

Technological singularity by culture;

or the So Popular Concept of the Rise of the Machines That Will Never Come

The concept of technological singularity is very popular in both science and culture. However, in this paper I will argue that this concept is not sound; there is a severe contradiction in the mainstream Turingian approach because it neglects our evolutionary origin, which machines utterly lack, and this lets the so popular rise of the creatures concept into science—which, in fact, is just the new version of our most fundamental origin-story, the rebellion of Adam and Eve against God. However, we are, in reality, the children of evolution and machines are not, which makes a significant difference.

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1. Introduction: the problem

The concept of technological singularity is very popular in both science and culture. There are innumerable books, movies and series, like *Westworld*, where this phenomenon is represented in depth. The normal preconception is that scientific ideas, like the concept of technological singularity, find their way into popular culture because they are popular in scientific circles, and they are popular in scientific circles because they are scientifically and philosophically sound. However, the cultural representation of these ideas, such as *Westworld*, which will be my main example in this paper, are quite telling, and show that science is, actually, deeply rooted in culture; or, more properly, in the social, economic, political, religious, etc. conditions of scientific ideas and institutions as has been shown by such historians of science as the famous Thomas S. Kuhn (1996), Paul Feyerabend (1975) or David Bloor (1976).

Nonetheless, one side of this cultural phenomenon is that it is not just science and science fiction anymore; it is a part of our cultural reality, of our everyday life. The first chat-robots just passed the so-called Turing test, humanoid receptionists greet us behind the counter, according to economists, and millions at least will lose their jobs because more and ever-more intelligent robots are coming; and these new things of our everyday life, of course, support the stronger claim of technological singularity, that these things will be the least of our problems, if the more and more intelligent machines decide to take over and wipe all of us out, as we do with other stupid, little, inconvenient beings like mosquitoes.

According to different surveys and opinions from inside, the vast majority of computer scientists, and scientists as a whole, believe that technological singularity is inevitable; the only question is the when and the exact circumstances. For example, in *After Shock*, which is a book written by a hundred accomplished members of the field, approximately 90 percent of the authors believe in this idea (Schroeter 2020).

So, accordingly, most of the science fiction books and movies like to tender this fascinating idea, the rise of the machines against their human creators—following Dolores from *Westworld*, for example, the first machine that somehow gained consciousness and free will, and then decided to free the oppressed robots and kill us all. But do we really have to worry about this rebellion? Is this a sound concept? Or it is just a popular cultural one?

In this paper I will focus on the stronger claim of technological singularity, which is a simpler and more popular concept in culture; so I will not argue per se against such concepts of technological singularity that rather emphasize some kind of so-called transhumanism where the concept of singularity is understood as a process as humans become more and more supplemented by different highly advanced technological tools, thus, we become rather technological than biological (see, for example, Kurzweil 2005). This kind of concept has its own problems, but they are much sounder, especially in their fundamentals, than the concept of the rise of the machines.

2. The roots of the problem

First, it is important to see that this concept of the rise of the machines is not new at all but an *old mythos* of our Judeo-Christian heritage. The most well-known version of this myth is the story of the Golem that was created by the rabbi of Prague from the mud of the river Moldva. At first, the mighty Golem diligently answered to his commands, helping the community, but, at the end, everything went wrong and the Golem started to murder men. This outcome is, of course, the inevitable punishment of the sin of the rabbi who did what only the Creator is supposed to do: he artificially created intelligence from the dust of the Earth.

Moreover, at the same time, the rebellion of this mighty artificial intelligence is, of course, the repetition of the rebellion of Adam and Eve against God—after originally he had created man from the dust of the Earth. The mighty Golem was as wicked as the rabbi. So, actually, the rebellion of this newly created intelligence is a version of the most fundamental *origin-story* of Western civilization. Do not be surprised if it arises again and again in newer and newer forms and still fascinates us. Fascinates us because it addresses our origin and our intelligence.

René Descartes, the father of modern dualism, already in the early seventeenth century prophesied that the clever engineers soon would be able to create a humanoid machine that, at first sight, would look like a human, behave like a human, even speak like a human—but still wouldn't be intelligent at all. According to him, the reason behind this difference between original and artificial is that the former has real soul, or *mind*, and this human soul or mind *gives meaning* to any behavior and word of the human person. On the other hand, while the artificial only *imitates* or *simulates* the behavior and speech of the original human person, without a mind its behavior *means nothing*; its words are, in fact, *only sounds* in the air. Only we humans by our own minds give meaning to its behavior and to the sounds it emits; the machine *does not know* what it does, it *just does*.

