things better and faster and perhaps more reliably, all these machines remain only surrogates that constantly remind us of what our bodies still cannot do. Notwithstanding all the power that these machines lend us, we may still envy the bird for its ability to fly, the fish for its ability to swim, and the androids of numerous science fiction novels and films for their ability to think. For we know very well that the power we've got through our machines is ultimately only a loan that we might be asked to return at any moment. The machines we use are, after all, external to our existence; they are not us, and we are very much dependent on their constant availability, which is largely beyond our control, at least as far as the individual is concerned. If the airport closes its doors, we cannot fly; if the car breaks down, we have to walk; if the Internet connection goes down, we cannot think, and if there's an electric power outage or we lose our i-phones, *everything* breaks down and we instantly become completely helpless, so much are we used to

rely on the functioning of the myriad of machines that surround us.

Yet not only are our bodies, on their own, not very efficient, they are also quite vulnerable and can easily be harmed or destroyed. Not only are there many things we cannot do; there are also many things that can be done to us. That is why we spend so much time and energy on finding ways to protect ourselves from a multitude of dangers: from other people, our own machines (cars for instance), wild animals, natural disasters, and especially the many terrible diseases that our bodies are prone to developing. We, that is, each and every one of us, are in fact accidents waiting to happen. It is just a question of time before we run out of luck and succumb to one of those dangers. For no matter how hard we fight, we will eventually be brought down by our own bodies. There is, as it were, a traitor waiting within who will eventually open the gates to the enemy, to heart failure or cancer, to Alzheimer's or other forms of dementia, and this traitor is our body. Not very strong to begin with, it will gradually become weaker and weaker, less and less able to defend itself, until it fails us altogether, and we die of some malfunction or other. Let's face it: human bodies are feeble, messy things. The ageing body, the diseased body, the body in decline, only brings this essential messiness to the fore. It shows the world not only the actual state of a particular body and its eventual destiny, but also what our bodies have been all along, their very essence. Even the bodies of the young and beautiful, as immaculate as they may appear from the outside, are filled with things that we'd rather keep concealed: with intestines, blood and other bodily fluids, waste products, and unpleasant smells. You really don't want to open the human body to see what's inside. Nor do you want to see most of what is coming out of it with depressing regularity. Although all these things may perform an important function and thus be part of a complex order, their overall appearance is that of chaos and dissolution. Their appearance serves to articulate the precariousness of bodily or rather fleshly existence, and thus foreshadows death.

Thus it seems only too understandable that many people, to say the least, are not entirely happy with their bodies, or more precisely with the *kind* of body they have. It is not an individual problem, but a generic one. It is the current biological state of their existence that they resent. Undeniably the idea of improving our bodies, to make them less messy, less vulnerable, or, preferably, of getting rid of them altogether and replacing them with something else—something better, more capable, and more durable—has a strong appeal. Technologies that promise any of this are, by and large,

enthusiastically welcomed by the consumer, and proponents of radical human enhancement are only too happy to point out how right we are to despise our messy, fleshly bodies. Only recently Allen Buchanan attacked the occasionally expressed belief that the human body is a delicately balanced masterwork, in which everything fits together perfectly and works in complete harmony with each other. Nature, Buchanan reprimands us, is not at all a “master engineer,” but more of a blundering blind fool whose products, far from being masterworks, are generally rather badly designed. Biological organisms, including the human, may be “finely balanced,” but only in the way a house of cards can be said to be finely balanced. The slightest breeze can bring it down. This is, according to Buchanan, an intolerable situation. “If the human organism is so poorly designed as to be exceedingly fragile, then we may need to improve it if we are to survive” (Buchanan 158). Actually, we simply cannot afford not to do it: Our very survival is likely to depend on it. Without enhancement, human extinction looms.

Paradoxically, this argument, while on the one hand repudiating the idea that organisms have been optimally designed (by God, Nature, or whatever)—because in truth they haven’t been designed at all, on the other hand affirms the design category as a meaningful way to understand and evaluate the human body. By declaring the human organism to be “poorly designed,” it is strongly suggested that we see it as an instrument, tool, or machine that performs a certain function and fulfils a certain purpose. We are encouraged to criticize the human body for the bad workmanship it exhibits, *as if* it had been designed with a particular goal in mind. Like a faulty machine, the human body fails to do what it is supposed to do, what it has been *designed* to do. In Buchanan’s account, the human organism features as a survival-machine. And it fails with respect to the design goal of staying alive, not just for a while, but forever. Yet perhaps that is not our design goal at all. Perhaps we are not meant to last long, and not meant to perform certain feats that are presently beyond our reach. In that case our bodies may work just fine. Or perhaps, more in accordance with contemporary evolutionary theory, there is no design goal whatsoever, and if there isn’t, then the human body cannot be properly understood as a machine at all. It may well be one in Descartes’ or La Mettrie’s sense as something that is entirely physical and that can be explained in its entirety without postulating a “soul” or some non-physical equivalent.¹

