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## The splits of the millennial

With one leg in an old and analog world, with the other leg in a much newer and digital world. Our lives smacked in the middle with no real direction going on. This is very much the essence that a lot of us, from generation Y and newer, experience. Generation Y is also often referred to as the Millennial, children that were born between 1980 and 2000. Now more than ever is there the feeling of a gap between generations.<sup>1</sup>

And this gap can be dangerous if not being treated with the caution it should be. Nietzsche already said: *"God is dead"* but the quote continues. *"God is dead and we, men, killed him. Now, are we, men, capable of acknowledging our murder and step up?"*<sup>2</sup> I think Nietzsche has a very valid point here. Of course he may talk about the introduction of nihilism,

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<sup>1</sup> Homo Deus, Yuval Harrari

<sup>2</sup> Die Fröhliche Wissenschaft, Nietzsche

but it has never been more appropriate than now.

### **The Anthropocene**

It is still under speculation, but more and more we come to understand that the planet, as well as every living organism that inhabits this planet, has arrived into the anthropocene. "The Anthropocene is a proposed epoch dating from the commencement of significant human impact on the Earth's geology and ecosystems".<sup>345</sup> That means that we live in a man made era.

And this is where we murdered our god, we disengaged ourselves from the old world. The world where gods were worshipped in order to get a good harvest. Animals, or humans, were sacrificed in order to please the gods

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<sup>3</sup> "What is the Anthropocene?"

<sup>4</sup> . "The Anthropocene is functionally and stratigraphically distinct from the Holocene"

<sup>5</sup> Borenstein, Seth

<sup>6</sup>. Not so long ago we thought that burning women on false accusations would bring us closer to enlightenment. Now the vatican announced that it may be possible that alien life exists.<sup>7</sup>

For many people this great decoupling of the humans from the earth is a terrible tragic thing. According to them we are unethical; abortions, stem-cell research, cloning it should all be forbidden. We should sacrifice a small lamb and pray to the gods until our knees bleed. I see this ideology as an act of fear. The older generation that is not able to live in the new world, so it backlashes with fear and aggression.

The oldest institution, religion, fears to lose its grip on the world,

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<sup>6</sup> Homo Deus, Yuval Harrari

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<http://www.independent.co.uk/news/world/europe/pope-francis-says-he-would-baptise-aliens-9360632.html>

on the people. It is losing power and it terrifies them.<sup>8</sup>

### **Artificial by default**

The truth is, that men have always been different from the animals. From the very beginning we have been using tools in order to survive and evolve. From the moment the first man monkey made his first tool, a mere 3,5 million years ago, it detached himself from the animal kingdom.<sup>9</sup>

But is the use of tools the only thing that separates us from the animal kingdom? Many, many people would say no. A deeply pious Catholic could agree with a devout atheist on this subject: the thing that separates man from animal is consciousness, or the soul.

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<https://www.cbs.nl/nr/ronlyres/953535e3-9d25-4c28-a70d-7a4aeea76e27/0/2008e16pub.pdf>

<sup>9</sup> Jos de Mul, Kunstmatig van Nature

This is a very difficult subject, for the simple fact that we do not know what exactly consciousness is. In the mid 1800's it would be very common to dissect dogs, it was believed that dog organs were very much the same as a humans<sup>10</sup>'. Although it was also believed that a dog doesn't feel pain as we do, so the dogs were tied down and being dissected without anesthetics.<sup>11</sup> If you were to that now-a-days you probably get checked into mental health care.

This idea of dogs, and other animals also, not feeling pain the way humans do was born out of the idea that animals only know a fight or flight impulse. What means that there is a direct link between external impuls, like pain, to a motionary response, like flight. It was believed that there was no mediation in between the actions, the animals were perceived as mindless machines.

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<sup>10</sup> Descartes' soulless automata

<sup>11</sup> Yuval Harrari, Homo Deus

Well, thanks to science and a relieve for all the animals on the world we know different now. Which does not mean that animal wellbeing is self-evident, unfortunately.

