Author: Mikael Mannonen

Universe

Preface

When watching starry sky at the night, numerous twinkling stars and that enormity, what the heavenly cover offers for everyone to see, one surely convince himself how small people are compared to the huge or probably infinite size of the universe. But, althouhg the universe is enormous big space, is the universe or cosmos really infinite? And what means that universe would be infinite? And, on the other hand, what means if universe would be finite?

As a good starting point many of us probably assume that if we had a spaceship, which is able to travel in space forever and is also able to keep its direction so that it would fly straight line though the space, the spaceship would be able to move forever in some direction (of course we need to suppose, that it won't crash with some planet or something). People who think this way may also think, that the space *must* be infinite, because if it's not infinite, the spaceship cannot move forever in some direction but the travel will be prevented one way or another. But this is not necessarily the case: The alternative to the infinite space need not to be limited (notice I said *limited*, not *finite*) like the video game fields are, for example in figure 1. Finite space need not to be aviary or aquarium, but the universe can be both unlimited and finite (someone would say *borderless* or *without boundaries* or *without edges* instead of *unlimited*, but let's use words unlimited / limited in this text). If the space is finite, a spaceship moving forever straight in some direction will eventually arrive to its starting point just like an aircraft flying straight around the Earth. Consequently, a single choice between infinite and finite is not enough to define the universe, but the universe also needs to be unlimited or limited. These two choices are the foundation to solve the structure of the universe as I will demonstrate in this text. If mankind wants to know, where they are living and what they are, mankind needs to know right ansvers to these two choices.

Figure 1. A view from Star Wars Battlefront II video game.

But what is a straight line? Question is important, because the spaceship needs to travel along a straight line to find out whether the space is infinite or finite. In a real life, straight line is a rope hanging with a weight. In mathematics a staight line is defined as a shortest possible route between two points. In physics it is usually defined - although not always, at least not in optics nor relativity theory - that light moves through a straight line. But light itself is defined in physics so that it will always travel a voyage between two points through a shortest possible route. A spaceship probably keeps its direction like light, but the shortest possible route is not necessarily a straight line! In order to keep the shortest possible route and the straight line equal in space, the material in space needs to be equally spread everywhere, i.e. instead of planets, stars and galaxies, there should be only gas. Let's suppose hypotethically that space contains only equally spread gas so our space ship can really travel straight line without crashing anything.

These two choices, infinite / finite and unlimited / limited, give four choices as the basis of the structure of the universe. Part of them can easily be treated as impossible choices, but not all of them. Let's introduce ourselves with each of the four alternatives:

Limited and Finite Universe

Someone would call this *fringe and finite* universe. This alternative means that the universe and therefore also space (I'll explain the difference later in this text) would be like a closed room. Nothing is able to penetrate those walls which encloses the universe; the borders of space are restrictive and imprisoning same way than are the fields of today's popular video games. Space would be like an aviary or aquarium, which has some shape, volume and lifetime. I bet this kind of model of the universe would be unrealistic and repulsive by many of the readers. But most importantly, none of the scientific observations or any physical theory would suggest this kind of space or universe existing.

To find *limited and finite* universe cannot be true we could consider light and First Law of Thermodynamics (First Law of Thermodynamics is a physical theory ie. human invention. It was invented by *James Prescott Joule* in 1843 A.D. It is not an observation, but it is proved to be true on Earth by many observations. Of course, nothing proves it is true *everywhere* in the space, but let's hope this is the case.) The First Law of Thermodynamics states that

energy can change from one form to another, for example heat energy to kinetic energy, but its total amount doesn't change. And light is electromagnetic radiation, a form of energy, which travels along as photons. In order to fulfill the First Law of Thermodynamics in the universe, photons need to stay inside the universe. If universe would be *limited and finite* its' borders should have mirrors which reflects photons back into universe. If this would be the case, the light coming from numerous stars in the space would reflect endless times from those mirrors and we couldn't get any sensible view from the starry sky visible in the night.

Another, more obvious argument against *limited and finite* universe is the gravity moving dust, moons, planets, stars and galaxies, all the celestial bodies in the space. Gravity is the force which steers the Earth to revolve around the Sun, keeps the Earth as a solid planet and also keeps you staying on the surface of Earth instead of you to float into space. This gravity won't stop celestial bodies to fly against the mirror on the border of the universe and break that mirror. Then, what would stop photons to escape from universe when even celestial bodies or our spaceship exit from there?

Limited and Infinite Universe

Previous alternative would certainly be problematic as a universe, because the contents of the universe must remain inside the universe. The universe is everything which exists. No part of the universe, even as tiny as a photon, cannot exit from universe, and outside of the universe is nothing, which could enter into universe. If either of those would happen, that would mean the universe is bigger than we thought: everything we thought the universe contains, that would be only a part of the universe.

One way to solve how to keep the contents inside and include everything imaginable into the universe is to state, that the universe is *infinite*. When the universe is infinite also space would be infinite, and that makes enclosing space inside mirrors impossible, because an infinite space cannot fit into any container! If space is infinite, our spaceship could travel forever into the same direction without ever returning back to the starting point. However, this kind of universe would still be *limited*, because the four dimensions of space, namely three spatial dimensions and one time dimension, don't have any interconnection with each other. For example, dimensions of space could have interconnection with each other by being curved in a way, which makes our straight line travelling spaceship to return back to starting point somewhere in the future, in which case universe would be *unlimited*.

Limited and infinite universe model is the basis of the worldview of current cosmology and international scientific community. Someone might point out that this statement is not true, because our understanding of the universe is based on *expanding universe model* introduced by *Aleksandr Friedmann* in 1922 A.D. Expanding universe models are characterized by an idea the universe has started by a *Big Bang*: there are four Friedmann models (today we probably have even more models, but except my own model, I don't know any model of the universe, which does not include Big Bang) and all those suggest the universe has born in a Big Bang abot 14 billion years ago. The original model of Friemann suggest that the universe has born in a Big Bang, then it expands to some finite size and finally starts to shrink in the future. Three other models also suggest the universe has born in a Big Bang, but they will expand indefinitely, bigger and bigger.

I need to admit that the original Friedmann model is *finite*, but all Big Bang models are *limited*, because only three spatial dimensions have interconnection with each other and time dimension does not. Unlimited universe is not possible, if any of those dimensions is not 'closed'. All Friedmann models have four dimensional universe: they have three spatial dimensions, let's say *length*, *width* and *height* and fourth separate dimension *time*, which represents the radius of the four dimensional sphere. Our space ship or celestial bodies as well as light stay inside Friedmann universe by moving on the surface of four dimensional sphere.

This is an analog to ordinary three dimensional sphere, like the Earth or a football: the surface of the sphere is two dimensional, closed surface, but bespite of its two dimensionality the surface can exist only in a three dimensional space. We all know that the map of a globe can be drawn only on a sphere, not on a paper sheet, if we don't accept distortions. The three dimensional geometry, the space we are living, can exist only in a four dimensional geometry in order to have an interconnection between three dimensions.

Furthermore, Friedmann models must be *limited* for a reason the Big Bang is an absolute limit or boundary in those models. While in the original Friedmann model it would be possible that spaceship travels a straight line and returns back to the starting point, there are not enough time to do that before the universe collapses (according to *Stephen W. Hawking* the spaceship needs to travel faster than the speed of light, which is impossible). The other three Friedmann models don't collapse, because instead of shrinking in the future they will expand indefinitely and their materia will become more and more rare: in this case a straight traveling spaceship would newer return back

to the starting point because expanding space makes its journey ever longer.

Scientist have found that *limited* and *infinite* universe model would be comfortable for them, because if the universe is infinite, they don't need to determine beforehand, what ever the universe may contain and what not: when we get new, unexpected observations about the universe, we can just conclude that infinite universe can contain everything! And we don't need to change the model of the universe to respect new observations – for example, that the universe would be finite. Instead, we just add complexity into the old model. Now, when scientist have so good telescopes that they can recognise galaxies further away than 14 billion light years, which is beyond the Big Bang boundary, they have a real challenge to explain it...

Unlimited and Finite Universe

Another way to ensure nothing can escape outside the universe is the *finite* universe, but to get this working the universe also needs to be *unlimited*. Previously mentioned original Friedmann universe model is commonly considered as finite and borderless, but I classified it into the alternative *limited* and *infinite*. Obviously any Friedmann model cannot be *unlimited* and *finite*.

In this text I will show that the unlimited and finite universe has six dimensions (actually it has seven dimensions, but only six dimensions have practical usage). The mass of the universe is equally spread across the space (of course not perfectly equally, there are celestial bodies in empty space, galaxies etc, but big picture is equally spread materia everywhere in space). Unlimited and finite universe is not born in the Big Bang – there is no such a thing like Big Bang. It doesn't collapse or expand indefinitely. It is perpetual motion machine forever. The dimensions of space have an interconnection so that each dimension affect to each other: this is precisely what is meant by the *unlimited* in this text. The limitlessness of the universe combined with the finitude of the universe makes possible the universe's ability to renew and transform.

Because of the interconnection of dimensions, our spaceship or whatever, which travels all the time to the same direction, eventually returs to its starting point (or would do that, if the universe would allow enough time for that, but that is impossible). The return to the starting point doesn't happen because of gravity, but the geometry of space forces the spaceship to arrive to its starting point. And, ironically, it is the gravity which creates the geometry to the space, as defined in Einstein's general theory of relativity. The model of the *unlimited and finite* universe follows Einstein's Special and General Relativity with certain exceptions.

Unlimited and Infinite Universe

There is one more alternative, namely that the universe is both unlimited – dimensions have interconnection – and infinite – so our spaceship traveling to the straight line never returns back. But this is logically impossible: if dimensions have interconnection, then straight line traveling spaceship is forced to return to the starting point. The spaceship either returns back to starting point or then not, but it cannot do both.