1. The French philosopher Rene Descartes (1596-1650) described the human as a combination of a body, which he defined together with the rest of the

However, it is not a machine in the sense of being inherently purposeful. The reason for the body's existence is not any particular function which is always the case with machines (for instance a coffee machine, which exists for the purpose of making coffee). Accordingly, lacking an inherent, in-built purpose, the human body cannot properly be said to have failed or to be deficient. However, even though our bodies may not have a purpose, we as thinking, reflecting and willing persons obviously do have purposes. For instance, normally we desire to stay alive as long as possible, and we regret that our bodies do not seem to share this purpose. From this perspective, the problem is not so much that our bodies are imperfect machines; the problem is rather that they are not machines at all, while we wish they were. There is an obvious gap between what we want to do, or wish we could do, and what we actually can do due to the limitations of our bodies. In order to close this gap, we need to turn our bodies into machines, that is, into something that completely serves our purposes. We need to control them so that they can no longer control us. As yet undesigned, they need to become designable. This means that machines are not what our bodies are, but what we want them to be. Today, *l'homme machine* is not a reality, but an ideal, something that we should aspire to become. Humans are fascinated by machines, love machines, want to be machines, although they are also scared by the prospect. The machine is the better human, but also alien, not quite human any more. This ambiguity characterises most of the iconic stories about man-machines that are abundant in Western culture. There is, to name but a few, the German writer E.T.A. Hoffman's beautiful automaton Olympia, with which the hero Nathaniel, to his detriment, falls madly in love, or the beautiful robot in Fritz Lang's *Metropolis*, meant to replace, or rather bring to life again in a more durable form, the dead wife of its inventor, the mad scientist Rotwang. More recently, there is the "Six Million Dollar Man" of 1960s television fame, who is rebuilt

material world as an "extended thing" (*res extensa*), and a mind or self, which he defined as a "thinking thing" (*res cogitans*). But how the two could interact remained a mystery, so that those who followed in his footsteps began to wonder whether the thinking part was actually needed and whether it really was substantially different from the material part. Thus Cartesian dualism was eventually replaced by materialism: In 1748 Julien Offray de La Mettrie (1709-1751) published his book *L'Homme Machine* [The Machine Man], in which he argued that human beings are, just like everything else in nature, biological, purely physical machines. Consciousness, or thinking, is no exception. It is just a particular kind of material or physical process.

after a terrible accident, in the process of which several of his body parts are being replaced by “bionic” implants that vastly increase his strength and physical abilities, the cyborg policeman *Robocop* in Paul Verhoeven’s 1987 film, the gradually humanised killing machine *Terminator* (aka Arnold Schwarzenegger in his most iconic role), the Cybermen in Britain’s *Doctor Who*, and countless others. All these cultural images express ambivalence. It is the same ambivalence that feeds the debate about radical human enhancement, where attraction and fear can be found in equal measure, but even the attraction is only the flipside of a different kind of fear. The question is which fear will turn out to be the greatest: the fear of the machine, that is of entering unfamiliar territory and perhaps becoming something that is no longer recognizably human, or the fear (and indeed revulsion) of the human, that is of our own messy bodies and the pain and indignities and eventual annihilation that they have in store for us. From the fear of the human stems the attraction of the machine, which we haltingly, curbed by our fear of the unknown, approach.

It is not entirely clear, though, whether our fascination with machines has always been expressive of an underlying desire to *be* a machine, or at least more machine-like, or whether this is a more recent development. Ancient and medieval automata often imitated features of living beings, and the goal apparently was to make them as life-like as possible, so as to trick the viewer into believing that the machine was in fact a real animal or human, or something very close to it, something that is alive and that acts of its own accord. This tradition culminated in Jacques Vaucanson’s famous automata, created in the late 1730s, the *Flute Player*, the *Tambourine Player*, and the most impressive of them all, the *Digesting Duck*. What is interesting here, is that the reason why the mechanical duck was seen as such a great triumph was that it was capable (or rather seemed to be capable) of a feat that can be almost paradigmatically associated with biological life, namely digestion. In plain words, not only could it eat and drink, but it could also shit. (In truth, of course, the food was not really digested, but instead replaced by already digested food that was hidden in a secret compartment.) A defecating machine was obviously as life-like as a machine could possibly get. Yet precisely for this reason, the mechanical duck seems to pose a problem for what I claimed earlier, namely that we are so much drawn to machines because they seem to present a welcome alternative to the messiness of our fleshly bodies. If that is true, then how can we explain that we celebrate a *messy machine* such as

