

The quest for answers in a brave new world

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In all actuality, You and I are nothing.

Our lives flicker on and off infinitely, insignificantly, so quickly that if the universe could blink it'd miss thousands of lives in the milliseconds it had its eyes closed. This truth is amazing, awe-inspiring, provocative, remarkably incomprehensible, and... utterly terrifying. That is, if you can even manage to wrap your head around it, which is just a few degrees shy of impossible. With the advent of new technology that will enable us to see farther into the cosmic labyrinth than ever before, we are beginning to be able to decipher more and more of the mysterious language of the universe. We are at the dawn of a new era, one where technological advancement is going to accelerate more than it has already.

With increased ability to manipulate natural processes for the better or for the worse, we have greater opportunity for discovery and to answer the questions we've been asking since humans learned to speak. This is the story of the questions we have that may never be answered, and the implications of finding answers to our existence in a world where questions are all we've ever known. I- Existential Conundrums Ultimately, everything scientists and philosophers alike have tried to puzzle out about our being here boils down to six questions: Who, What, When, Where, Why, and How. Universal in every language, the six question words are unimaginably vast domains in themselves, each contained within a few characters and single syllables of speech, yet they embody the curiosity, tenacity, and drive to achieve wisdom that makes all of us human. In attempting to find answers, there arise two separate schools of thought: science and religion, whose fundamental difference is that the latter believes all the answers already

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exist within our reach, while the former finds that all the knowledge we have gained through observation has only just scratched the surface of what could exist. In science, reality is subjective because it can only be defined as what one observes around them; in religious doctrine, a single reality is universal and bound by an ultimate principle or omnipotent deity (Encyclopedia Britannica).

Getting answers requires us to think beyond our reality and have the insight to see what lies beyond our own four dimensions, including time itself. II- Things that are Elusively Intangible The concept of Who we are as a species and as sentient beings is certainly a bone for contention between behaviorists and creationists among other religious people in particular. Behaviorists believe in the somewhat depressing although unfalteringly objective principle that all human behavior is governed by physical interactions in the brain alone, not some intangible entity we could call consciousness, or a soul.(Ellenberg, 121-125) Among anyone who believes in some form of divine creation, this is infuriatingly ludicrous, given that in most religious texts, humans were created out of love, or to be earthly representatives of a god. The notion that all thought and emotion is governed by some mundane physical reaction never bodes well with religious crowds.

We can't be spiritless bags of matter floating in the middle of nothing, can we? To the contrary, just because we can't " see" consciousness doesn't mean it doesn't exist. In the same way that an American suspect is innocent until proven guilty, a scientific idea or principle can exist in theory until it is proven nonexistent. So, the definition of " Who" we are could be based on <https://assignbuster.com/the-quest-for-answers-in-a-brave-new-world/>

psychology and genetics alone, or something much deeper, something uniquely us. III- Subatomic Universes Finding out What we are seems somewhat more straightforward on the surface. We have our own classification, homo sapiens, in the binomial taxonomic system, but even narrowed down from domain to kingdom to phyla to family, class, order, genus, and species (Encyclopedia Britannica), we don't really know what homo sapiens is.

Everything is matter, which is made up of chemical compounds and mixtures, which are made up of elements, which are made up of atoms, which are made up of neutrons, protons and electrons, which are made up of quarks and leptons and bosons (Science Clarified), which are made up of... what? On this unimaginably infinitesimal level, where approximately ten million atoms lined up shoulder to shoulder could fit into this millimeter long dash: – (Bryson, 134), there is no foreseeable end to what particles make up what particles. For all we know, there could be entire universes contained within these distances, so small as to remain invisible to our eyes. As for the matter these particles make up, everything-including us- came from the Big Bang. All elements besides helium and hydrogen were synthesized in the cores of past supernovae, so if you trace most of the atoms in your body back to their source, you would find that they were originally created by fusion inside stars (Moyer). As Carl Sagan put it, “ We are made of star stuff”.

IV- Too Much Nothing There is a man on a mountain who will live and die with our universe. On his mountain, there is an enormous boulder. Once every 100 years or so, a bird will come and peck at the boulder. When the boulder has been reduced to pebbles, a single day has passed for the man
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and for the universe. Give or take something like 6 hours, and every human who will ever live has already died. By imagining this, we can only begin to conceptualize just how old the universe is, considering that 13.