Anyways, someone may suggest, that dimensions having an interconnection does not need to be a closed circle, but it appears somehow else. However, the undersigend has no idea of any alternative theory for connecting dimensions.

Does the Universe expand?

As already stated, the universe is expanding according to the common understanding. All major structures i.e. galaxies and group of galaxies, all matter is spreading out over an ever-widening area in the space. However, condensation also occurs locally, for example in regions inside galaxies, where dust is concentrating into new solar systems, but the big picture is expansion. How has this expansion been measured or how has this conclusion been reached?

The closest galaxy with our own galaxy Milky Way, is the Andromedas and it is located about two million light years away. The light we see coming from Andromedas galaxy today, has travelled two million years here. It is quite clear that these distances haven't been measured by any measuring tape, but it is also impossible to use any kind of radar: at least theoretically be measured with radar, the radar signal needed to be sent from the Earth to the Andromedas four million years ago so that we could receive the echo signal in our lifetime. Even angle measurement, familiar from land surveying, cannot be used to measure astronomical distances. These distances can be maeasured only by indirect methods and estimates given by them are only indicative.

Instead, we can measure (or we *think* we can measure) with reasonable accuracy whether some distant light-emitting object, like a star or galaxy, is approaching or receding us: cosmologists talk about the *redshift* of stars based on the Doppler effect, which is observed to be the bigger the further away the star is from us. Cosmologists think the redshift is a proof of the universe expanding, but I think that it is a proof that the universe has more dimensions than the three spatial dimensions and time dimension we can observe. The redshift was first observed by *Edvin Powell Hubble* in the 1920s and since then the redshift has been the key observation we need to take account in any attempt to model the universe. So far the general consensus has been the redshift is caused by Doppler effect and that everything is receding each other in the space, but I have an alternative theory.

So redshift is all about that the spectrum of light coming from a distant star has transformed towards the red end of the spectral scale i.e. the wavelength of the light is longer than ecpected (red light is the longest wavelenth human eye can see whereas blue light is the shortest, therefore the name *redshift*). The reader may want to ask how the scientist know what kind of light some distant star or galaxy emit? Well, there's no way to know it, but we know what kind of light our own Sun emits and we have an assumption that other stars are similar than ours... The wavelenth elongation could be explained by the Doppler effect i.e. the star is moving away from observer, but I suggest that any electromagnetic radiation – all kinds of photons, including light – very slowly loses its energy during travel and that explains wavelength elongation. The problem we have here is, that if the wavelength elongates so also the frequency lowers, the light is losing the energy it carries. According to the first law of thermodynamics, the energy can change its form, but the total amount of energy cannot change, so where goes the energy the light is losing? We could think, that the photons of light spontaneously decay, that they would emit very small energy quanta as a function of time and these energy quanta scatters as thermal radiation into space. However, the theory of electromagnetic radiation does not know any spontaneous decay of photons. Besides, if photons would spontaneously decay more several photons and these still more, the only thing we could see in the starry sky would be noise familiar with old tube televisions, and that is not the reality.

When the frequency of light lowers very slowly as a function of time, the energy what photons loses does not stay in the space causing noise, but it goes into those two additional dimensions in the universe: this is my explanation for the redshift. This also defines the difference between words *universe* and *space* in this text: the universe contains all six (or rather seven) dimensions and the space or more precisely time-space has only four dimensions we can observe, namely width, length, height and time. Those two (actually three) additional dimensions, that we cannot perceive, let's call them *afterlife*. If the universe includes *afterlife*, there are no need for an expanding universe model or the Big Bang theory and the lifetime of the universe is not limited.

Why the light behaves so strangely?

There are also another observation than redshift which support an idea, that the universe contains more dimensions we can perceive i.e. the universe contains *afterlife*. Light is wave motion and in theory light behaves just like water waves in the surface of water (in reality water has internal friction the light doesn't have and this changes the wave patterns of the water somewhat). In the Figure 2 we can see how wave motion behaves, when it needs to go through a narrow gap. When the width of the gap is same than the wavelength, the wave motion spreads into beautiful circular waves in the back side of the gap(for example, if one uses red light with wavelength of 700nm, the width of the gap needs to be 0,0007 millimeters wide. Don't use white light in these experiments because the white light is a mixture of different wavelengths). However, light is not a continuum like water, but light consists of separate particles called photons, that know nothing of each other. Let's assume we are in a dark room and we have a light source and we can weaken the light of the light source to an extreme minimum, so that only one photon at a time – which can be sent by the investigator by pressing a button of the test equipment – will be sent to the gap, how that photon 'decides', should it go straight to the point B in the Figure 2, turn to the point A or maybe to go point C anyway? We don't know how the photon makes its decision, but if the green line in the Figure 2 represents photographic film and we send lots of photons through the gap, the film slowly develops the same regular exposure pattern as would be created instantly by the strong light: the area in point B is the most exposed and when going to the sides A or C, the exposure decreases smoothly as shown by the red line in Figure 2.

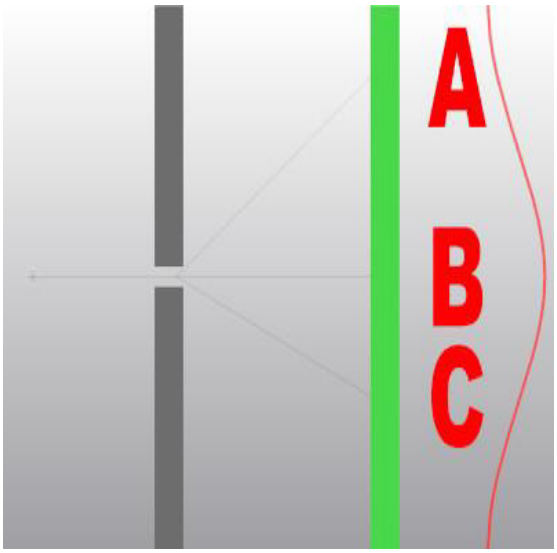

Figure 2: Diffraction of light. The light source is in the left of the picture and the red curve describes the exposure of light on green photographic film.

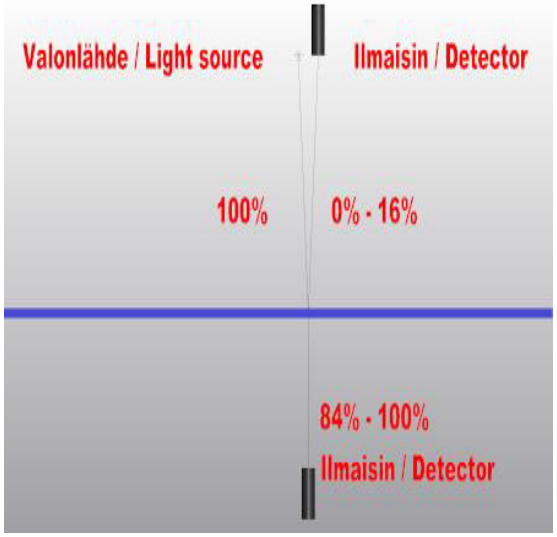

Figure 3: how does a single photon know whether to reflect or pass through blue glass?

The reader may think that choosing the route the photon travels is just like casting dice. But it cannot be explained by probability mathematics, and the next example shall convince the most sceptical reader. As is well known, glass lets light through but also reflects light. Even when the light falls perpendicularly on the surface of any light-transmitting material, only a portion of incoming light goes inside the material and another portion reflects back: this is called partial reflection. Similarly, when the the light goes out of light-transmitting material, a portion of light reflect back into material and another portion goes out. Let's look at the situation in Figure 3: depending of the thickness of the blue glass plate, 100% of the light may penetrate the glass panel and at least – depending on the composition of the glass and the incoming angle of the light – 84% of the light will penetrate the glass panel. What the heck, I just wrote 'only a portion of incoming light goes inside the material and another portion reflects back' and now I'm saying that all the light can penetrate the glass! Yes, that's true, but previously I was talking about a single surface like a calm lake surface, but I wasn't talking about two surfaces (front and back side) like the glass panel in Figure 3. These are completely different cases! Furthermore, if second glass panel is added below the existing glass panel in Figure 3, the partial reflection on the first surface will change again. So does this all mean, that a single photon needs to pluge through all the layers of glass and look for the last possible surface, before it can 'decide' to reflect or not on the first surface? And additionally take account, how many other photons are already gone in the same path and what kind of 'decision' they did? The ansver is yes, or then there is some unknown which directs photons onto the right paths, and that is not casting dice anymore. We don't know how the photon does its 'decision'. But it is obvious that partial reflection needs a *complex, space-aware system* in the background to steer it and we humans are unable to perceive that system. This kind of system can exist only in the afterlife.

Problems in the quantum level

"Quantum" in physics refers to the minimum dose or discrete unit of a particular physical property, such as energy or charge. Photons are quanta of the light and phonons are quanta of the matter. However, no quantum can be a particle, but all quanta represent wave motion. Here I mention quantum to emphasize, that now I'm talking about things in a sub-atomic level.

When researching the universe or actually the space, cosmologists, physicists and especially theoretical physicists use particle accelerators to qualify their ideas. Those test results given by the particle accelarators or actually particle colliders have been very important when creating the current, commonly accepted universe model, which has four dimensions and belongs to the alternative *limited and infinite*. But do the conclusions from particle experiments mean, that the universe needs to be *limited and infinite*? Or are the conclusions from particle experiments excluding the alternative *unlimited and finite* universe?