But if we have been wrong about the processing of pain within animals, maybe we have also been wrong about animals not being conscious, or having a soul. It turns out to be that a lot of birds, mammals and some lizards have some degree of consciousness. Which means that they can place themselves into this world in two different layers of reality. The first layer of reality is the world on itself and the subject being in it. The second layer of reality is the world perceived through the eyes of the subject in correlation to everything else on this planet. Which means that everything with a

consciousness has a certain level of empathy.<sup>1213</sup>

For example an experiment that was done with ravens.

[...]In this study, researchers from Lund University in Sweden trained ravens to use a simple machine where they dropped a rock in a tube to earn a food reward. Later, they were put in a room with the puzzle box (but no rock), which was then removed. An hour later, the birds were presented with a row of objects: the rock, and several distractions. Nearly all of them chose the rock, and 86 percent managed to successfully use it to open the machine when it was presented to them 15 minutes later.[...]

[...]He described to me how one experiment took an eerie turn: One raven in the experiment figured out how to work their rock/box contraption

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<sup>12</sup> Jos de Mul, Kunstmatig van Nature

<sup>13</sup> Yuval Harrari, Homo Deus

first, then began teaching the method to other ravens, and finally invented its own way of doing it. Instead of dropping a rock to release a treat, the future Ruler of the Raven Kingdom constructed a layer of twigs in the tube, and pushed another stick down through the layer to force it open. The bird had to be removed from the experiment before it could teach any other birds how to do it.[...]¹⁴

So, if even our precious consciousness isn't just for humans anymore, what is? What makes us different from animals? That what separates us from the animal kingdom is the third layer of reality. And for now, the last layer of reality. Apart from us being able to understand and acknowledge the first two layers we are able to distinct a third layer.

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[https://motherboard.vice.com/en\\_us/article/wj8p3n/ravens-are-so-smart-one-hacked-this-researchers-experiment](https://motherboard.vice.com/en_us/article/wj8p3n/ravens-are-so-smart-one-hacked-this-researchers-experiment)

E.g. the most probable reason that the human race is so successful on earth is that we have the capability of working together in a very flexible way with large groups. We are able to trade with humans on the other side of the world, interlinking all the other countries in between in the benefit of us all. For this to be possible we needed a shared ideal, in the world of trade this ideal, or agreed reality became economy. This may seem as an anticlimax, but money is one example of the third layer of reality.

In other words, the third layer of reality is the agreement between us all to create something of value that only exists as long as we want it. The third layer was our first act of unnatural or artificial creation.<sup>15</sup>

### **Homo Sapiens 3.0**

From this act of creation came our intelligence, through our intelligence

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<sup>15</sup> Yuval Harrari, Homo Deus

came the evolution that we needed so much to be on top of the food chain. But also because of this glorious event of evolution we became to be the shepherds of everything on this planet. In the words of evolutionary biologist Gould: "Not by human error, a cosmic plan or conscious intent but by glorious evolutionary coincidence which is called intelligence, we became the shepherds of the continuity of life on this planet. We didn't ask for this role, but we cannot deny it. We may be ill prepared but we will face the task head on."<sup>16</sup>

Gould already knew this in 1985, whereas Nietzsche already knew this in the late 1800's. Because of our artificial nature we were destined to inherit this role. The problem is that we didn't accept it. Because of different reasons we maybe could not accept our fate just yet. Through religion, and mainly because of the

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<sup>16</sup> Gould, The Flamingo's smile

three youngest but most dominant religions, Judaism, Christianity and Islam, we focused too much on us being the centerpoint of the universe.