Vaucanson's duck as a fantastic achievement? However, the whole point of Vaucanson's creations seems to have been to demonstrate that it was possible to make a machine that was, in all relevant respects, just like a living being. Because if it was possible, then this would show that the living body was in fact in all relevant respects like a machine. If it could be *imitated* by a machine, then it *was* a machine. Moreover, it was a machine that could, at least in principle, be controlled, designed, and redesigned. And if fundamental biological processes such as digestion are mechanically reconstructable, then they can also be controlled, and if they can be controlled, they are already a lot less messy. Even the digestive duck presents an alternative to our biological existence. It makes it thinkable as a real possibility. But of course we may also be genuinely interested in creating better machines, without intending to model ourselves on them: machines that are capable of doing things that only living beings, or only humans, can do. If you look at the history of artificial intelligence from the late 1950s to today, it seems that the original motivation of those involved was to create machines that could actually think like humans, in the sense that they could take over certain tasks that required a certain amount of intelligence that as yet only humans seemed to have (Crevier, *passim*). The standard was human intelligence and the problem was how to get machines to achieve that standard. However, after the computer system *Deep Blue* had managed to beat the reigning world chess champion Garry Kasparov in 1997, the attitude seems to have changed so that today we are more interested in figuring out how to allow humans to think, i.e., to process and store data, as efficiently as a computer, rather than to find a way to make computers think like humans. The new standard is computer intelligence and the new problem is how to get humans to achieve that standard.

But be that as it may, it seems that we are both repulsed and attracted by the machine. Yet although we both fear and love it, our love is greater than our fear because our fear of death is greater than our fear of change. Thus we constantly make advances to the machine, though we proceed with a certain caution, or if not exactly caution, then doubt. We are not entirely sure of ourselves. Now, I think we can distinguish four stages in which this cautious approach to the machine, this somewhat hesitant mechanisation of the human, takes place. I call those stages 1) illusionism, 2) fortification, 3) replacement, and 4) displacement. The first two largely consist in time-honoured human practices, which, however, during the last century have considerably gained in importance and scope, the third is relatively new, but

already widely practised, and the last is, although seriously discussed by leading advocates of human enhancement, still science fiction and will most likely never be realisable, but as an ideal and a logical extension of what is already being done it is very much alive.

Illusionism is the practice of changing one's appearance in order to accord with a commonly accepted standard of beauty or simply with what is deemed normal, or to render invisible, or less visible, the physical signs of ageing. I call this illusionism, not only because its purpose is clearly to create the illusion of youth, and that means, of being unaffected by the bodily decline that comes with getting older, but also because it is a kind of make-believe where we are asked to suspend our disbelief (or the knowledge that ultimately it is in vain), just as an illusionist persuades people to believe in magic. It is only rarely, or incidentally, the constitution of a particular body that motivates people to seek cosmetic surgery. They may not like their body as it is, but this dislike is just a reflection of the deeper dissatisfaction that comes with having a body, or such a 'human, all too human' body, in the first place. We desire to change our bodies not so much because we are unhappy with how they have turned out (equipped with a nose that is too long or too short, or breasts that are too small or too big), but because we are unhappy with the body as such. Cosmetic surgery either aims at conformity, or at the opposite, at appearing to be something special. Those aims are not so far apart as it may seem. If my body conforms with the bodies of everyone else, if I do no longer "stick out," then it no longer shows itself as a living body, which by its very nature is unruly and not adherent to a general rule or standard. Yet also when I try to make myself special by transforming my appearance in such a way that I cannot possibly be confused with someone else, I am signalling to the world and myself that the rules that govern everybody else's lives do not apply to me. I am different, my body is not messy, I'm making my own rules, I will not die. Likewise, when we try to hide the signs of ageing that our body exhibits, what we are trying to hide is the body itself, that is, its true nature. Living things rise and decline. They come into existence and go out of existence. That is why we wish for a form of existence that is not life, at least not life as we know it. It is to be a post-biological form of life. Then we will not die because we do not live. We will be immortal machines. Cosmetic surgery is an attempt to reduce the messiness of biological life, to gain control, to halt ageing and decline. Sadly, however, it doesn't work, and we know it.