In order to get an answer to the previous questions, we need to shortly introduce ourselves into particle tests and Quantum Field Theory, which is the basis for interpreting the results of particle experiments. The particles to be collided need to be electric charges, because they will be accelerated into high speeds by using an electric or electromagnetic field. The particle is collided with another particle or medium, for example liquid hydrogen. In the Figure 4 we can see the result of some experiment: a computer generated model showing the trajectories of

particles created by the collision. By studying these trajectories scientists try to understand the sructure of the universe. The reader may disagree, but those particle experiments do not tell anything whether the universe is infinite or finite in ny opinion. Only conclusions drawn from experiments do that: scientists have created the Standard Model of particle physics based on Quantum Field Theory and experiments. The Standard Model tries to model the universe using six quarks, six leptons and four interactions. Unfortunately, the Standard Model is incomplete, because it cannot explain gravitation or predict the mass of a particle, it has discrepancies with cosmologic observations and has a group of another unsolved problems. There is also the suspicious fact that the fundamental principles of the Standard Model, called symmetry rules, are not based on any observations, but they are proposals based on nothing: that would of course be acceptable, if the Standard Model could explain the reality, but so far it cannot.

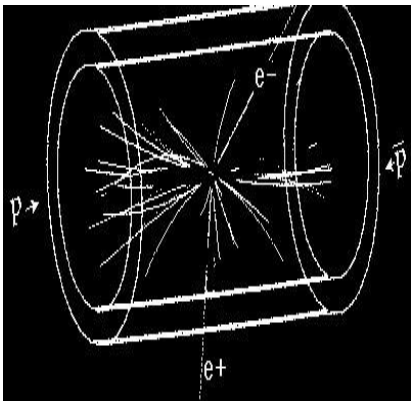

Figure 4: proton-antiproton collision.

It is possible that the conclusions drawn from particle experiments are wrong. Maybe the assumptions of Quantum Field Theory are incorrect or Quantum Field Theory itself is incorrect. Quantum Field Theory is based on operators and symmetry rules that describe the physical laws associated with the event under study. If this description is made incorrectly, for example by assuming the universe to be four-dimensional instead of six-dimensional (seven-dimensional), it is quite clear that the Standard Model thus constructed cannot correspond to the structure of the real universe. Of course I'm assuming here, that the universe really has six (seven) dimensions, which may not be the case. We are equally lost if we assume that the universe is self-replicating in structure, but in reality it is not.

Now we can begin to envision a universe that is stable and self-renewing, and falls into the alternative of an *unlimited and finite* universe.

Preliminary Draft

If I were God, I would design the universe to be able to renew itself (This is probably how many people think about God. But it is as irrelevant to ask who created the universe as to ask what is outside the universe. If God exists, he must be either a part of the universe or the entire universe, and certainly not the creator of the universe). A prerequisite for a self-renewing universe is that it is perpetual motion: The universe must recycle its own building blocks and convert the energy it consumes back into a usable form. The universe must have a closed metabolism. If the universe is not perpetual motion, it is just an undevelopable, i.e. a repeating, decaying atomistic monolith. It is generally believed, and I also believe, that perpetual motion is not possible in the space we know, but let us assume that the entire universe – the space and the afterlife together – is capable of forming a perpetual motion machine.

The building blocks in space (but not in afterlife) are various elementary particles, some of which are matter particles and others are force particles. But since this text is a preliminary draft, we will now focus only on larger entities consisting of elementary particles: such are, for example, elements such as hydrogen, gold, iron and carbon. In addition to elements, or rather mainly, I am talking about the building blocks of elements, namely neutrons and protons, which are made up of matter particles, as well as a matter particle called an electron and a force particle called a photon. Matter particles are massive particles and force particles are massless; matter particles cannot reach the speed of light and force particles cannot move slower than the speed of light.

Elements heavier than hydrogen and electromagnetic radiation, including visible light, in space are produced by the nuclear reactions of stars as a result of fusion reactions, as is well known. In a fusion reaction, lighter elements combine to become heavier ones, for example, two hydrogen atoms combine to form one helium atom. However, no corresponding nuclear fission reactions have been found in space (radioactive isotopes of elements do decay in nuclear fission reactions everywhere in space, but this is not enough to form a closed metabolism in the universe), in which the heavier new elements produced in the fusion reaction would be returned to their original elements – or to the element, because it is presumably enough that all matter in space, i.e. all elements produced in stars, are converted into the lightest element, hydrogen.

For resource recycling in the universe to work, we must be able to convert all the elements back into hydrogen, but how could this happen? I propose resorting to the afterlife, that is, to the two dimensions of the universe that we cannot observe, and agreeing that the heavier elements convert back into hydrogen in the afterlife, outside our field of observation. However, there is a problem here: although a photon can lose its energy to the afterlife as a

function of time, matter cannot. If atoms spontaneously just disappeared from space in the same way that radioactive elements decay, we would certainly have noticed the phenomenon. After all, we also notice how rust destroys the iron objects we have painstakingly built! Instead of atoms disappearing all over space on their own time, the atoms' departure to the afterlife must occur in a way that is consistent with observations made from space. Thus, the so-called black holes that astronomers have discovered in space are ideal sinks where atoms end their journey through space and pass on to the afterlife. This solves the problem of atom destruction, but the problem of hydrogen reappearing in space also needs to be solved.

I really like the idea that hydrogen atoms are just being shot at a steady, random rate all over space. Although it is somewhat plausible that not whole atoms are being shot into space, but only protons, neutrons and electrons or perhaps even smaller elementary particles. But since a neutron alone decays radioactively into a proton and other particles within about 15 minutes, some kind of coupling is needed for the formation of a hydrogen atomic nucleus, for example a proton appearing nearby. The particles appearing in space must be small, also because they must not cause significant changes to the material that may be around it, whose velocity difference to the appearing particle may be large but not more than cosmic velocities (less than some 350 km/s). A single proton is already an ordinary hydrogen atom, which lacks an electron, but if it meets a neutron, they can combine to form another isotope of hydrogen, deuterium. Gravity then gathers these hydrogen atoms over time into gas clouds, which later condense into stars. In stars, fusion reactions produce helium from hydrogen and then heavier elements.

So far, I have made one conclusion about the relationship between space and the afterlife: photons interact with the afterlife because they slowly transfer their energy there. Later, we will find that the interaction with matter, or matter particles, is much more diverse. Now I will generalize this conclusion to apply to all elementary particles, so that force particles interact with the afterlife only to the extent of transferring energy that is observed as a redshift, but matter particles never have a redshift or a blueshift (however, a matter particle has a very diverse interaction with the afterlife, as we will find. A matter particle is completely dependent on the afterlife). This could also be said another way, that elementary particles traveling at the speed of light interact with the afterlife in the form of a redshift, but elementary particles traveling slower than the speed of light do not (although, for example, a photon traveling at the speed of light travels slower than the speed of light everywhere except in a vacuum, but let's not let such small facts interfere with drawing big lines. An explanation for such small problems will be found if the theory as a whole works).

Dimensions of the Universe

I have claimed that the universe is six-dimensional (or more accurately, seven-dimensional). Now it is time to justify this claim. It all starts with the assumption that the space in which we live is, as a whole, homogeneous (space looks the same no matter from where you look at it) and isotropic (space looks the same no matter which direction you look at it). Furthermore, the assumption is that space is unlimited and finite. The assumptions made require the curvature of space as a spherical system, which is one of the *Riemann Manifolds*.

Since people are usually unable to even visualize a four-dimensional space-time (I myself can barely concretely visualize a space-time, for example, I often miss the bus), let alone a multidimensional one. I will begin my presentation with a one-dimensional space, which is like an electric wire: an electric current can only flow forward or backward in it, and it doesn't know anything else, no matter how winding the wire is. Or does it know? I can't say about electricity, but if space is winding – regardless of the number of dimensions – then it cannot be an isotropic space. On the other hand, a linear one-dimensional space would certainly be isotropic, but it cannot be unlimited. But if the curvature of space is constant, i.e. there is only one uniform bend encompassing the entire space, it can maintain its isotropicity, because the geometric conditions are then the same at every point in the space. Space must therefore curve in order for a 'straight-traveling spaceship to return to its starting point', but the amount and direction of the curvature must be the same throughout space. Thus, a circle is the basic structure of the universe, requiring a two-dimensional universe for a one-dimensional space, as depicted in Figure 5.

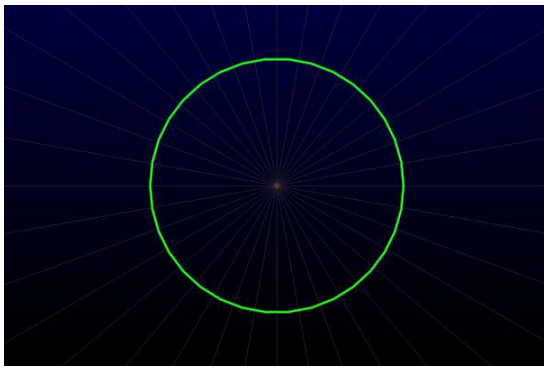

Figure 5: One-dimensional space depicted as a green ring in a two-dimensional universe. The gray lines are 'threads' along which energy can travel in the universe.

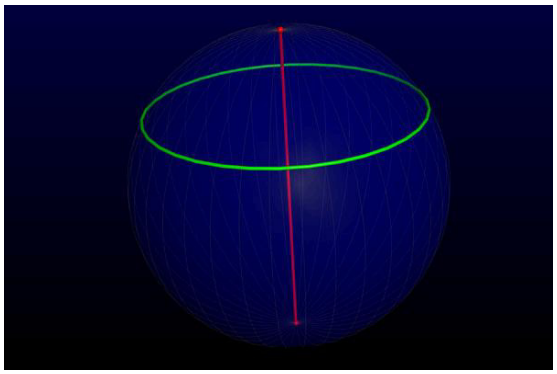

Figure 6: Perspective view of one-dimensional space (green ring) in a three-dimensional universe. Energy travels through the green ring along gray 'threads' on a blue spherical surface. From the 'north pole', energy moves to the 'south pole' along the red line.