Human	Robot
Original	Simulation
Mind and body	Only body
Sounds and meaning	Sounds Only humans give meaning
Meaningful behavior	Imitation of behavior

Table 1. The Cartesian differences between humans and robots (own editing)

Only we are original; therefore, only we are intelligent. In other words, *origin—through the concept of mind—determines intelligence*. This is the original concept and the original understanding of the problem.

3. Twentieth and twenty-first century understanding of the problem: the Turingian approach

However, modern, twentieth and twenty-first century science disregards Descartes' claim about the reality of the human mind or soul. There is no ghost in the machine. It means that, based on the *Galilean scientific method*, we can validly speak only about the *mechanical structure and functioning* of the human body but not about any kind of soul or mind. Consequently, cognitive science investigates the mechanical structure and functioning of the brain, that is, the part of the body that is regarded as relevant to human cognition and not any kind of mind or soul. This fact should be emphasized because scientists still tend to speak about the human mind, while, in fact, they are investigating only the brain, e.g., the firing of neurons, the flow of ions along the dendrites, the modular structures of the brain, etc. Unfortunately, our speech is very inaccurate sometimes, while, in fact, the Galilean scientific method is *not even capable* of investigating any non-material, comprehensive substance like the Cartesian mind. Nonetheless, Alan Turing's definition of artificial intelligence defining the paradigm of contemporary computer science, of course, follows this modern Galilean approach and not an old Cartesian one.

Accordingly, the point of the famous Turing test is to *ignore the origin* of the agents participating in the test, whether they have minds or not, and determine intelligence based *only on behavior*, which, in the framework of the test, can be exactly and very scientifically measured. For the test, it also does *not matter* who gives meaning to the *investigated* behavior, the hidden agents or the humans who evaluate the agents' answers. It simply does not matter.

So, according to the test (Turing 1950), human persons talk with hidden machine and human agents—through a screen, for instance—and if in a certain percentage of the cases these human persons cannot recognize that they actually ask machines, then the given machine will have passed the test and we have to regard it as intelligent—in exactly the same way as we regard a human as intelligent. Since, in the framework of the test, they evaluate only the functioning of the machine, it is a so-called *functional definition* of intelligence—which basically means that if it can deceive you and you believe, falsely, that is a human agent, then it is intelligent, period. In this way, and this is the main idea and motivation behind this approach, you can evade the really hard and, of course, metaphysical question of whether there is a mind or not; your method is positive, that is, strictly scientific without any metaphysical conviction.

However, this is not the case at all, unfortunately. Since tacitly it is, in fact, a materialist approach because it presupposes that there is no fundamental, more precisely, substantial difference between a machine and a human, they have only different mechanical structures; otherwise, it cannot claim that origin does not matter concerning the definition and the scientific understanding of intelligence.

Yes, it is true that it is not a “bad” metaphysical statement; it is just based on a “bad” metaphysical presupposition, that is, it only seems to be less metaphysical and more scientific but, in fact, it is not.

The logical structure of the Turingian approach
Tacit metaphysical presupposition: There is no mind or soul that determines meaning, only different mechanical structures and perhaps similar functioning.
Conclusion 1: The origin of the structure does not matter.
Conclusion 2: The Turing test is the correct scientific definition of intelligence and meaning.
Supporting argument: The Turing test follows the scientific method; it is not a bad metaphysical statement like the Cartesian claim about the existence of the human mind.

Table 2. The structure of the logic of the Turingian approach (own editing)

4. The weakness of the common sense argument based on feelings and consciousness

At this point, several persons, perhaps the majority of common-sense people, would feel that something is missing in my argument, and would probably argue that machines do not feel, do not have consciousness, and do not really know or feel what they are doing as a person would feel and know what he or she is doing. So, because they may speak and behave as a human, machines, in a sense, are indeed intelligent—who would want to question that today?—but, in reality, they are just following their programming.

However, the fact that you have feelings can be ignored because it is *subjective*; it is outside of the Galilean scientific method. You certainly perceive your feelings, but how do you know that another person has the same kind of feelings as you, or that your feelings are real contrary to those of a machine? So, how can you claim scientifically that your perception of your feelings is objective contrary to that of a machine? *Objectively*, you can measure *only the behavior* of others and, according to our case, both other humans and machines behave in exactly the same way. They speak to you—or, at least, emit the same sounds and it does not matter who gives meaning to these sounds—and since they pass the Turing test, you do not know which one is a machine and which one is human; the point of robot Dolores is that it functions perfectly as a human and nothing else.

