

Future Vision From Superman to Super Organism

By

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The more I study the ancient past, the more interested I become in the far future. What is our trajectory based upon what we know about the origins of our Universe? What direction are we heading in, and what might become the culmination of our existence?

These are big questions, perennial questions, that our species has been asking, and, in some cases, answering, for thousands of years. In academic terms, this area of study is called *eschatology*, the study of *eschatos*, the Greek word for "last." Eschatology is the study of "last" things, the end times, the end of days.

The particular theory most of us are, at least, somewhat familiar with in our culture is the Christian eschatology. Although thoughts about how the world will end vary slightly from sect to sect, Christians, in general, believe there will someday soon be a second-coming of Jesus Christ, who will wage war against Satan, defeat his army of demons, bind his enemies forever in hell, destroy this world and replace it with a new improved version, then take all his followers to live with him and his Father in heaven. Christians have generally believed this course of events to be immanent for pretty much the past 2000 years. This is the reason the Apostle Paul advised against marriage unless, in his words, folks "burned with lust." For what is the purpose of marrying if Jesus is on his way? Christianity teaches that there is no gender in heaven. The *Gospel of Mark* says, for example, in words attributed to Jesus, "For when they rise from the dead, they neither marry nor are given in marriage, but are like the angels in heaven."¹ This was probably the basis of Paul's idea that, "There is neither Jew nor Greek, there is neither slave nor free man, there is neither *male* or *female*; for you are all one in Christ Jesus."² So, given that marriages become null and void in the afterlife, "till death do us part," so to speak, Paul thought it futile to marry since Jesus would be back any moment. In his words, "Behold, I tell you a mystery; we will not all sleep, but we will all be changed, in a moment, in the twinkling of an eye, at the last trumpet; for the trumpet will sound, and the dead will be raised imperishable, and we will be changed."³ Yet here we are, 2000 years later, and Paul, along with his many followers, have, indeed, all "slept," despite his assurances, and Jesus has not returned, though many still believe in his immanent arrival.

¹ Mark 12:25

² Galatians 3:28

³ I Corinthians 15:50-52

There are, of course, many other myths of the end times, too numerous to go into. The Jewish religion teaches in the coming of a Messiah, a descendent of King David, who will restore Israel to its former glory. Hindu eschatology tends to suggest that Shiva is continually destroying and recreating the world. Norse mythology, suggests, much like Christianity's *Armageddon*, that there will be a final battle, *Ragnarok*, during which the world and most its inhabitants will be destroyed.

The problem with these eschatologies, and others based purely on religious conjecture, is that they are unsubstantiated and anthropocentric. How do we know Christ will return? Because he said he would. But how do we know he was telling the truth? Because he said it in the Bible and the Bible is the Word of God. But how do we know the Bible is the Word of God? Because the Bible says it's the Word of God. In the end these views are based purely on circular reasoning, which is a logical fallacy. We can't trust that Jesus is coming back just because it's written down somewhere, anymore than we can believe in the final battle of Ragnarok just because it's part of Norse legend, or that Israel will become the greatest nation on Earth because the Hebrew prophets said it would three thousand years ago. Rational arguments require genuine evidence, not pure conjecture.

More importantly, I think, is the fact that these eschatologies focus almost exclusively on what's going to happen to humanity. They are anthropocentric. And even those of us who are not so bound by religious tradition are often misguided by this homocentric paradigm, this anthropocentric fallacy, suggesting our species will continue to exist in the far future. Given that the Universe has existed so long without human beings, however, and that 99.9 percent of all species ever to have existed have gone extinct, we can be relatively confident that we are neither the point of history, its apex, nor its conclusion. The Universe has existed, according to science, just shy of 14 billion years, and human beings have been around less than 3 million years. And because it is the nature of life to evolve over time, we can expect that if our species is not destroyed by a cataclysmic event, it too will soon, in cosmic terms, evolve into something entirely new.