But one 'extra' dimension is not enough, because the universe must have a closed metabolism: as shown in Figure 5, a circle cuts a plane surface into two separate parts, and if energy – or material – flows in the universe from, say, outside the circle through the space of the circle to inside the circle, then in order to create perpetual motion, the energy must travel some way back outside the circle. We could of course think that the energy travels inside the circle at some point along the arc of the circle and returns outside at some other point along the arc, or the movement of the energy is a back-and-forth pulsating motion. None of these solutions are valid if we want space to be isotropic, homogeneous, and stable, as I want it to be. Therefore, a second 'extra' dimension is needed, as shown in Figure 6: this way energy – which I will later call antematter when I'm talking about the afterlife – can move along the surface of a three-dimensional sphere, let's say from the 'south pole' to the 'north pole', and from there return to the south pole along a straight line.

This solution may raise some questions for the reader: Those gray threads in Figures 5 and 6 are located in the afterlife, but why should there be energy? Why would energy travel specifically along the threads? What makes the energy leave the surface of the sphere? Energy as we know it – or matter, because according to Einstein's theory of relativity they are the same thing – can only be on the surface of the sphere, because we can't get anywhere from our space either, and our space-time is the surface of the sphere according to the theory of relativity. However, energy leaves the surface of the sphere at the 'north pole', i.e. in places where there is sufficient compression, and in our space, the so-called black holes are like this: from the black hole, the matter of space moves to the afterlife into those gray threads. In the afterlife, everything is a kind of energy that I call antematter. There is no material in the afterlife. The afterlife – or what we can know about the afterlife, we can't find out the technical details – is just logic, and the gray threads are my attempt to describe that logic. That logic doesn't allow antematter to flow freely in the afterlife as the seawater in the oceans. And there must be antematter in the afterlife, because space cannot exist forever without an external energy source that constantly supplies fuel – hydrogen – as the raw material for the stars of space.

Thus, a one-dimensional space needs a three-dimensional universe and a three-dimensional space needs a five-dimensional universe. And when time is added to the dimensions, our universe has a total of six (seven) dimensions, but I will tell you more about time later. The shape of unlimited and finite space is therefore always, regardless of the number of dimensions, a spherical surface: a two-dimensional sphere is called a circle, a three-dimensional sphere is called a sphere, and the four-dimensional spherical surface of a three-dimensional space could be called a 'four-dimensional sphere'. Furthermore, our four-dimensional space-time according to Einstein's theory of relativity needs a 'five-dimensional sphere' on the surface of which it could exist. However, six dimensions are not enough for the existing universe, just as three dimensions are not enough for the universe in Figure 6: each needs one more dimension, even though this dimension no longer serves any purpose. That is why I have written about a six-dimensional universe in this text and corrected the universe to be seven-dimensional in brackets. But one more dimension is needed to make the universe unlimited and finite.

We will never be able to accelerate any object to the speed of light in our four-dimensional space-time, as this would require an infinite amount of energy, according to the formula below, based on Albert Einstein's theory of relativity:

$$m = \frac{m_0}{\sqrt{1 - \frac{v^2}{c^2}}} \qquad [1]$$

When the speed v is equal to the speed of light c, formula (1) gives an object with a rest mass of m_0 an infinite mass. An infinite amount of energy would be needed to move an infinitely large mass. But the theory of relativity only encompasses three-dimensional space and time. Could the situation change if we could somehow utilize the two dimensions of the afterlife? Accelerating a spaceship to the speed of light in space, for example from

Earth towards the nearest star, Proxima Centauri, is not possible according to Einstein's theory of relativity, but could a spaceship be accelerated to the speed of light in the afterlife? The spaceship would therefore have to be accelerated 'in place' – whatever that is, and it will be explained later in this text – to the speed of light, or in vernacular terms, the spaceship would have to perform a vanishing act.

For example, the universe in Figure 6 would expand to infinity if it were not enclosed in a circle, and to achieve this, one more, fourth, dimension is needed.

By the way, in the Bible's creation account, days are dimensions of the universe. That is why Lord God rested on the seventh day, because the seventh dimension does not have practical use: "Thus the heavens and the earth, and all the host of them, were finished. And on the seventh day God ended His work which He had done, and He rested on the seventh day from all His work which He had done. Then God blessed the seventh day and sanctified it, because in it He rested from all His work which God had created and made." (Book of Genesis, chapter 2).

Space-time, or more simply, space, comprises four dimensions that we can perceive. But what are the two dimensions of the afterlife? We already know that they are also closed circles so that the metabolism of the universe can function. We can know more about them. For this, I set a condition that the model of the universe outlined in this text requires the existence of God. In different religions, God is given different names, such as Lord, Almighty or Allah, if we stick to monotheistic religions only. Polytheism is excluded in this text, because God must be omnipotent. Polytheism means chaos, that God does not exist. By God, I mean a being that has its own will and power to rule its realm, in this case space. For God to be omnipotent, it must be able to control every point in space (I did not write every point in the universe, although that could also be true. But the afterlife is an organic part of God, while space is God's game board). Since every point in our space is on the four-dimensional surface of a five-dimensional sphere, God is able to operate on every point in space without hindrance, because God himself is at least five-dimensional.

For the control of space to be meaningful, something important for the entire universe must happen in space. Controlling a mechanical clockwork that operates in a completely predictable manner is the same as a controlling ruler who has no subjects to be controlled: that would be God’s solitude. So space needs beings who have their own will and the power to choose whether to carry out God’s will or oppose it, i.e. beings like God. Or, better said, space needs beings who have the power to choose how to carry out God’s will, because God’s will is fulfilled by whatever requires it. The fulfillment of God’s will is achieved by building something in space – and also especially in the afterlife – that is essential to the functioning of the Universe. Such a lifeline could be the implementation of the universe's metabolism and the safeguarding of development. I have already written above about a different kind of universe's metabolism, about how hydrogen atoms appear from the afterlife into space, how they change into heavier elements in the stars of space, and how the heavier elements eventually return to the afterlife through black holes. In the afterlife, they would be broken down back into hydrogen atoms and the cycle would begin again. This metabolism would probably be completely mechanical and, above all, slow, and no one in space would have to do anything for it. The task of beings like the God in space – humans – is something completely different, which will be explained later in this text.

But energy must be transferred through the space i.e. through the surface of that five-dimensional sphere, in other ways than just as elements, and in a completely bigger scale. Energy can only pass through the surface of the sphere at points where the transfer of energy cannot be observed from space – otherwise the phenomenon would have already been observed in one way or another. Thus, the transfer of energy is only possible in points where there is a material particle in the space, or the location on the five-dimensional sphere is somewhere else than in the absolute present, i.e. in the past or future (if the absolute present sounds strange, don't worry, I'll tell you more about time soon). The transfer of energy through space occurs in such a way that some particle in space, for example an electron, acts as a bridge, i.e. as a mediator of energy through space. On the other hand, as the random appearance of hydrogen atoms in space shows, energy may transfer through space without a single particle in space, as long as the necessary particle is first created. This solution imposes certain conditions. Gravity and other physical interactions as we know them and as Einstein's general theory of relativity suggests can only exist in space, but not in the afterlife: otherwise we would be able to move and see into the afterlife dimensions. Furthermore, energy cannot take on material form in the afterlife, but must remain in a light-like state. Light-likeness means that energy must move in the afterlife at the speed of light and without rest mass, just like photons. Or else energy is absolutely stationary in the afterlife, when it cannot move through the space. In terms of motion, the afterlife is an on-off world, just like photons are in our space.

The above-described arrangement gives God the tools he needs, on the one hand, to observe material in the space based on where energy passes through current-time-space or where photons give up their energy to the afterlife, and on the other hand, to control space by forcing the passage of energy even when energy would not otherwise pass through space. For complete – or rather almost complete – control of space, God would still need a way to

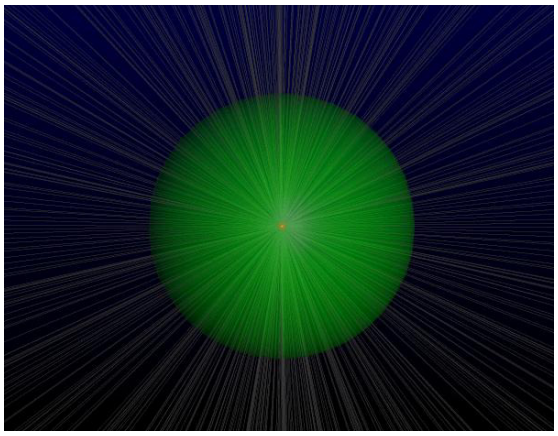

Figure 7: In the perspective view, a two-dimensional space in a three-dimensional universe. The gray rays represent threads.

prevent the passage of energy when energy passes through present-time-space without forcing it, i.e. when there is a suitable particle at that point in space. God does not necessarily have such a means, as it would mean the disappearance of electric charge from present-time-space, but something comparable to it is possible: God is able to control the location and time of massive particles and exchange a massive particle for another similar one. As Figure 7 tries to show, the dimensions of the afterlife do not behave in the same way as the dimensions of space: in the afterlife, the dimensions do not allow energy to move parallel to the four-dimensional surface of a five-dimensional sphere, but only perpendicularly through the surface of the five-dimensional sphere. On the other hand, on the surface of a five-dimensional sphere i.e. in space-time, material and also energy in forms we can observe can only move parallel to the surface, never intersecting the surface. The two dimensions of the afterlife are filled with threads along which energy – the antematter – can move, but nothing can be transferred from one thread to the other. A thread is like an electric wire along which energy can be sent and received: along the threads God has a two-way connection to every point in space (the thread is here merely an image, and not a real structure: in the afterlife, energy is like light, and as we know, light always travels between two points along the most direct path, which hopefully suffices to explain the forced paths of energy in the afterlife).