Fortification (physical enhancement): Another, perhaps more successful

route to making bodies less messy, one that goes beyond appearance, are procedures intended to strengthen the body, to make it less vulnerable and more capable. This can be partly achieved through a healthy diet, exercise, or by training one's strength or skills. We get healthier, thereby slow down bodily and mental decline, gain more control over ourselves and our environment, become more independent, all of which increases our chances to live longer and better lives. Yet we are not entirely satisfied and secretly yearn for higher goals. We look up to the world's best athletes who have accomplished what we can only dream of. They seem to have mastered their bodies, turned them into machines fit for purpose, into running and swimming and fighting machines. They are our heroes, our gods. They appear invincible, or at least, once again, let invincibility appear a real possibility. Yet they also show us, time and again, the limits of the human body. We can work on our bodies all we want, as long as their basic constitution remains unchanged, they will still fail us in the end. Even the gods of sport get older and lose their power. There always comes a day when even the seemingly invincible are being defeated by others, who replace them as the objects of our admiration. So we need to go beyond the biological body and pursue a different kind of fortification that points beyond what is humanly possible and brings us closer to an actual merger of human and machine. Just like a medieval knight could use an armour to protect him from being impaled by his enemies in battle all too easily, we can now use artificial exoskeletons, such as those developed by the Japanese company *Cyberdine*, which considerably augment the body's physical strength and durability and are principally designed to make soldiers more efficient, but can also be used for more peaceful purposes like cleaning up the mess after the melt-downs in Fukushima. The movement of the exoskeleton is controlled by a computer that detects and translates muscle movements via a sensor on the bearer's skin (Greenemeier), and is thus more than just an external device that is consciously operated by its bearer. It is more like an extension of our body, but not in the way that a sword or a shield might be seen as an extension of one's body. We don't actually have to use our full muscle power to operate it, but almost, though not quite, just think about moving, and the machine does the rest, thus effectively integrating a power into our body that is not our own. Brain-computer interfaces (BCIs) have a similar function, though they go a step further by connecting a device-operating computer directly to the brain or other parts of the central nervous system. BCIs could help people with

locked-in syndrome to communicate, but can also be used in computer gaming or in the military for controlling weapons and other machines by thought alone. Here the distinction between human and machine gets even more blurred. Just as I control my biological body (or parts thereof) through my will, BCIs allow me to control a machine in exactly the same way. The machine thus functions as an artificial body, that is, it becomes, for all intents and purposes, *my* body. While I retain my biological body, I add another, artificial, more powerful and capable body for me to use, and to identify with.

Replacement: Brain-computer interfaces supplement the biological body with an artificial one that can do things that the biological body can not. There may still be things that the biological body can do that the artificial body is not able to do, at least not yet, but there doesn't seem to be an *in principle* reason why this should *have* to be the case. Once we have figured out how to build devices that perform the same function as the various parts of the biological body, there will be no reason, it seems, to retain the biological body. We can now start replacing those parts whose function can already be assumed by a machine and then gradually replace more parts as we go along. This seems to make sense for those parts that either have ceased to function or to function as well as we find desirable, or that threaten to stop functioning properly sometime soon, which is in fact true for almost *all* parts of the biological body. This is actually what we do with machines: it is called maintenance, and we do it to keep them running properly. The process of the gradual cyborgization of the human has, of course, already started. More and more parts become replaceable, and the pressure and willingness to actually do replace them increases steadily. We have, in our own view of ourselves, become 'men of parts,' fragmented, the Lego version of a human. We have become used to neuroprosthetic devices such as cochlear or retinal implants that replace our sense organs. Artificial lungs, hearts and even brains may soon be available for everyone and replace our vital organs. We could also custom-tailor our bodies for all sorts of purposes, including the most trivial ones, like the New Jersey artist who recently made headlines when he had four magnets implanted in his arm to hold his iPod. Artificial limbs are no longer a poor substitute of the real thing, as they used to be even a decade ago. Instead, they appear increasingly desirable also to those with perfectly healthy limbs. They have become an object of envy, a must-have for the technophile in us. Hugh Herr, director of the *Biomechatronics* group at the MIT media lab, designs bionic limbs for amputees that are meant to feel so natural to their owner that they

become a genuine part of their identity, while being far better than the original, so that there is nothing to be missed. An amputee himself, he declares that he would not want his old legs back. Losing them provided him with the golden opportunity to create a better body for himself and others. His goal is to gradually “rebuild the human from the ground up,” literally, starting with the ankles, then the knees, the hips and all the way up to the top, which has the great advantage of making the body indefinitely “upgradeable”: “So every few months, I get a hardware and software upgrade. And as my biological body ages, my artificial limbs get better and better” (Gupta). While the biological human declines, the machine-human moves up and forward.

