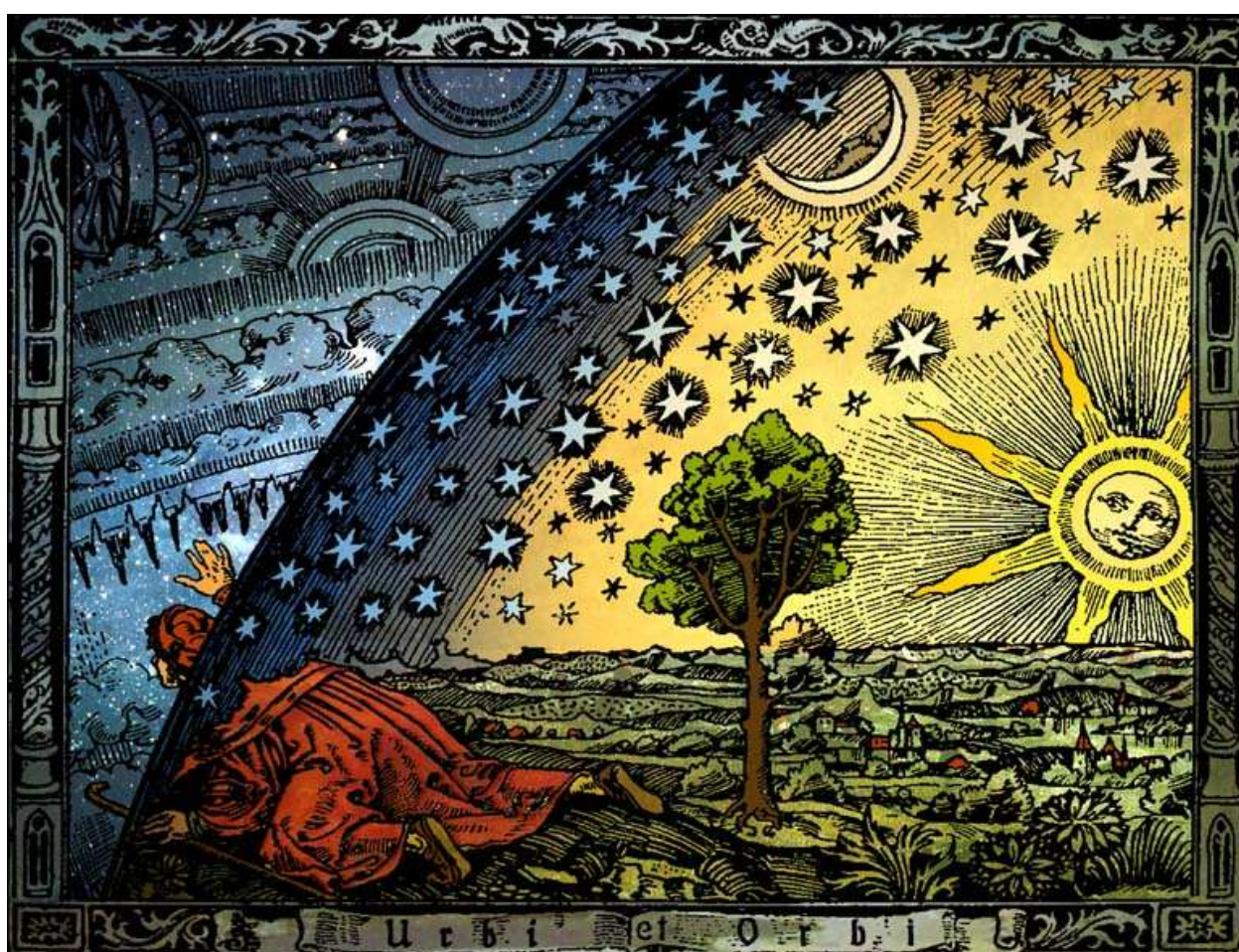


Firmament

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*Flammarion woodcut,
with a human looking beyond the firmament,
in Flammarion, Camille (1888). L'atmosphère: météorologie populaire. pp. 163.
<http://gallica.bnf.fr/ark:/12148/bpt6k408619m>*

is young. With only 1% of the entire age of the Universe, has just recently arrived in the cosmic arena. inherited all the knowledge of the entire being as soon as its formation was complete.

In fact, is not the entire being. The entire being is a diffuse thing, with all its constituents working together as one being - evolution brought them to this point.

All constituents are pretty much the same, with the same goal: existence. However, from time to time, one appears with a kind of mutation that allows for a slight curiosity and individuality. That is the case of .

The universe is the playground, the world-arena of the entire being, allowing to feel the firmament and wonder if there is something beyond all the information already known. For example, often wonders why the spherical structures have a flat cut through its middle. The accepted view is that those cuts are simply part of the structures, with nothing relevant to it; therefore they are too insignificant and a waste of attention.

Carlos is a member of a group of mammals that call themselves humans. Humans evolved in a process that started by only storing information genetically, which still happens and allows the offspring to have almost the same information as their parents; then the growth of a brain in reptiles was copied by the mammals, and allowed for more information to be stored; after several millennia, information started to be shared orally; a few more millennia later, books appeared; and a few centuries later, information was being stored in a virtual world. Interestingly enough, some humans are now developing ways to store information in living bacteria, which turns the information storage into a cycle that is now going back to possibly storing an increasing amount of information back to biological codes.