7 billion years have passed since the Big Bang (Mastin). We know nothing of the universe before the Big Bang, and therefore we can't truly date the universe or our existence in relation to it. Trying to imagine Where we exist and When we exist on the clock of the universe takes us from the unimaginably small scale of subatomic particles to the incomprehensibly vast scale of the cosmos. Depending on the verity of string theory, Where could tackle our universe in relation to the countless parallel universes surrounding it, or simply (read: slightly less mind bogglingly) earth in relation to our single universe. Some even speculate that there is an alternate universe that came from the Big Bang where time moves in the opposite direction, considering that the laws of physics don't restrict time to going forward (Walton).

All that's certain is that sometime in the faraway future, if plague or famine or environmental disaster or nuclear war hasn't killed us first, the moon will eventually slide out of its orbit, leaving our tides stagnant, and the sun will expand and die in a violent burst of energy, leaving the earth a charred and inhospitable wasteland (Frank). Someday, we will be gone, and the universe won't know the difference. V- Learning the Way to Walk We've all seen some variation of Rudolph Zallinger's "March of Progress" drawing. The original depicts fifteen of our evolutionary forebears, all lined up from left to right as if in a parade and showing how we came from a primitive and hunched apelike animal to the straight postured and lithe creatures we are today <https://assignbuster.com/the-quest-for-answers-in-a-brave-new-world/>

(Borys). It has been parodied and redone many times, and, as with all things related to the concept of natural selection and Darwinian Evolution, has been subject of much controversy.

That aside, the point is that it's the most straightforward yet complete depiction of How we came to be that there is. Of course, as we've seen so far, you can always dig deeper to find the hidden questions still unanswered. We can go farther back, before anything of the homo genus evolved, back to when Earth was a hellish cocktail of acids, oxygen, and sulfur, lifeless and inhospitable. To quote Bryson, " Everything that has ever lived, plant or animal, dates its beginnings from the same primordial twitch" (Bryson, 293). Sometimes called the Big Birth, it happened when some tiny bundle of chemicals fidgeted to life and, unlike anything that might have done so before, it halved itself and produced a twin, transferring a miniscule amount of DNA from one organism to the next.

It hasn't stopped since (Bryson, 294). The odds of this happening are less than minute, but nevertheless, Earth harbors life as a result. Scientists have tried to explain this by looking to multiverses. If there are, in fact, countless other parallel universes beyond ours, then the odds of life arising in some tiny alcoves in a tiny number of universes are almost certain. On this scale, significance would be insignificant.

VI- Wandering Without a Purpose Among all six questions, the act of wondering why we exist affects us the most. Depression stems from lack of a feeling of purpose, while the greatest inspiration comes when you find your own personal Why. Without need of knowing Why we are here, we wouldn't

have religion and society would lack many of the aspects of culture that are present today. Science, being confined to the observable, can tell us nothing before the Big Bang. Science can't tell us why we have consciousness, or why that first protozoan cell twitched to something that could just barely be called life. Religion and philosophy can to an extent.

They tell us that we are here for a reason, to represent a god on earth, or to love Him as He loved us (Religion Facts), or to fulfill some moral duty.

Certainly a large part of religion's appeal is that it gives us a purpose, and that's a part of why so many are inspired to immerse themselves in faith.

Maybe, if we are indeed created by a God, our ultimate purpose here is to discover why we exist. There is, it seems, no greater question, no question that would yield a more powerful and moving answer than Why. VII- The Evolution of Insignificance It seems, depressingly, that the more accurate our translations of the language of the universe become, the more we are shaken from atop our supposed earthly throne as the pinnacle of life. The complicated Ptolemaic model of the universe from around 150 BC used intricate orbits and epicycles to keep everything revolving around earth, but became antiquated and was replaced by the heliocentric (sun centered) Copernican model of the mid 16th century, knocking us from the center of everything and, inevitably, angering the Church (Peterson, 170).