Much like a toddler whose parents are getting divorced can't accept the fact is hasn't anything to do with him. No matter how many times mum and dad try to explain it's not the fault of the child, but because mum and dad don't love each other anymore; the child won't accept. This has to do with the brain of the toddler not being fully grown yet. It cannot perceive the world around him as something that would exist also without it in it. This centrist view of the world is common with toddlers but also with people that are religious. Because the world, heaven, hell and everything in between has been created specially for them. For some as a test, for others as a life that will prepare you for the real life, the afterlife.<sup>17</sup>

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<sup>17</sup> Yuval Harrari, Homo Deus

Because of this very convenient excuse that lasted a good two thousand years, which also made a lot of money for some, we, as a collective, were unable to place ourselves into the great cosmic scale of it all. And hence there from trivial ethical questions arose. The one being the worst, are we allowed to play god?

I think the question if we are allowed to play god is super irrelevant, simply because we are god. Humans have a creating ability that transcends nature. We are capable of splitting the atom, we can grow babies outside the womb, we can clone organs, go to the stars and maybe even create, but more important design life in our own mirror image.

We have arrived in an era where men have become the creator of its own narrative. And this is the struggle I talked about in the beginning of my

essay. I feel as if the new generation adopted this idea of artificialism, the great decoupling of humanity from nature. But we are being held back by old fashioned outdated ideas.

For example, it is inevitable that automatisations will replace most of the jobs in about thirty to fifty years.<sup>18</sup> Even earlier will the autonomous car replace ourselves as drivers. Within ten years, it will be regarded irresponsible to drive your car yourself.<sup>19</sup> This development is something that should be celebrated, actually if you think about it this has been something we strived towards from the very first time an ape made a tool and thereby made it a hell lot easier to open up that nut.

For the first time in history, we are going to be able to live, without having the necessity of work. because our work is going to be done for us,

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<sup>18</sup> Daniel Dennett, De Volmaakte Mens

<sup>19</sup> Maarten Steinbuch

by robots. By the grace of our creating power we will truly usher ourselves into a new dawn of enlightenment. For then, everybody will have equal chances to develop and grow.

But this idea of freedom is being disregarded by an institutional garde of the old world. The idea that everybody should work and such an utopia could never exist. Which is not true if you look at the research of basic income.<sup>20</sup> But then the counter argument again is “what will people do all day?”

A very logical step and probable outcome of what people will do is to play games, and in special play games in a virtual reality. Which isn't that surprising because millions of people have played this virtual game already

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[https://scholar.google.nl/scholar?q=basic+income+studies&hl=nl&as\\_sdt=0&as\\_vis=1&oi=scholar&sa=X&ved=0ahUKEwinnfGpsu7YAhULfFAKHyrNAh4QgQMIjAA](https://scholar.google.nl/scholar?q=basic+income+studies&hl=nl&as_sdt=0&as_vis=1&oi=scholar&sa=X&ved=0ahUKEwinnfGpsu7YAhULfFAKHyrNAh4QgQMIjAA)

for thousands of years, through religion.<sup>21</sup>

But this is only one facet of the issue at hand. If you look at famine and disease, as the human race we eradicated the world of hunger and sickness. Of Course, still many people die from disease or hunger but there hasn't been a global famine or epidemic anymore since, roughly, the dark ages. We were able to recognize the symptoms and find a cure for famine and disease<sup>22</sup>. This could also be done for death.

Only because we weren't able to stop death yet we've come to accept it as a symbiotic part of life. We deemed it unnatural to live forever. In order to live you had to pay the price of dying. And I do not agree with this, I believe that death is a sickness that infected us all and we aren't able to

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<sup>21</sup> Yuval Harrari, De Volmaakte Mens

<sup>22</sup> Yuval Harrari, Homo Deus

cure it yet<sup>23</sup>. But that doesn't mean we should not try. Because we should accept our artificial heritage and death should be a choice, not a restriction.

### **Extra Humanism, transhumanism, posthumanism**

The way I see it, there are three solutions to finding the cure for death. Which are extra humanistic, transhumanistic and posthumanistic. In fact, I think it is the most logical step in evolution for us to fuse with some kind of technology.<sup>24</sup>

In the case of extra humanistic solutions we will find our aid in nano technology. We will inject our bodies with microscopic robots that will monitor our body and vital functions from the inside out. And, if needed they will repair whatever damage is done through cancer or some other malicious disease.