It is in terms such as these that we ought to really consider eschatology. It is not foolish to speculate about the future just because we don't have a crystal ball. We can make reasonable conclusions about what's in store by developing a trajectory based upon what we already know about the Universe. In his book, *The Physics of Immortality*, Physicist Frank Tipler outlines his view of the future, which includes the resurrection of the dead, not as a theologian, but as a scientist. "There is nothing supernatural about the theory," he writes, "and hence there is no appeal, anywhere, to faith. The genealogy of the theory is actually atheistic scientific materialism."⁴

⁴ Tipler, Frank L., *The Physics of Immortality*, Doubleday, New York, NY, 1994, p. 16.

So if we begin with science instead of religion, and reason instead of faith, where does it look like we're going to end up? What's the trajectory? What's our heading?

As one who has given a great deal of thought to these questions, based upon what little I understand of cosmology, that is, the origins of the Universe, and physics, I believe that ultimately there is no real end. Our Universe was once very small, about the size of a golf ball—a very dense golf ball because everything that exists in it today also existed in it at then, which put it under a lot of pressure, to say the least. Eventually it exploded and is still exploding today, which is why scientists say the Universe is still expanding. But because time and space are relative, it doesn't at all seem to us like we're really just space debris caught up in the midst of this vast violent explosion. But eventually the force of this outburst will reach its end, settle down, and begin to collapse in on itself again, and our Universe will get smaller and smaller until it's the size of a golf ball once more. Then the process will likely repeat itself, just as it may have done countless times already.

So that's the really big picture, and it will take so long, relatively speaking, that, practically speaking, it will never happen. Our Universe will continue to expand forever, though, not really. And even when it does begin to collapse, it will do so over trillions of eons, and its collapse will probably not be uniform, meaning one end may begin to collapse and actually force the rest of it to expand even more, the way a balloon does when you squeeze one end.

In the meantime, there are going to be lots of omega points, lots of ends. It's estimated our own solar system will expire in about 100 billion years when our sun goes supernova. Considering the entire Universe is only 13.7 billion years old, we should be okay for a long time, and the Universe itself will continue an inconceivably long time after our solar system goes caput.

With all this time on our hands, then, and knowing what we do about how the Universe has evolved to this point, what's going to happen in the immediate future, by which I mean the next few million years? Here's where I'll get to the punch line, then briefly discuss my reasons for my own personal beliefs about the future, that is, my own eschatology. Although I am hopeful we will survive the current environmental threat facing our planet, I do believe that *Homo sapiens* will soon become extinct, or will, at least, cease to be the dominant species on our planet. Either we will evolve into a more advanced species, through our own ingenuity and advances in technology, or we will give birth to an entirely new and inorganic species that is not bound by the limitations of biology. These beings will be far more intelligent than imaginable, and will be able to move about through time and space almost instantly at will. Although their bodies, which they will not be restricted to, will be mechanical in nature, *homo mechanicus*, if you will, they will not only have feelings, but will be able to feel on a deeper level than any human being could withstand. The sum of this species' entire knowledge and experience will be instantly accessible to any individual, and they will be able to read each other's

minds, and will be far more aware and content than is conceivable. They will be, by our standards, fully conscious beings, and will have no need for psychologists or therapists because they will be unconscious of very little. They will be mostly conscious beings.

Now that's just a start, just a glimpse into what I've come to believe based upon my study and interpretation of science. My most important reasons are as follows:

Firstly, the Universe is autopoietic, meaning, it is self-creating. Regardless of how it might have gotten here to begin with, the Universe organizes itself based upon certain established natural laws that cannot be violated. The more we understand the nature of these laws, the better we understand how it all works and what will be the inevitable outcomes of certain causes. As Einstein said, "God does not play dice with the Universe." There are no miracles, no violations of phenomenology. Although there is great mystery, and much more to know than our species will ever know or is capable of knowing, we can trust in the reliability of those laws we have discovered. To use the watchmaker analogy, if there is a God, it created the Universe, wound it up, then left it alone to run by itself.

Secondly, and more importantly, the Universe self creates itself in ever-increasing complexity. In other words, it becomes more complex through time. It began with just one element, hydrogen. And after those first hydrogen clouds condensed and collapsed in on themselves, their enormous heat and pressure fused two hydrogen atoms together to create a second element, helium. When they, in turn, exploded, these more complex clouds also collapsed and fused hydrogen and helium atoms to birth even more elements. This process kept repeating itself, and with each orgasmic explosion, spewed new elements into the Cosmos. And the Universe itself became more and more complex, giving birth to stars, and planets, and solar systems, at least one of which contained just the right cocktail of elements to produce the rudiments of life. And that life has continued to evolve the past 3.5 billion years, itself becoming more complex over time.