A very curious fact about humans - and about all complex life on Earth - is that they are composed of tiny beings, which they call bacteria, all working together for and unaware of the entire being (human). In fact, one of the most

intelligent humans in biological circles once said that consciousness and free will is a simple illusion to make sure that the ego of humans does not realize that they are just hosts for bacteria.

Humans live on a tiny planet, that they call Earth, which orbits an insignificant star, on a typical Galaxy. Besides being very limited in space, humans are also very limited in time. Humans just arrived in the cosmic arena. If the entire age of the Universe could be compressed into one Earth year, then humans showed up at the last hour of the last day; Carlos appeared on the stage within the last second, and he won't last more than that.

Nevertheless, considering their limitations, this species is already able to understand a lot about the universe. Human curiosity allowed them to understand that they live on a round planet, which orbits a star, which in turn orbits the center of a galaxy, in an immense Universe. If we compare this human knowledge with the perception of an ant (who looks straight forward, thinks its entire universe - surface of the Earth - is flat, and has no clue about space outside Earth), then human knowledge is amazingly vast.

Carlos has always been fascinated by this information. He learned all this, not genetically, but in schools, books, and regular conversations. Carlos often looks at the firmament and wonders about the possible information that humans don't yet know. More specifically, he often critically approaches the subject, not understanding why humans show such high levels of chauvinism.

Humans' egocentric views are not just about what they know, and how they feel superior to every other being on Earth - in fact, humans assumed themselves as the last stage of evolution, and the pinnacle of the entire Creation -, but this human sentiment extends to everything they don't know. For example, when thinking about other beings in the Universe, humans often imagine beings exactly like them, physically, psychologically, in terms of senses, attitudes, desires, behaviors, feelings, language, understandings, etc. Humans completely ignore all the differences about life on Earth, assuming that only humans matter. For instance, the fact that ants chemically communicate by using pheromones, or the fact that many animals detect vibrations, or the fact that many beings can look at the universe and see it in a completely different way due to utilizing different wavelengths, or the fact that many species have a

lifetime of their members much longer or much shorter than humans (example: a fly would think of humans as immortal beings) or even the possibility of existence of other senses not yet known to humans, is all completely ignored by humans when trying to imagine their interactions with extraterrestrial beings.

A famous human philosopher once said that "if a lion could talk, we would not understand him", because lions perceive the world in ways quite alien to humans; lions possess drives and senses that are not shared by humans. In fact, similar comparisons can be seen in human history: when the Australian Aborigines could not understand the meaning of certain European words, it was not a question of learning a language, but the fact that the meaning of the concept was alien to the Australian cultures. Thus, with extraterrestrial cultures, these differences will surely be accentuated. However, humans seldom think about these factors and often imagine aliens as a mirror of Western cultures.

Carlos does not understand this psychological geocentrism. It makes no sense for humans to be the measure for every life in the universe. Humans wrongly assume that "aliens are us".

Carlos often wonders about what type of life can exist outside Earth. He tends to think that when we find extraterrestrial life, we probably will not even recognize it as life. A case in point is that humans have determined that only 4% of all the matter in the Universe is the same type of matter that humans are made of. Besides 73% of "dark energy", 23% of the universe is made of something that humans conventionally call "dark matter". If the Universe is mainly made of that unknown matter, then there is a bigger chance that life out there will be made of dark matter. If those beings exist, then they would see galaxies, not the way we see them - a flat disk with a dark matter halo -, but completely the opposite - spherical structures with a flat cut through its middle. In fact, if Carlos had to write about beings made of dark matter, he probably would choose to leave their name blank - instead of a name, there would be a space, because we, humans, cannot directly see that unknown type of matter.

∞ is a curious being. ∞ likes the universe a lot. However, ∞ is not so much fascinated with the exterior, but is completely mesmerized by what it learned about its interior.

With the knowledge cells that were just incorporated into it, ∞ learned that an entire ecosystem is living inside ∞ . Amazingly, an incredible amount of tiny creatures - let's call them, bacteria - are living inside the "body" of ∞ .

∞ is dumbfounded. How can such tiny creatures exist? ∞ is pretty sure that, whatever they are, those creatures have no intelligence to perceive that their entire universe is just the insides of ∞ .

Nevertheless, and just for fun, ∞ starts imagining what those bacteria would be like. Maybe some bacteria would imagine the area to be the entire universe. In fact, it may be nothing more than just one of ∞ 's "organs". The bacteria would "look" at the firmament and see planets, galaxies, and imagine other bacteria like them very far away from them, when in fact, their entire universe is nothing more than a tiny space inside ∞ . Suddenly, ∞ realizes that the bacteria are such tiny creatures that they would think their universe is very close to being flat, when nothing could be further from the truth. ∞ is impressed with its thoughts.

∞ , as usual, is upset with ∞ . ∞ spends incredible amounts of time in its simulations. For ∞ , it doesn't feel that way; in fact, it feels like time flies when it plays with its simulations.

∞ have fun watching how the universes that it creates, develop. ∞ always put the universes running faster than the real-time, so ∞ is able to study and analyze them. With this current universe, for instance, the tiny speck of dust inside ∞ that humans call Earth, appeared and will disappear very quickly in ∞ 's simulation.

This time, ∞ is mostly upset because this new universe is utterly uninteresting. Although ∞ had very high hopes for this universe, as ∞