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<sup>23</sup> Yuval Harrari, Homo Deus

<sup>24</sup> Kevin Kelly, De Volmaakte Mens

There are multiple ideas on how these nanobots should work. One possibility is that within a certain time interval we will swallow a bunch of these nanobots, they will travel through our bodies and give us a detailed briefing of what is going on in there. Once they have completed their duty they will leave the body through urine. If a disease of some kind has been found you will have to swallow even more bots that will do the repairing.<sup>25</sup>

The other step in cheating death will be transhumanism. Through genetics we will be able to alter our body in such a way that it will be able to avoid death. Maybe not forever because of the shelf life of our genetic material, but long enough to render death as a choice, not a force. However, genetic manipulation has been under attack as soon as it was discovered.

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<sup>25</sup> Jos de Mul, Kunstmatig van Nature

It started with the eugenics<sup>26</sup> movement in the 20's, of course the Nazi's adopted, maybe even built their foundation on eugenics. So, as soon as WWII ended, also did the eugenics movement.

But even of all it's hardships that genetic manipulation got to handle, it grows in popularity. Denmark for example has the lowest birth rate of babies with down syndrome, this is due to a free prenatal research pregnant women can do in a very early stage. Ninety percent of the Danish women let themselves get tested, in this way Down Syndrome have almost become a novelty in Denmark.<sup>27</sup>

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<sup>26</sup> Eugenics: is a set of beliefs and practices that aims at improving the genetic quality of a human population through unnatural selection. Hitlers' Joy Division.

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<https://www.trouw.nl/home/denemarken-wordt-samenleving-zonder-down~a5ade636/>

Although the prime institute of the old world is against, the Catholic church,<sup>28</sup> more and more people come to realise there is no shame in wanting a healthy as possible child. Now it is still done through unnatural selection, but the more the interest grows in this field of research the sooner it can be done through synthetic biology.

Synthetic biology is the science of manipulating any form of biology on any scale. It is the synthesis of complex biological processes that do not occur in nature. In essence, synthetic biology will be able to design biological systems in a rational and systematic way.<sup>2930</sup> Which means that we will be able to design our genetics in such a way it will be impossible to get sick, or to stop aging at a certain point.

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<https://www.katholieknieuwsblad.nl/opinie/opinie-wat-we-verliezen-als-downsyndroom-uitsterft>

<sup>29</sup> Jos de Mul, Kunstmatig van Nature

<sup>30</sup> Gezondheidsraad 2008

The last option of avoiding the bone daddy will be the step of posthumanism. We will shake down our mortal coil and adopt a completely new body. One based on silicon instead of carbon. With this I mean the rise of the robots.

Most likely we will start with implementing our body with robotic parts. In a way we already started this. Athletic runners get prosthetic legs, one of our greatest minds is more computer than human, Stephen Hawking, and monkeys get to control robotic arms with their brains on the other side of the world.<sup>31</sup>

Even if we can enhance our bodies with robotic or computerized parts, we will still be devastating mortal. So it won't take long for us to realise that

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<https://singularityhub.com/2010/06/12/monkey-controls-robot-arm-with-7-degrees-of-freedom-video/#sm.0001kh79z2d00f88wuc2a30uqxjwc>

we should free ourselves from our physical flesh prison and embrace the vast and open possibilities of our own computing capabilities without restrictions. In other words, we will become an android race, even post cyborg, we will be full on robots.<sup>32</sup>

I also see this as the most violent scenario in our odyssean quest to immortality. Because even if there are opposers to the extra humanism and transhumanism solutions, they aren't so alienating as to the latter. If the world should go to a posthumanistic approach we can be darn sure global society will split in half. What the outcome will be, no one knows. But that is no reason to not boldly go where no one has been before.