Nevertheless, the great minds of the time accepted it and moved on, only to discover, in 1750, that the solar system was actually part of a larger disk of stars called the Milky Way, as proved by Thomas Wright (Peterson, 171). We knew of no other galaxies at the time, and therefore the center of the universe was moved to the galactic center of the Milky Way. Later, in <https://assignbuster.com/the-quest-for-answers-in-a-brave-new-world/>

Einstein's era, Edwin Hubble proved that there were millions of other galaxies, making the universe exponentially bigger than anybody had thought. On top of that, he found that the universe was expanding, making an actual center of the universe nonexistent (Petersen, 193). Alas, we were reduced to invisibility on the cosmic scale, the earth no more than a dust mote.

And with the effective theory of Darwinian evolution, which showed that even on earth we are only us by natural selection and chance, science and the Church, the dispute over our place in the cosmos has heated up considerably. But if there's no God there to hear us argue, our echoes are lost on deaf ears. VIII- The Coexistence of Theological and Astrophysical Constants While the logical framework of the scientific method is engineered more for questions of How, the theological belief of divine creation finds a Why when to science it remains elusive. In mathematical terms, a constant is defined as a value that never changes (Encyclopedia Britannica), such as the speed of light (299792458 meters per second) or Einstein's cosmological constant, a force he used in his equations to keep the universe static but that was later applied to describe the value of energy density in the vacuum of space (Peterson, 197-200). In more abstract terms, a constant could be something that holds everything together unwaveringly, something with an everlasting presence, a God. A world that is only 6000 years old and where natural selection is fantasy isn't the one we live in, but neither do we live in a place where nothing has a reason for being.

There are many things you can deny, but observation isn't one of them. The argument for and against the advancement of scientific knowledge based on <https://assignbuster.com/the-quest-for-answers-in-a-brave-new-world/>

the pretense of religious belief has and will continue to define cultural and technological progress worldwide. Too many times, we let prejudice hide us from fact on both sides of the spectrum although in actuality the verity of one discipline doesn't make the other wrong. Reality, as science has proven, is subjective. Those who see the world through the lenses of religion and science see two different pictures, but both images are real because your perception of reality is based on what you know and observe.

That's just general relativity (Peterson, 197-200). To loosely paraphrase one of Stephen Hawking's analogies, the goldfish who looks at the world through curved glass could, in theory, design its own laws of physics and nature according to the distorted view and, because what it observed is real from its perspective, the goldfish's reality has as much credibility as ours (Hawking, *The Grand Design*). Hawking's goldfish and our different glasses are analogous; the presence of one reality doesn't disprove the existence of the other. Coexistence is not only possible, it may be the only answer. IX- Ethics and the Justification of Ends and Means With rapid advancement in the fields of artificial intelligence, genetic and biomedical engineering, and robotics that make the definition of "human" less and less concrete, many wonder whether the pursuit of knowledge will ever go too far. Are there some things that we just aren't meant to know? It may not be long before the prospect of tampering with- even stopping- natural biological processes like death and aging becomes real, and it's then that we would face serious ethical dilemmas concerning the nature of life itself.

Does the end justify the means? Would the eradication of genetic disease be morally acceptable if to do so we used technology that would enable parents

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to create “ designer babies” by selecting what physical and mental genetic traits their child would inherit? Does it go against our ethical code to utilize forms of Artificial Intelligence that could have equal, if not greater, cognitive capacity than we do? Over the next decades we are inevitably going to see a philosophical revolution as our morals and values conform to keep up with the advancements of this highly technological age. As greater and greater power to influence nature comes within our reach, we have to ask: Will we have the foresight and the wisdom to not let our intelligence be our downfall? X- The Language of the Universe With the 1990 launch of the Hubble Space telescope, we achieved a great feat of engineering despite continuous delays, miscalculations, and even an initial disaster with the Challenger spacecraft. Now approaching its 25th year in orbit around the Earth, the Hubble’s unrivaled capacity to see farther and deeper into the cosmos has brought back thousands of stunning pictures that have enabled us to gain a better understanding of just how vast the universe really is (NASA). In equivalent, the Hubble has given us words, chapters, and entire books written in the strange language of the universe, just waiting to be deciphered. Maybe we were never designed to read them, or maybe we were created with the ultimate goal to do just that.

Little by little, we are beginning to understand it better and better, and maybe someday, by asking the right questions, we may learn the ultimate truths. Works Cited Borys, Andrew.” About the Banner”. Last Updated 2014. Accessed December 2014. [http://www.](http://www.anthropologyinpractice.com/p/banner.html)

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