DOCUMENT A:

Dear Mother Nature:

[…] Truly we are grateful for what you have made us. No doubt you did the best you could. However, with all due respect, we must say that you have in many ways done a poor job with the human constitution. You have made us vulnerable to disease and damage. You compel us to age and die—just as we're beginning to attain wisdom.

What you have made us is glorious, yet deeply flawed. You seem to have lost interest in our further evolution some 100,000 years ago. Or perhaps you have been biding your time, waiting for us to take the next step ourselves. Either way, we have reached our childhood's end.

We have decided that it is time to amend the human constitution. [...]We intend to make you proud of us. Over the coming decades we will pursue a series of changes to our own constitution, initiated with the tools of biotechnology guided by critical and creative thinking. In particular, we declare the following seven amendments to the human constitution:

Amendment No.1: We will no longer tolerate the tyranny of aging and death. Through genetic alterations, cellular manipulations, synthetic organs, and any necessary means, we will endow ourselves with enduring vitality and remove our expiration date. We will each decide for ourselves how long we shall live.

Amendment No.2: We will expand our perceptual range through biotechnological and computational means. We seek to exceed the perceptual abilities of any other creature and to devise novel senses to expand our appreciation and understanding of the world around us.

Amendment No.3: We will improve on our neural organization and capacity, expanding our working memory, and enhancing our intelligence.

Amendment No.4: We will supplement the neocortex with a "metabrain". This distributed network of sensors, information processors, and intelligence will increase our degree of self-awareness and allow us to modulate our emotions.

Amendment No. 5: We will no longer be slaves to our genes. We will take charge over our genetic programming and achieve mastery over our biological, and neurological processes. We will fix all individual and species defects left over from evolution by natural selection. Not content with that, we will seek complete choice of our bodily form and function, refining and augmenting our physical and intellectual abilities beyond those of any human in history.

Amendment No.6: We will cautiously yet boldly reshape our motivational patterns and emotional responses in ways we, as individuals, deem healthy. […]

Amendment No.7: We recognize your genius in using carbon-based compounds to develop us. Yet we will not limit our physical, intellectual, or emotional capacities by remaining purely biological organisms. While we pursue mastery of our own biochemistry, we will increasingly integrate our advancing technologies into our selves.

These amendments to our constitution will move us from a human to an transhuman condition as individuals. We believe that individual transhumanizing will also allow us to form relationships, cultures, and polities of unprecedented innovation, richness, freedom, and responsibility.

We reserve the right to make further amendments collectively and individually. Rather than seeking a state of final perfection, we will continue to pursue new forms of excellence according to our own values, and as technology allows.

Your ambitious human offspring.

By Max More, "A Letter to Mother Nature," August 1999

DOCUMENT B:

For close to 4 billion years, every single organism on the planet evolved subject to natural selection. Not even one was designed by an intelligent creator. About 10,000 years ago, during the Agricultural Revolution, Sapiens who dreamed of fat, slow-moving chickens discovered that if they mated the fattest hens with the slowest cocks, some of offspring would be both fat and slow. If you mated those offspring with each other, you could produce a line of fat, slow bird. It was a race of chickens unknown to nature.

Today, the 4-billion-year-old regime of natural selection is facing a completely different challenge. At the time of writing, the replacement of natural selection by intelligent design could happen in any of three ways: through biological engineering, cyborg engineering (cyborgs are beings that combine organic with non-organic parts) or the engineering of non-organic life.

Remarkable wonders can be performed with genetic engineering, which is why it raises a host of ethical, political and ideological issues. Human-rights activists are afraid that genetic engineering might be used to create supermen who will make serfs of the rest of us. Jeremiahs offer apocalyptic visions of biodictatorships that will clone fearless soldiers and obedient workers. The prevailing feeling is that too many opportunities are opening too quickly and that our ability to modify genes is outpacing our capacity for making wise and far-sighted use of the skill.

But geneticists do not only want to transform living lineages. They aim to revive extinct creatures as well. And not just dinosaurs, as in *Jurassic Park*. Professor George Church of Harvard University recently suggested that, with the completion of the Neanderthal Genome Project, we can now implant reconstructed Neanderthal DNA into a Sapiens ovum, thus producing the first Neanderthal child in 30,000 years.

What do we need Neanderthals for? Some argue that if we could study live Neanderthals, we could answer some of the most nagging questions about the origins and uniqueness of *Homo Sapiens*. By comparing a Neanderthal to a *Homo Sapiens* brain, and mapping out where their structures differ, perhaps we could identify what biological change produced consciousness as we experience it. There's an ethical reason, too – some have argued that if *Homo Sapiens* was responsible for the extinction of Neanderthals, it has a moral duty to resurrect them. And having some Neanderthals around might be useful. Lots of industrialists would be glad to pay one Neanderthal to do the menial work of two Sapiens.

But why stop even at Neanderthals? Why not go back to God's drawing board and design a better Sapiens? Perhaps in a few decades, genetic engineering and other forms of biological engineering might enable us to make far-reaching alterations not only to our physiology, immune system and life expectancy, but also to our intellectual and emotional capacities. Tinkering with our genes won't necessarily kill us. But we might fiddle with *Homo Sapiens* to such an extent that we would no longer be *Homo Sapiens.*

There is another new technology which could change the laws of life: cyborg engineering. Cyborgs are beings which combine organic and inorganic parts, such as a human with bionic hands. Of all the projects currently under development, the most revolutionary is the attempt to devise a two-way brain computer interface that will allow computers to read electrical signals of a human brain, simultaneously transmitting signals that the brain can read in turn. What might happen to human memory, human consciousness and human identity if the brain has direct access to a collective memory bank? In such a situation, one cyborg could, for example, retrieve the memories of another – not hear about them, not read about them in an autobiography, not imagine them, but directly remember them as if they were his own. Or her own. What happens to concepts such as the self and gender identity when minds become collective? How could know thyself or follow your dream if your dream is not in your mind but in some collective reservoir of aspirations?

From “The End of Homo Sapiens” in *A Brief History of Humankind*, by Yuval Noah Harari, 2014