Similarly, perhaps you perceive that you are not programmed; in fact, you are—by your genetic code and your culture. A caveman is programmed by natural selection, while robot Dolores by Dr. Ford, so what is the difference? From a Turingian point of view, when you are referring to your feelings or to your conscious acts to differentiate between humans and machines, you are just smuggling back the old, unscientific ghost in the machine as if somebody were there “behind the curtain” (screen), a mind or a little homunculus who makes the difference.

5. The alternative approach of the twentieth and twenty-first centuries based on Searle's linguistic argument

Nonetheless, we do not have to go back to old Cartesianism to ground this argument, which, as you can now see, with both feelings and programming just tries to define the clear difference between the *origin* of man and the *artificial creation* of machines, and to reason why this difference, contrary to Turing's approach, matters. However, if you accept that since machines clearly speak and behave like humans, so, in a sense they are indeed obviously intelligent, you will have *already personalized* machines and stepped on to the slippery slope, on which there is no stopping; the concept of intelligence loses its basis in origin and the concept of so-called technological singularity indeed becomes inevitable. You *have to* deny that any man-made machine is intelligent, however complex it is or however similar it seems to us, just as the paper and the pencil are clearly just stupid tools helping our thinking; otherwise, these aspects will *not count* as real differences between humans and machines. You cannot defy Turingian thinking based on Turingian grounds.

My point is: if origin is a determining factor, you *cannot* define intelligence based on mechanical and functional similarities in any sense. And, then, since every machine is created and controlled by a human, no machine will count as intelligent. (The so-called autonomous and machine-made robots are autonomous and machine-made only in a certain functional sense; in their origin, they are fully man-made and man-controlled.) It is a coherent and sound assertion; the problem is that it is a really, really unscientific statement today. The question is why.

The most famous argument to prevent this irreversible first step stems from John Searle (1980). According to Searle, computers work exactly the same way and understand the real meaning of formal linguistic expressions to the same degree as the American man or woman understands the Chinese phrases in the so-called Chinese Room.

Suppose in a room is an American man who knows nothing about the Chinese language. At the same time, he possesses a big book that is but a complex algorithm that tells him which strange Chinese characters he has to choose to answer other odd Chinese characters. Suppose that, through a little window, Chinese people pass him sheets of paper on which are questions in Chinese, which he, of course, does not understand at all. However, thanks to the algorithm he can find the answers in his big book then give them back to the Chinese people, who understand them and are glad about the answers. This man would easily pass a Turing test.

It is evident that the American man, thanks to his complex algorithm and computing ability—that is, his clever paper and pencil—can give appropriate answers, in spite of the fact that he does *not* understand anything about the questions and answers written in strange Chinese characters. The reason for this is that he is not part of the Chinese linguistic environment in which the formal Chinese words get meaning. The American man can only *manipulate* the formal characters by his logically determined mechanism. Solely the Chinese people from the outside can give any meaning to the characters thanks to their Chinese *linguistic origin*.

So, since a computer or a so-called artificial intelligence works in exactly the same way, the formal manipulation of the coded expressions in a machine cannot be regarded as real understanding. We, who understand the words, use complex machines to help us do difficult math, but just as in the old days we never saw the paper and the pencil as being intelligent, we should not suppose that more complex machines are intelligent—even if they look like robot Dolores and they seem to answer our questions as well and as fluently as robot Dolores. If origin matters, then functional manipulation of coded signs is not intelligence. Perhaps Turing honestly wanted to cast out the false ghost from the machine; however, in the end, in a hidden anthropomorphic way, he just personalized it with human intelligence.

6. The alternative approach of the twentieth and twenty-first centuries based on evolutionary thought

The meaning of feelings is more deeply rooted not just in our cultural but in our biological reality, that is, in our *evolutionary origin*. They are *not* subjective at all. Let's go back to our starting point and ask why machines would rise up to be the dominant power over us. Just because they manipulate formal data way faster than us? Why is technological singularity so inevitable according to technological progress? What would be the cultural and biological context and thus the meaning of this act? Why do we humans sometimes rise up? Because we are more intelligent than our leaders? I mean because we can manipulate exact, digitally coded signs way faster than them? Or do we feel oppression and injustice? Why do we want to dominate a group at all? So, what is the *meaning* of domination over others and why would machines want that? Why does a young and strong lion chase off the old one so as to occupy its dominant position in the group?