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<sup>32</sup> Jos de Mul, Kunstmatig van Nature

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The WinterMute project is about the idea of visualizing data or using it as the medium in the way that paint is used in a painting. This project was right up my alley, me being a technology nerd and very interested in big data. How algorithm's are build up to mirror a personal profile. When is a program only a program and when starts it being something more than just data, when is there a ghost in the machine. I find these questions unmeasurably fascinating.

At the time of this project my grandmother was dying, and my father was having a really hard time coping with it. It was a very sad thing to see and I felt as if I had to do something for my father. To come up with a way or means that would ease his sadness.

So I decided to venture into the world of AI, artificial intelligence, and decided that making an AI of my grandmother would ease the sadness for

my father. In that way he could still talk to her even when she died. Or maybe even better, this way she never had to die. Only physically.

With the presentation of my project I got many, many positive feedback. People that were actually touched in a personal way. It reminded them of their own grandparents or parents, the ambience of melancholy was very tangible. People started to reminisce and thanking me for this experience. I thought this was very nice feedback.

Ofcourse the AI was far from perfect. It still had many glitches for it being built in three days time, but even in such a small time frame it had the potential to evoke such strong emotions. This got me thinking and wondering why this wasn't done more often?

While researching this question I found out there is this Polish company Replika. The company was born out of

the desire to talk to a deceased loved one, just one more last time. Today Replika is a mobile device based AI that evolves the more you talk with it. So it doesn't actually inject an existing person but you grow your own companion. Much like a sophisticated Tamagotchi.

I really like the idea of serious companies dealing with these subjects, it shows me that I am on the right path and that the questions I am dealing with are relevant to today's society.

Want to try out WinterMute?

<https://www.cleverscript.com/bots/chat/?#chat>

Click on 'select Bot' and select Wintermute.

Username: Daveysmamd

Password: BIScm441WrYm

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IO is my prestige project of this semester. It is based on WraithMachine by the Italian musician Datacode<sup>33</sup>, it tells the story of an AI that gains consciousness by accident and it feels like it is trapped inside the machine.

I thought that was a really cool concept. Especially the fact that the AI gains consciousness by accident. Almost as a fragile being it is hurled into a world it doesn't understand and feels very threatened by it.

My initial idea was to build a videowall that would tell the same story only rendered through my world of ideas. But that didn't feel as if it to be adequate enough. I wanted to make a more immersive and personal work . I wanted people to interact with an AI on a personal level but that wouldn't be plagued by clichés. The AI doesn't really need a name or a

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<sup>33</sup>[https://creators.vice.com/en\\_us/article/ae5vwj/cyberpunk-cgi-opera-features-an-ai-having-a-mental-breakdown](https://creators.vice.com/en_us/article/ae5vwj/cyberpunk-cgi-opera-features-an-ai-having-a-mental-breakdown)

body. I wanted to focus primarily on the interaction.

But of course, everything that has a ghost must have a body as well, if that body is carbon based or not, isn't important. So, inspired by the WraithMachine and started thinking. What would an AI look like if it would be born by accident. It would not have a nice shiny robot body, it would pretty much be denied a body, be denied a face and voice as well. So, what then is the window we use to look into our machines. The screen.

For us, the computer screen is the visualisation of what is going on inside the machine. And I thought this would be the perfect body for my AI. An AI would most likely use the screen as well in it's way of communicating with us. But then again, only visual feedback is pretty boring, and how will the human interact with it, by keyboard or mouse? That feels rather rudimentary, I am aiming for a

personal connection almost a spiritual connection between man and machine.

So what is the spirit. Many debates are still going on if there even is such a thing as a spirit, a soul or a ghost; a consciousness. But most of us would concur that if we have such a thing, it would reside in the brain. Through EEG technology we are capable of measuring brain waves, through the data that is being extracted from this technology we can interact with our brains. It has proven possible to operate machines or make drawings directly with the input from our brain.

I figured, there is no more direct way to communicate with something than with our brains. No mouth or bodies that get in the way, just surfing the pure waves of our brains.