Thirdly, the evolution of the Universe is also exponential, meaning it is becoming more complicated at shorter intervals than ever before, and will continued do so until, someday, it may evolve in seconds rather than millennia. Again, returning to our origins, it took about one billion years after the Big Bang for the Universe to create the first elements and stars. That's a long time considering just a billion seconds is 31 years, and a billion minutes is 31 thousand years. A billion years is a big number! And it took several more billion years to create planets. So we can see that things moved extremely slowly the first 10 billion years after the Big Bang. Then, even after the Earth came into existence about 4.5 billion years ago, it took another billion years for life to form, and only then as very simple single-celled organisms. And those single-celled organisms were all there were for another billion years. So, for the first half of Earth's existence life either didn't exist at all, or it was very simple. But even here we see that evolution is exponential. It

took, to our knowledge, 11 billion years for life to evolve in the Universe—that's 11 billion year out of 13.7. So during the past 2.7 billion years life has gone from simple single-celled organisms, to simple multi-celled organisms, like algae, to complex multi-celled organism, like dinosaurs and primates. But even the time span between dinosaurs and humans proves this exponential complexity. Dinosaurs thrived upon the Earth 165 million years, which, by the way, is far less than the billion year epoch of our single-celled ancestors. And after they went extinct, it took mammals only 60 million years, to become hominids, and just 3 million years to begin writing *Hamlet*, traveling to the moon, and inventing computers, the Internet, and cell phones.

Finally, the self-organizing Universe, exponentially increasing in its complexity, becomes more unified as it advances. We've seen this to be true especially of life on Earth. The first cells lived independent of each other, but they eventually learned to communicate with each other and formed societies we call multi-cellular beings. Some of these multi-cellular societies are quite complex, including us. What's more is that these multi-cellular creatures, over time, begin to bond with other multi-cellular creatures to form civilizations of their own. We see this, especially with flocks of birds that move about as one organism. And do you know what the primitive ancestor of bees looked like? A bee! They haven't change much in appearance, but originally bees were only individual creatures. They did not live in those societies we call hives. But as they have evolved over time, they've joined together and have formed what evolutionary scientists are now calling *super-organisms* because, though comprised of individuals, they seem to act together as a single entity, the same way our cells learned to get along 3 billion years ago.

In recent years, humans, a species that has had to remain social in order to care for our young during their unusually extended period of adolescence, have taken a great leap toward becoming a super organism with our invention of the Internet. Now each individual has the ability to access the sum of human understanding rather quickly. And we all know that technology evolves at a much faster rate than biology, so within a few years we'll probably be tapping into this information with our own minds given the right technological prosthetics. This may scare some people who fear we'll lose our humanity, but, again, in my opinion humanity is already lost, it's only a matter of time. We will, as is the nature of life, evolve into something more complex. And, if things continue to work as they have since the clock was first wound up, our species, like the cells in our bodies, and less complex creatures like birds, bees, and ants, we too will become more unified, more at one with each other, and every individual will be able to instantly access the greatness of its entire culture, all its knowledge and experience.

So that's all there's really time for now. It's a deep and complicated subject. And though my eschatology is, ultimately, speculation, it is not merely speculative because it is based upon some evidence, rather than the shortsightedness of our own anthropocentric paradigm and false sense of self-importance. My eschatology takes the entire Universe and its workings into account. Moreover, I find great hope in my beliefs about the future and am only saddened because I cannot be certain if I

will be around for it. I imagine it will be a beautiful reality to be part of, and do hope I will be conscious enough to experience some of it. But what's really important, for me, is that I no longer see myself as a self-important individual who projects myself into the future through the continuation of my all important species, but rather as part of a process that is much more ancient and much greater than myself. If anything, our species is a midwife of the future, assisting creation itself in giving birth to something more beautiful and wonderful than any of us can imagine. For in the future, we will not lose our individuality, we will not become mindless automatons, but on the contrary, will become more aware, not only of who we are as individuals, but of our place in the Universe and of our connection to each other and all beings.