The reader may wonder how massless energy from the afterlife could, after reaching space, turn into, say, an electron? I have no other answer to this question than that it could be possible. On the other hand, the idea of why we do not see the afterlife, if light or some similar energy comes from there, is easily explained: as a rule, nothing comes into space from the afterlife, unless it replaces something leaving space. And in order for us to be able to see the afterlife, photons would have to travel from the afterlife to space, but since travel in the afterlife is only possible along threads, a photon coming from the afterlife would travel perpendicularly through a four-dimensional surface to the inside or outside of a five-dimensional sphere. Then it cannot be observed in space except for the absolutely shortest moment that exists in the universe, at a single point in space (and of course, by looking that specific point at the right time from elsewhere, does not make possible to see a photon coming from the afterlife!). It should be noted that all the building blocks of space, i.e. all elementary particles, both force and material particles, are transferred from space to the afterlife and back from the afterlife to space in the metabolism of the universe, but some elementary particles and larger entities built from elementary particles, for example atoms, can only exist in space. The reason for this is already mentioned above that in the afterlife everything moves at the speed of light, so there cannot be objects moving slower than the speed of light there – unless the object is absolutely still. There are also other reasons, but it is not worth opening them here.

The functioning of the universe and the existence of material in space must therefore be based on the passage of energy through space, so that God would have the opportunity to control space. But why in this picture do beings with their own will and freedom of choice need to exist? And what should these beings do in space in order for the universe to come true? I wrote above that the universe is a generator of variation capable of transformation, and not some decayin monolith: the space of the universe must develop in much the same way as the biosphere or topography of our home planet Tellus. Space changes evolutionary, just as the development of life also occurs through evolution, but the evolution of space does not occur in the way like the organisms of Tellus – humans, animals and plants – evolve, mating with each other. In the evolution of space, the physical laws of space are changing, and since the laws of physics must be exactly the same throughout the space, the evolution of space cannot be guided by local conditions, as happens in the evolution of living creatures. Therefore, only beings who are capable of figuring out the structure of the universe for themselves and who therefore have a built-in premonition of God's will, i.e. are God-like, affect on the evolution of space. Such beings, who have both knowledge of the local conditions of their environment and of God's will, can organize their own lives in such a way that it has an impact on the development of the universe to the extent of their own contribution. But in order for that contribution to be taken into account, the civilization of the being in question must develop to perfection, as will be explained later in this text (in this text, civilization refers to the population of a god-like being born of life that spontaneously originates on a random planet, from its first individual to the last, extinct individual).

What is time?

Perhaps the most challenging of the six dimensions of the universe, time, has yet to be addressed. The universe must implement Einstein's general theory of relativity, and there time is conceived as parallel to the dimensions of

length, width, and height (the reader should familiarize himself with the General Theory of Relativity before reading any further this text). This means that time is confined to the four-dimensional surface of a five-dimensional sphere as one of the four spherical coordinates on the sphere, the other three spherical coordinates representing length, width, and height, and none of these four spherical coordinates representing the radius of the sphere. In other words, just as a spaceship traveling perpendicularly through space would eventually return to its starting point, even when stationary (actually, it is not stationary with time coordinate, but travels along the time to stay in the present-time-space) it would return to its past after some – long – period of time. But returning to the past cannot mean that 'history repeats itself'! We can think that returning back in time does not repeat history if there is no history in the time-space or history covers only a limited part of the past, and the older part of the past is permanently lost, becomes 'rewritten'. The model of the universe described in this text contains a *history* of the present moment of space. But is this idea of *history* really possible? Does the universe need a memory, or is time just an ever-dynamically advancing present without the need to remember its past? The past determines the present, but can it be possible that the future also determines the present? Does a spaceship disappear from space when its time is full? This text provides a more or less exhaustive answer to these questions.

It is clear that we cannot assume that matter has some 'due date' after which it simply disappears from space, because we would have observed this phenomenon in our everyday lives. Instead, matter disappears from space in black holes, as discussed above. But since I assume that time is a finite dimension on the surface of a five-dimensional sphere, *history* must leave space before its time is full, that is, before the *present* has traveled too long on the surface of the five-dimensional sphere. This journey is only a fraction of the circumference of the sphere, and on the surface of the five-dimensional sphere there are several *absolute present* moments, which are like meridians on a globe and theyrevolve around the sphere, let's say counterclockwise: let's call the entity related to one *absolute present* a *driftwood group*. A driftwood group has a history and its maximum dimension is such that different driftwood groups cannot come into contact with each other. In principle, there could be only one driftwood group in the entire universe, as we will see later, but that would be a waste of a five-dimensional sphere and would cause spherical geometry problems anyway, so let's just assume that there are multiple driftwood groups. Going back in time or moving forward in time to the future cannot be possible, because Einstein's theory of relativity does not allow it, and especially not the structure of the universe that I am currently presenting.

Relative Time

People who have been to school know that according to Einstein's theory of relativity, time is a relative concept that runs slower the faster the clock in question moves in space or the stronger the gravitational field in which the clock is located. Time running at different speeds must be taken into account in a very concrete way, for example, in GPS satellite positioning, when clocks run at different rates in satellites and on the surface of the earth. This relativity applies to *everything* in space, including elementary particles, not just man-made clocks! But what if the clock is absolutely still in some distant empty region of outer space? The scientific community considers this question to be heretical, because according to the prevailing understanding, there is nothing absolute in space, which is complete nonsense: the idea of the relativity of everything in space can be shown to be contradictory and false with a simple mental game, as shown here. This text follows Einstein's special and general theory of relativity with certain exceptions, one of which is that it is possible to be absolutely stationary in space. Thus, time for a clock that is absolutely stationary in empty space passes at the fastest possible rate, which is constant throughout space and the same as *absolute time*, which will be introduced later.

So an elementary particle appears from the afterlife onto the four-dimensional surface of a five-dimensional sphere, the space-time of Einstein's theory of relativity. The location of the appearance of an individual particle in space is random, but the time is such that it fits into the *absolute present* moment of some *driftwood group*. Once a particle has appeared in space, its time calculation begins immediately and is unique to that particle according to Einstein's theory of relativity. The reason why an elementary particle can only exist in space for a finite period of time can be found in the theory of relativity. According to it, each particle has a time dimension, which is the difference between the particle's *relative time* and *absolute time*: the length of the time dimension of a massive particle must not exceed the maximum time that space can offer it. Later in this text, however, we will notice that a particle does not actually need any time dimension, but only the present moment: the particle's time dimension is only an abstraction needed for relativity calculations. Even later, we discover that a particle *may* actually need a time dimension, but not because of the theory of relativity, but to record its history as it *relates to someone's soul*.

Absolute Time

The relative time presented above is the time that we know in our everyday lives and that we measure with clocks and from the movements of celestial bodies. However, the question now arises that if relative time only exists in

space, i.e. in a part of the universe, how can the universe function at all? If particles come from the afterlife and later return there, even in large entities through black holes, there must be processes in the beyond that break all particles into antematter, build protons, neutrons and electrons from the antematter and evenly distribute the particles back into space. Such processes require a continuum, a step-by-step progression, i.e. time. Absolute time is another exception to Einstein's theory of relativity.

So, in addition to relative time, the universe needs another time, *absolute time*. It is one of the six (seven) dimensions of the universe. When an elementary particle appears from the afterlife onto the four-dimensional surface of a five-dimensional sphere, it moves all the time on the surface of the sphere at the pace of absolute time in the absolute present moment of some driftwood group. Let us think of absolute time as the clock frequency of a computer: the universe is like a computer program that continues to execute on the computer at the pace of the computer's clock frequency. Therefore, absolute time does not need its own dimension in the universe, but uses the same dimension as relative time, which is just one dimension among the six other dimensions of the universe (in reality, the time dimension of relative time is used by absolute time and relative time does not need its own dimension. This confusing contradiction is due to the fact that I am approaching the solution through Einstein's theory of relativity and at some point the reader has to figure out how to turn things upside down). We cannot measure absolute time, because the only time we can measure in space is relative time. Nevertheless, everything that happens in the afterlife and in space happens at the pace of absolute time.

Absolute time is dominant over relative time. As is known, according to Einstein's theory of relativity, both time and length are relative concepts in space: for example, the passage of relative time stops completely in an object that travels at the speed of light, and in an object that is stationary, relative time progresses most rapidly. Since a photon moves at the speed of light, the decrease in the photon's frequency described above thus occurs as a function of absolute time. The redshift of starlight therefore does not follow the theory of relativity! Instead, an object that is stationary in space or moves at a speed slower than the speed of light experiences relative time, and the faster the time goes the slower the object moves. If the object is *absolutely* stationary, *relative time* progresses most rapidly and as quickly as the *absolute time*.

Absolute Present

Absolute time, although it can be thought of as a computer clock frequency, it is however difficult to implement (unlike relative time, which turns out to be a fairly simple solution). So difficult that I am not even sure if it can be made to work satisfactorily in spherical geometry. The difficulty is concretized in the concept of the *absolute present*: absolute time must proceed on the surface of a five-dimensional sphere, which means that time revolves around the sphere. We notice that the speed of time cannot be constant on the surface of the sphere, but is maximal at the equator and zero at the poles. This problem is probably the greatest weakness of my universe model. The possible solution to this problem is to divide the surface of the sphere into different regions, driftwood groups, within which the speed of time is sufficiently constant. The driftwood groups wander on the surface of the sphere at the rate of time.

Inside each wandering driftwood group there is a continuous line (actually it is a continuous three-dimensional space, but since we humans cannot imagine a five-dimensional sphere, I will limit my thinking to a three-dimensional sphere, in which case a line is used instead of volume), a front advancing with time: the absolute present. We, the inhabitants of Tellus, and the entire space we observe belong to one such absolute present of the driftwood group. The most distant galaxies, whose light has set off towards us billions of years ago, also belong to the same absolute present with us. We notice that space is very empty: the space we observe, the absolute present of one driftwood group, is already in itself primarily empty space with celestial bodies here and there, but the rest of the space of the driftwood group, which does not belong to the present, is just far more empty! Or is it? What if the past is recorded there? No, but time is an ever-dynamically advancing present, which does not record its past in space, but in the beyond to the extent necessary, which will be explained later (however, the past of space is 'reserved' insofar as what is stored in the afterlife representing that point in space-time). Nevertheless, the other area of space, which does not belong to any absolute present, does not stay empty: all the internal communication of the afterlife that takes place between the inner and the outer of the five-dimensional sphere takes place there.