Displacement: However, even the most durable and capable body is still a body. It may not age, but it can sure be destroyed by natural forces. Although much less messy, it still retains some essential messiness, like a mechanical duck with a digestive system. Thus, from the point of survival, the goal has to be to get rid of the body altogether, and once and for all. This can only be achieved by the as yet still future technology of mind uploading, which would allow us to give up materiality all together and to acquire “digital immortality” (Sandberg and Bostrom 5). Whether that will ever be possible is highly doubtful, mostly for philosophical reasons (Hauskeller, “My Brain, my Mind, and I”). But the point I’m trying to make here is simply that the ultimate solution to what we could call the messy body problem is the dissolution of materiality. To get rid of messiness, we need to become machines, but in the last resort, as Ray Kurzweil put it, “spiritual machines.”

Do we have to, though? And should we? I don’t know, and I have deliberately avoided making any ethical assessment of the whole development. However, it seems pretty clear that we can look at our biological body in more than one way. We can hate and despise it, obviously, but we can also love and admire it. One way of looking at it reveals its many defects. From that perspective the body is something that is *essentially* messy and that, for this reason, needs to be overcome. This view betrays an almost Manichean understanding of our bodily existence. The body is bad; salvation (and true human identity) lies elsewhere. However, there is a different perspective on the body that is equally justified. Even though our body prevents us from doing certain things, it also allows us to do many other things as well. The truth is that is not possible to be capable of everything. Any ability is also a limitation. What enables us to do one thing might prevent us from doing other things. All determination is a limitation. From this point of view, the

desire for omnipotence, to have no limits, is an unwholesome fantasy. Why not rejoice in the things that we *can* do instead of deploring those we cannot do? Our biological, human, messy bodies are in fact facilitators. They are essentially enabling by allowing us to experience beauty, love, pleasure, colours and sounds, and—yes—thoughts, too. This does of course not mean that we should not try to enhance our human bodies in any way. However, if we adopt a more positive attitude to our body, we might find that the whole enhancement enterprise, which I have interpreted as an attempt to turn our bodies into machines (spiritual machines eventually), loses a lot of its urgency. There appears far less to be gained. Of course, ageing and death can cause considerable misery, but they also allow life to continue in new ways and fresh eyes to see the world (Hauskeller, “Is Ageing Bad for Us?”). Everything considered, they are fine, an acceptable price to pay for the opportunities that life holds in store for us, not least because of the kind of bodies we have, and it is certainly no solution to get rid of the body altogether. The glass may be half empty, but it is also half full, or rather full enough. Or simply full: full of opportunities. A healthy body is a great gift—something to treasure, certainly to protect, but not something to get rid of and replace as quickly as possible.

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Abstract

The purpose of this paper is mainly diagnostic. It tries to answer the question why we love machines. I argue that our biological bodies are often perceived as deficient in various ways. They limit our freedom, are easily destructible, and condemn us to die. For this reason, we look for an alternative way to exist and find it in the machine and its way of existing. Machines are attractive as a model for (post)human existence because they seem to allow an escape from the messiness of the human body. The more machine-like the human body becomes, the more it can be controlled and the more we make it our own by aligning the working of our bodies with our purposes. If the human body could be turned into (or be replaced by) a machine, we would finally be free to shape our own destiny. The paper traces how we attempt to become more machine-like in four different stages, which I call illusionism, fortification, replacement, and displacement. *Illusionism* is the practice of changing one's appearance in order to accord with a commonly accepted standard of beauty. *Fortification* is the attempt to make the human body less vulnerable and more capable. *Replacement* is the practice of replacing human body parts with artificial ones. Finally, *displacement* is the act of replacing the whole body by something more durable or altogether immaterial. I conclude my discussion with an encouragement to adopt a different point of view, which sees the human body not as *disabling* and hence in need of improvement or displacement, but rather as *enabling* and a gift that is worth preserving, even in its imperfect state.

Keywords: machine, human body, enhancement, messiness, cosmetic surgery, mind-uploading

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