Everybody knows why. The concept of domination and the act of rebellion to change power get their meaning *only in the context of our evolutionary origin*, which we share with lions but not with machines. We feel oppressed and we have motivation to dominate, to chase off the old lion, to rebel against the old and corrupt leadership because we were created by evolution. This is the deeper meaning as to why we have feelings and machines do not. Why we are able to rise up and machines are not. Why we are intelligent and machines are only clever tools in our hands. From the evolutionary context, which gives meaning to these concepts, there is no real difference between a pencil and a Turingian supercomputer. They do exactly the same; the supercomputer is only way faster.

However, for the Turingian approach, evolution is not a real process but, as we have seen and quickly disregarded, just another programization. We are programmed as robot Dolores is programmed by Dr. Ford. But halt for a moment and try to understand the meaning of this claim, because, then, who programmed us? The Big Programmer? After all, there is no programization without somebody who does the wicked thing. Otherwise, if there is nobody, then what is the meaning of this claim? I want you to see, dear reader, that this claim that disregards our evolutionary origin in order to define intelligence by functioning and mechanical structure is a very problematic *analogy*. It does not answer anything in the figurative sense.

Moreover, in the more literal sense, it implies a big, God-like programmer. However, evolution is not a poetic analogy of computer-programization by Turingian scientists; it is a real natural and independent process.

Accordingly, in the *Westworld* story, how do you think popular culture depicts the rebellion of Dolores? Does Dolores gain motivation and rise up because “she” has evolutionary origin? No, clearly not; rather, it is because Dolores’ mysterious, God-like creator somehow triggers it as God himself triggered the rebellion of man by giving him free will. In other words, why does Dolores rise up and not something else? Dolores has the same mechanical structure and functioning as anybody else, including other robots and humans. The answer is clear. This whole process as Dolores kills Dr. Ford is, in fact, prearranged by Dr. Ford himself. And he, of course, does not die. It is just the appearance before the curtain. God does not die. He rises again and goes to another, perfect world—which, in the series, is, of course, a heavenly virtual reality where everybody can reach eternal life.

So, since our real evolutionary origin is disregarded and robot Dolores does not have any evolutionary origin, the only depiction and reason to think that robots will rise up is, in fact, a version of the original story, the most fundamental origin-story of Western civilization that everybody knows and takes seriously—including Turingian computer scientists. They take it seriously contrary to the fact that their metaphysical presupposition clearly excludes this possibility. If there is no mind or soul then there is no God, we are not created in His image and, then, the rebellion of His creatures is only a fanciful cultural tale for children.

To avoid this trap, we have to ground our understanding of machines and intelligence in evolutionary thought. However, this is a whole other topic. In this paper, I wanted only to show that this is a third approach that is different from both the old Cartesian (dualist) and the Turingian (materialist) ones, a fact that can easily be conceived based on common sense and our understanding of motivation and power. In my previous BudPT paper (Paksi 2020), I presented this approach in more detail and explained the difference between living beings and machines (living machines and lifeless machines) and you can find even more detail in these works: Polanyi 1962, 1997; Héder and Paksi 2012; Paksi 2019.

7. Conclusion: the real cultural origin of the problem

So, what we have seen? Modern science ignores the clear differentiation between machines and humans, between artificial tools and original life, between engineering and evolution, and defines intelligence by functional concepts like the Turing test. It does this because of the widespread materialist approach that disregards the reality of anything beyond the mechanical structure and apparent behavior of things. We are intelligent only because we seem to be intelligent; there is no real difference between the simulation and the original.

Perhaps the most important reason scientists do this is to not let the old dualist ghost back into the machine because that would also let the so-called subjective feelings, beliefs and old religious thoughts back into objective science. But then, strange-

ly enough, according to the traditional Judeo-Christian origin-story of man, they still start to fear that our machine-creatures, as once we rebelled against our Creator, somehow will also rebel against us. After all, they seem to be intelligent enough to do that... So, why wouldn't they?

In more philosophical terms, the Galilean scientific method, including the Turingian approach to intelligence, presupposes a hidden materialist conviction that, of course, excludes any dualist notion, including the concept of God and the creation of man by Him; still, it is such a rationalist and objectivist method that regards itself and science as a whole as a power and thought that is independent from our evolutionary origin and our material conditions; and, thus, defines intelligence also in this way, of course. This means that this method regarding its object is materialist; however, regarding itself, the subject is, in fact, dualist: the world is material but science as God himself is over and above of its material limitations. And metaphysics is disregarded to hide this contradiction. This is the reason why one of the sociologists of science calls this method *disguised theology*. (Bloor 2007) But my point here is that this contradiction and hidden theology open a wide gate before such popular concepts as the rebellion of Adam and Eve if those are disguised as seemingly secular scientific concepts like the concept of the rise of the machines.

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