The reader may want to ask, what exactly makes time pass, i.e. the absolute present moment rotate on the surface of the sphere? Unfortunately, this text does not provide an answer to that. I have thought about various solutions to this, but none have seemed reasonable enough for me to attempt to write them here.

Interactions and the Evolution of the Universe

The reader has probably been disturbed by my cheerful mixing of Einstein's relative worldview with my own absolute worldview. How could the universe be both absolute and relative at the same time? Space is such a seemingly relative part of an absolute universe, and its relativity is in accordance with Einstein's general theory of relativity, with minor exceptions. If the universe were entirely relative, there could be no absolute part in it. But since the universe is entirely absolute, it can contain a part from within which everything appears relative.

In Einstein's theory of relativity, there is no such thing as an 'absolutely stationary object', but objects can only be compared to other objects: thus any object can be considered stationary, for example the sun is often thought to be stationary and the planets to orbit the sun – although in reality the sun also moves in space. Instead, when this text speaks of an 'absolutely stationary object in space', it really means an object that is absolutely stationary in space-time, of course excluding the time dimension. But even if the object is absolutely stationary, it must still move on the four-dimensional surface of a five-dimensional sphere with respect to the time dimension. And if we humans were to observe the object in question in space, we would find it to be in constant, changing motion in the same way that a mirror image on the surface of wavy water is in constant motion; However, this movement would not be due to the gravity of celestial bodies or the like, but the object would have to move itself in order to remain absolutely still on the surface of a five-dimensional sphere in terms of longitude, latitude, and altitude coordinates.

According to the theory of relativity, time passes at the same rate between two different objects only if they are stationary relative to each other. However, if one of the objects is moving, like the spaceship in the picture,

time passes more slowly in a moving object than in a stationary one. But what if the moving spaceship in the picture happens to be moving exactly the same direction and at such a speed that it is absolutely stationary in space? Then time should pass at its fastest pace precisely in the spaceship and not on the planet from which it set off! Yes, but it is worth noting that if the spaceship turns around and returns to the planet, the end result is that the spaceship's clock is behind the planet's clock, meaning that time as a whole passed faster on the planet.

So far, I have focused mainly on the dimensions of the universe, but a working model of the universe also requires a comprehensive explanation of the forces acting in the universe and the materia in the universe. Of the four known interactions acting in the universe, I will only discuss gravity and the electromagnetic interaction, because we can only observe their effects in our everyday lives. I will not discuss other known interactions, the strong and weak interactions. The strong and weak interactions operate at the atomic level, and we have no direct observations of their existence, so it is even possible that these forces do not exist. However, I do not want to take a position for or against the strong and weak interactions, but will leave these forces unexamined. With the accuracy with which I present my own model of the universe here, I can achieve a complete presentation even without the strong and weak interactions.

The material in the space, from which people and their environment and all celestial bodies are built, consists of elements such as gold, iron or carbon, and these in turn consist of protons, neutrons and electrons. In this text, I call the matter of space as *material*. According to Einstein's theory of relativity, *material* always moves slower than the speed of light and according to me *material* comes from the afterlife and returns back to the *afterlife*. Instead, in the afterlife, matter must move at the speed of light or be absolutely still, and in this case I call the matter *antematter*. Instead of the words material or antematter, you can just as well use the word energy, because they are the same thing. With the difference that material always has a structure and antematter most often does not have a structure, but with the word energy I do not take a position on whether it has a structure or not. In addition, the reader should know that this text's name *antematter* is in no way related to the *antimatter* conceived by physicists, a concept that does not exist in the universe at all according to this text!

Antimatter differs from matter in more ways than just its speed of movement: First, it has no rest mass, so it can move from place to place instantly at the speed of light and back again. Second, matter has a structure, or the order in which protons, neutrons, and electrons are arranged, but in principle, antimatter is a structureless 'raw material' from which any matter that is needed in space at any given time can be built. This is, of course, in contradiction with the elementary particle theory of the Standard model, because according to the Standard Model, the universe is built of 12 different types of elementary particles. But in order for 'anything' to be built from antimatter, there must be only one type of elementary particle in the afterlife, from which all other particles and larger structures are made (we will later see that it does not make sense to think of antimatter as consisting of particles). Instead, there may well be 12 different elementary particles in space, all of which are built from the only type of particle in the afterlife, antematter. On the other hand, antematter can also have structure in certain cases, but we will get to that later.

Gravitation and Electrical Interaction

As I have said above, space is the surface of a five-dimensional sphere in the universe, and the present moment of space is a 'longitude' moving on the surface of this sphere. In order to renew itself, the universe must constantly move antematter, or energy, through the surface of the sphere: only in this way can the perpetual motion machine remain in operation (there are also black holes in the space and their recycling of material, but that's different case). But how does antematter move through space? Would it happen that a single elementary particle of a single atom moves into the afterlife on the other side of the sphere and is replaced by another particle from the afterlife at the other side of the sphere? Or would the same particle always remain in space and act as a 'conductor' for the flow of energy? And is the direction of movement from the outside of the sphere to the inside, or vice versa, or perhaps in both directions? And why should this transfer of antematter through the sphere take place specifically in the absolute present and not in the past or future?

To get answers to the previous questions, we need to study interactions. I assume that all interactions in the universe have the same origin and I also assume – actually wrongly, but I am not trying to present a complete model of the universe, but only a sketch – that only gravitation and electromagnetic interaction exist in the universe. I also assume that the particle mediating the interactions in space is always a massless photon moving at the speed of light. The same origin for all interactions means that they are in fact one and the same interaction, which manifests itself in different ways, for which it is customary to use different names, such as gravitation or electromagnetic interaction. Let us call this one and the same interaction as *gravity*, since gravity i.e. gravitation realizes the interaction in the most simplified way.

So I argue that *gravity*, that familiar force of gravitation that keeps you on the surface of the earth and makes celestial bodies move in their orbits, is the only interaction in the universe and also includes electromagnetic interactions. Thus, *gravity* governs the universe both in space and in the afterlife. But just as gravitation and the electromagnetic force are different in their properties, gravity in space and gravity in the afterlife are also different things. In fact, gravity in the afterlife is the supporting force of the entire universe, of which gravitation and the electromagnetic force are applications. In this text, *gravitation* means *gravity in space*.

The electromagnetic force actually contains two forces, to be precise: an electric field and a magnetic field. However, in this context, the distinction between electric and magnetic fields can be ignored, as both require an electric charge to generate them, and it is sufficient for us to understand the mechanism by which electric charge is generated.

But let's start with gravitation and forget about electromagnetism for a moment. According to the generally accepted understanding, *objects with mass have an attractive property called gravitation*. Let's rewrite the previous sentence in a slightly different way: according to the generally accepted understanding, *material has an attractive property called gravitation*. However, we do not know what causes gravitation, but the scientific community assumes that it is a property caused by material. In this text, gravitation is not assumed to be a property caused by matter, but I propose that a center of gravitation can be created even in a vacuum! Of course, it must be added right after that that the center of gravitation almost always contains matter, which appears there from the afterlife when the center of gravitation is created. But in space-time there can also be material without gravitation or gravitation without material. Material only feels gravitation, but does not cause it. The initiator of gravity is the surface in the afterlife, immediately outside and inside the surface of the five-dimensional sphere, i.e. space-time, which makes the surface of the five-dimensional sphere three-layered: the innermost shell is the cause of gravity inside the sphere, the intermediate layer is space-time and the outermost shell is the regulator of gravity outside the sphere, as shown in Figure 8. Of these, the innermost shell and the outermost shell belong to the afterlife. When the *outermost gravity shell* switches the thread on to gravity at a single thread, gravity moves the antematter that is absolutely stationary in the thread to the speed of light to travel towards space. If the *innermost gravity shell* also simultaneously starts its own gravity at the same single thread, the antematter from this other side also moves towards space, and the antematter coming from opposite directions collide with each other in space and the course of both stops there, changing the antematter in space into material. Then the gravity shells switch off the gravities. A neutron or a similar massive and non-electric particle was born in space, but the particle in question does not yet have a gravitational field.

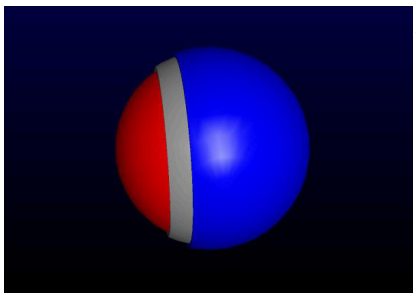

Figure 8: Origin of space interactions: The space interactions, gravity and electromagnetic force, are created in an inner gravitational shell (red shell) and an outer gravitational shell (blue shell), between which our spacetime (gray shell) lies. Each gravitational shell is capable of adjusting gravity individually for each thread.

Gravity is a force acting in the threads that constantly tends to move antematter from the outside of the five-dimensional sphere to the inside. That is why the inner and outer gravity shells are structured differently: The outer

gravity shell acts only as a regulator of the gravity acting in the threads, a kind of valve that lets antematter into space when needed. Instead, the inner gravity shell has to generate by itself the gravity it needs to move antematter from the inside of the sphere towards space.

The reader is probably wondering why gravitation and material need to be separated? Why can't we simply assume that gravity is a property caused by matter? The reason for this comes from Einstein's theory of relativity, which requires that material, which is the source of gravitation in relativity, must have a time dimension. In other words, material consists of massive particles and each of them has a time dimension, along the length of which there is a present moment common to all particles. This is how it is according to Einstein's theory of relativity, which only encompasses the four dimensions of space. Furthermore, in this text I assume that all material in space has an absolute present moment common to all matter. But since the universe is actually six-, or more correctly seven-dimensional, we do not need to imagine any time dimension for materialr, which is logically contradictory to the behavior of light and therefore impossible to realize. Instead, we can simply assume that gravitation or any other force effect is not a property caused by material: it is a creation of the gravity shells of the afterlife. This allows us to make it possible for different particles to pass time at different rates, as required by the theory of relativity, since the passage of time is measured by the frequency of occurrence of events. For example, if a particle emits a photon at certain intervals, i.e. at a certain frequency, gravity shells as massless photon initiators can slow down the sending frequency, causing the particle's time to pass more slowly, as required by the theory of relativity. This way we get rid of the cumbersome time dimension of matter, but we can preserve the absolute present moment.

If a particle has mass, like a neutron, it should naturally also have a gravitational field. To make a gravitational field possible, let's agreed that the mass of a massive particle is quantized, in other words, only masses of a certain magnitude are possible for a massive particle. After all, a gravitational field needs a massless intermediary particle in space: the scientific community talks about gravitons, but in this text I will call all intermediary particles photons. If gravity shells couple a gravitation to some strength that is not exactly the same magnitude as some massive particle, the excess forms a gravitational field. Or if gravity shells couple a gravitation to some strength that is smaller than the lightest possible massive particle, a mere gravitational field is formed into the space without matter. Gravitation spreads from the thread into space as a gravitational field at the surface of a five-dimensional sphere, i.e. the center of gravitation at that point in space sends massless particles, photons, into three-dimensional space around it (photons do not spread into the time dimension, as they can only exist in the absolute common present).

The center of gravitation creates a gravitational field by sending massless particles around it. There are two things involved in this: First, according to Einstein's general theory of relativity, the gravitational field bends the geometry of space, which also causes photons to change their direction of travel towards the center of gravitation. Photons are massless particles, which, among other things, act as the mediator particles of gravitation (in fact, gravitons are the mediator particles of gravitation, but in this text I consider all massless particles to be photons), and they cannot interact with each other, because otherwise the laws of optics and wave motion would be reversed. Thus, the only possibility that allows the path of a photon and therefore also visible light to bend in a vacuum, to deviate from a straight line, is that the threads piercing the surface of a five-dimensional sphere are denser in the vicinity of the center of gravitation than in areas that are far from the those; gravitation changes the geometry of space. Secondly, there is no point in creating a gravitational field or any other force field just to shape the geometry of space: that is why material feels gravity, even though it does not cause it. But how could 'feeling' be implemented in practice? Naturally, a photon must collide with, or be absorbed by, a massive particle, but what after that? When it comes to gravitation, a massive particle should change its course in the direction from which the photon arrived. However, the massive particle is trapped in the thread that maintains the particle's gravitational field, so in order to be able to move in the direction of the photon's arrival, the thread that maintains the gravitational field must change. In order for gravity shells to know which thread to turn gravitation off and which to turn on, they really need a redshift to transmit information!

Furthermore, it is worth mentioning that the Lorentz contraction of Einstein's theory of relativity can be implemented in such a way that particles moving in the same direction approach each other in the manner required by Lorentz contraction by gravitational shells: since a massive particle is trapped in a thread that maintains its gravitational field, the gravitational shell can guide the particles into the formation required by Lorentz contraction. However, I will not discuss this topic in more detail, but it is time to move on to the secrets of electromagnetism.

The creation and existence of an electric charge, i.e. a proton or an electron, in space is somewhat different from that of a neutron or a massive particle. An electric charge is created when energy, i.e. antematter, flows through space, i.e. through the surface of a five-

Because my own view of gravity differs so much from the generally accepted model of gravitation, I will list the features of my gravitational model:

- A center of gravitation can be created in a vacuum by humans. On the other hand, the

dimensional sphere, either from the outside to the inside or vice versa. Since the flow of energy through space always occurs at the speed of light, the electric charge created can only be of the magnitude of the elementary charge, i.e. $1.6021*10^{-19}$ Coulombs: the amount of energy flowing has no effect on the magnitude of the elementary charge. A positive electric charge is created when the outer gravity shell switches on gravity for the shortest possible moment in some thread, whereby antematter flows from the outside of the five-dimensional sphere through the surface to the inside of the sphere for that moment. Negative electric charge is created by the inner gravity shell. When only one gravity shell is active, no matter or gravitational field is created in space. The reason why an electric charge – unlike a particle – only exists for a moment in absolute time is due to the movement of the electric charge in space-time, especially in relation to time, but almost always also in relation to place: absolute time (from now on I will only talk about absolute and not relative time. If the change confuses the reader, it is worth reading the text again from here on) is one of the four dimensions of the surface of a five-dimensional sphere. Even if the charge were absolutely stationary in space, it must still remain in the present moment, which means continuous movement on the surface of the five-dimensional sphere. Therefore, the thread that maintains the charge must change all the time, i.e. gravity is connected to a single thread only for a moment. Instead, the particle in space simply moves with time.

But charges, such as protons and electrons, also have mass and matter. For example, to create a proton, both gravity shells need to be switched on in the same thread, in order to get matter into space to create the proton's material and gravitational field, as explained above. To create material, both gravitational shells connect the same thread with equal gravity for the shortest possible time. The gravitational field is created and maintained in the same way as an electric charge, but the gravity of the weaker of the gravity shells determines the magnitude of the gravitational field: to create an electric charge, one of the gravity shells connects a greater gravity to the thread than the other. The difference in the strength of the gravities connected by the gravity shells does not affect the magnitude of the electric charge, which is always an elementary charge. Instead, the magnitude of the difference in the strength of the gravities connected by the gravity shells is directly proportional to the magnitude of the energy flux passing through the surface of a five-dimensional sphere.

rest mass of an object can be removed, i.e. the object can be made massless. I will explain later how this is possible.

- The origins of gravity are in the afterlife, and each point in space has its own thread, shown in Figure 7, which has its own individual gravity strength without any effect on the strengths of neighboring threads.
- Gravity is divided into two components in each thread at the surface of a five-dimensional sphere: the internal and external components of the five-dimensional sphere. If the magnitude of the internal and external components of the sphere is the same and greater than zero, there is a center of gravitation and/or a massive particle at that point in space. If the magnitude of the internal and external components of the sphere is not the same, there is both an electric charge, the magnitude of which is the elementary charge, and a center of gravity and a massive particle corresponding to the weaker component.
- If there is not a massive particle present in the space, there is no electric charge.
- The mass of a massive particle is quantized: only certain strengths of gravity can form a particle in space, the excess gravity forms the center of gravitation.
- Gravity is always an attractive force: the internal and external gravitational components of a five-dimensional sphere tend to pull antematter through the surface of the sphere, i.e. space, to the opposite side of the sphere. The flow of antematter, i.e. energy, through space is therefore only possible when there is an electric charge in space at the point of the thread in question.

We still need to come up with an explanation for the fact that if antematter can only move at the speed of light or be absolutely still, how is it possible to adjust the strength of gravity steplessly – or even in multiple steps – in a single thread? How could the flow of antematter into space or just through the surface of a five-dimensional sphere into the afterlife be adjusted like the flow of water in a garden hose? The only possibility that comes to mind for this is the discreteness of the entire universe, where the absolute time of space progresses in steps many orders of magnitude longer than the time of the afterlife: if, for example, the shortest possible moment of time in space corresponds to, say, a million shortest possible moments of time in the afterlife, we get a million options for an 'almost stepless' scale for adjusting the flow of antematter in gravity shells.

Now it is time to find out in which direction energy moves through the surface of a five-dimensional sphere, inside or outside the sphere. As mentioned, except for black holes, the only way for energy to move through the surface of a sphere is through electric charges (there is also a third way, but it is very rare). As antematter, or energy, passes through the surface of a sphere, it possibly – but by no means always – acquires structure, in other words, it carries information about space with it and attaches to the inner gravity shell. At some point, this information must be destroyed, i.e. the antematter must be detached from gravity shell and returned to its unstructured 'raw material'. At the origin of the five-dimensional sphere of the universe, there is a singularity similar to that in space-time at each center of gravity, where gravity has a connection from four-dimensional space-time to the fifth dimension (we call these centers of gravity black holes). At the origin of the five-dimensional sphere, the five-dimensional threads of

the beyond have a connection to the sixth dimension, the 'north pole' of the six-dimensional sphere. The 'north pole' would be a good fit as a sink where the antematter eventually loses its structure and is distributed evenly across all strands. Thus, energy moves from the outside of the five-dimensional sphere to the inside, i.e. in the direction in which the positive electric charges – protons in practice – move the antematter. More structureless antematter comes outside the five-dimensional sphere through the 'south pole' to replace the energy that has passed through the surface of the sphere. Of course, energy also moves through the surface of the sphere in the opposite direction through negative charges, but the amount of that energy is a fraction of the energy transferred by positive charges, and the antematter transferred through negative charges never takes on a structural form.

This is how gravity and electromagnetic interaction are explained. In fact, I could hastily think of an explanation for the strong interaction as well, saying that it is unnecessary: the strong interaction holds the mutually repelling protons of the atomic nucleus together, but it is not needed if the gravitational shells do not simply move the protons further apart. However, I do not claim that, because I have not studied this enough. In any case, the weak interaction remains unexplained in this text.

The Evolution of the Universe

We have gained an understanding of how the universe renews itself, i.e. is perpetually moving. But in the universe – or more precisely, in space – evolution also occurs, the constants of nature change and thus the laws of nature are modified. The key factor in evolution is gravity, or more precisely, the density of the threads on the surface of a five-dimensional sphere: we have already established that near the center of gravitation the threads are more densely packed than in regions of space far from the centers of gravitation. It is easy to extend this rule to the fact that a total weakening of gravity causes the threas to move away from each other everywhere on the surface of a five-dimensional sphere, which is only possible if the radius of the sphere increases. Correspondingly, if gravity increases everywhere, the size of the sphere decreases. The change in the size of the sphere directly affects the magnitude of the gravitational constant and probably also the elementary charge in space (a change in the magnitude of the elementary charge requires that the speed of light, as a natural constant, also changes), which understandably has dramatic effects on the world in our space. But as a slow change, as evolution, the change of the world is inevitable, because the universe is a variable generator capable of transformation.

Based on the above text, God's position in the universe is quite obvious: God is the two gravity shells between which space exists. The gravity shells could be thought of as two hemispheres of God's brain, with the space between them as the connecting corpus callosum. It is precisely such an information-processing, thinking entity – God – that is needed, for example, to determine the common present, partial reflection (Figure 2), relative time, and Lorentz contraction. The reader may be greatly disturbed by the fact that I explain incomprehensible mysteries such as partial reflection by God's intervention, in other words, I do not tell what happens in partial reflection, but I enclose the phenomenon in a box called God. However, the procedure should not be any more disturbing than the statement of Richard Feynman, the creator of quantum electrodynamics, about partial reflection: "It delights me that in order to understand nature one has to resort to such strange rules and strange logic." The only thing that separates my thinking from Feynman's is Feynman's opinion that “There are no 'wheels and gears' behind this analysis of nature.” In my opinion, there are indeed 'wheels and gears' behind everything.

Cosmological Democracy

The structure of the universe forces development in space, to diversify different worlds. In order for development not to lead to a dead end or some other catastrophe, it must be coordinated. If God alone decided everything in his own sublime solitude, coordination would certainly be realized, but would it then still be development? Perhaps, but in such a universe a being like a human being, who is at least at the level of thought capable of displacing God, would be impossible (someone could of course ask why it would be impossible. Because this text assumes that there are no unnecessary – not to mention mutually contradictory – features in the structure of the universe). Thus, in the existing universe, development is realized as a cooperation between God and beings with their own will and freedom of choice – humans, and in order for development to be real, seeking boundaries, humans must be able to question God. And if questioning God is possible for humans, how much easier is it to question the social order? Or even just questioning another person, because questioning people is what questioning the social order is all about, after all? At this point I would like to point out that questioning is an absolute prerequisite for development, but questioning always contains the seed of conflict. Thus, among people, so that questioning does not lead to killing, people (actually citizens, but more on that here) must be legally equite to each other. Violence is not resorted to against another if the other is able to defend himself and people, with the exception of a small minority, do not want to live in a violent environment. Violence can only be eliminated from a community if there are no subordination relationships among the members of the community. This is also the will of God, because

subordination relationships among people do displace God.

But why would a *system of subjugation* displace God? God himself subjugates all living beings, herd animals live in a system of subjugation, and a lion subjugates an antelope when it kills it, and the previous examples do not displace God in any way, but if a person subjugates another person, why would that displace God? The explanation is partly based on the fact that a large group of beings with their own will and freedom of choice make more observations of their environment than a single being. In order for the observations of a large group to serve development, individuals must live independently based on their observations, and not in such a way that the individual always reports incomplete information to his superior, who then gives incomplete and self-serving instructions to his subordinate, according to which he should act instead of using his own reasoning. The explanation is partly based on the fact that God is the only being who knows the entire universe and is capable of processing all the information, and who is the necessary coordinator of development. God cannot be replaced by a hierarchy of persons, but a hierarchy of persons displaces God by preventing individuals from living independently and according to their own conscience. The conscience felt by an individual is God's connection to the individual, but it is within the individual's own decision-making power whether to listen to their conscience or condition their conscience to, for example, loyalty to their boss (a reader who may be in a leading position in their community may find this text irritating and confusing. Leadership is indeed needed, and the issue has been addressed here). Anyone who has voted for someone in an election due to community pressure and against their own will, or who has abstained because none of the candidates was worth voting for, understands the hierarchy of persons as a distortion of the election and thus the election result as an invalid criterion for the direction of development.

In cosmological democracy, beings with their own will and freedom of choice, that is, humans, are needed to cast their vote on whether time-space expands or contracts. Let us also remember that the transfer of energy through the surface of a five-dimensional sphere from the inside to the outside is still unexplained, although we already know that the transfer of energy in the other direction occurs through protons. Of course, energy flows through space through all the protons in the universe, but let us now assume that this energy is not yet enough to spin the perpetual motion machine of the universe, but more energy transfer is needed to produce *structured antematter*. Furthermore, this energy transfer must occur in the absolute present moment for a reason that will become clear to the reader in a moment. Let us combine these two things, voting and energy transfer.

Central Nervous System and Energy Transfer

Let's forget about creatures for now and talk only about organisms that have a *central nervous system*: animals and humans are such, but not plants. The central nervous system, which includes the brain, spinal cord and peripheral nervous system, is an electrically functioning circuit. However, electricity in the central nervous system is not the movement of electrons in a conductor, as in man-made circuits, but waves of electrical charge caused by positive sodium, potassium and calcium ions on the membrane of the nerve cell: these waves are called *action potentials*. They also occur in plants, which do not have a central nervous system, but the action potentials of plants transmit the signal at a maximum speed of 10 centimeters per second, while in animals and humans the transmission speed is of the order of 100 meters per second. When an action potential occurs in an animal or a human, a large number of ions transmit a signal along the axon of a nerve cell, which ends in another or, as a result of branching, in other nerve cells. However, the ions that carried the signal do not move to another neuron, but remain in the same neuron – or outside the neuron – and the signal continues its journey to the other neuron by a different mechanism. The other neuron then decides separately whether to send the signal further to other neurons or not, or perhaps to send more signals.

Now we are only interested in the above-mentioned ions and their positive charge (after all, these ions are atoms that are missing one or more electrons, but still have several electrons left. Thus, they carry both negative and positive electric charges, but there are one or more positive prorons than there are electrons). The electrons of an atom are located in a mixed, spinning swarm outside the atomic nucleus and can also move from one atom to another, but the protons and neutrons are located in dense packages in the atomic nucleus. It is easy for God to recognize such a dense package as, for example, a sodium atom. If a group of atoms of the right type are moving appropriately or are arranged in a coordinated manner inside a nerve cell, it would not be overwhelming for God to recognize that it is a nerve cell. And if a group of nerve cells forms a 'circuit board' that meets the necessary criteria, God will surely be able to recognize it as the developing brain of a human or animal fetus. (The assumptions about God's abilities above are sarcasm. Of course, God knows, understands, and controls absolutely everything in space-time.)

The brain is like a computer, but can the brain of an organism that is born as a result of cell division alone achieve consciousness, be alive and not brain-dead? Cell division builds the 'hardware of the computer', i.e. the brain, but

can it also 'create and install software', i.e. make the brain alive? The prerequisite for life in the brain is the electrical activity of the brain, i.e. the occurrence of action potentials. Or, more precisely, the prerequisite for life in the brain is action potentials that occur in a coordinated manner. Can such organized brain activity occur in a brain that is born as a result of cell division alone, or is something more needed? I personally argue that something more is needed: at some early stage of brain development, the brain must be 'switched on', i.e. made alive. In practice, this means that the electrical activity of the brain, if it already exists, must be made organized or just the organized electrical activity of the brain must be started. In other words, the brain already has the necessary structure to initiate the electrical activity that realizes consciousness, but it naturally requires action potentials to occur in the right order, which do not happen by themselves or by chance, but the origin of life requires external intervention in the electrical activity of the brain. God is this external interventionist: God has the ability to control the particles of space, so creating a suitable initial setting for life is unproblematic for Him.

Thus, God gives life to humans and animals, or let's say consciousness, because plants also live, although they have no consciousness. What does all this have to do with cosmological voting or the transfer of energy in the universe? Since God recognizes the brain and gives it consciousness, God is also able to recognize the molecules, atoms and finally the particles that form the consciousness of the organism in question, and of these particles with a positive electrical charge, or in practice protons, God can connect a particularly large gravity to the outer gravitational shell. From what was written earlier in this text, we know that a gravity that is even larger than usual connected to another gravitational shell has no observable effects on gravity or electrodynamics in space, but by connecting a particularly large gravity, a particularly large amount of energy is transferred through the five-dimensional sphere. Thus, the problem of transferring a sufficient amount of energy from the outer shell to the inner shell in the universe is solved.

Cosmological democracy is realized as energy flowing through the consciousness of beings with free will and freedom of choice; the decisions each of these beings make in their own lives are reflected in the energy flow that flows through the protons belonging to the consciousness of the being through the surface of the five-dimensional sphere. But what kind of brain activity would vote for space to expand and what would vote for space to contract? Since the purpose of the vote is to determine the general strength of gravity throughout the universe, if the votes in favor of space contraction win, gravity should increase, which presumably means that more energy is needed to maintain gravity (this assumption comes from Einstein's general theory of relativity, more precisely from the *cosmological constant of Einstein's equation*). Furthermore, when we agree that the energy needed by the gravitational shells that regulate gravity comes entirely from the energy that has passed through the brains of organisms with central nervous systems, we get a working setup for cosmological democracy. Such a setup could roughly mean that the more organisms with central nervous systems there are in space, the smaller it will shrink. Correspondingly, if the number of organisms decreases, space will expand.

However, cosmological democracy is not quite as simple as it is written above. The above proposal would give voters, i.e. beings with their own will and freedom of choice, the opportunity to consciously choose whether they want a larger or smaller space, simply by regulating their own and more primitive organisms' reproduction. The universe does not offer such a self-intentional possibility of *displacing* God (God cannot be displaced, but beings like God have the opportunity to *try to displace* God. A real possibility of displacing God would mean that God does not exist, but instead there would be an eternal power struggle between the leader and the subordinates, which would mean chaos). In cosmological democracy, voters do not know which option they voted for with their lives - but they inevitably vote with their lives if they have not tried to displace God. This is arranged so that each planet on which intelligent life appears forms its own civilization. Civilizations have their own lifespan, some longer and some shorter, but the lifespan of a civilization has a maximum dimension before which the civilization must be completed. A civilization ends with perfection, when there are living beings in that civilization exceeding a certain 'critical mass', when all living beings in the civilization - both dead and still living - unite with God, which practically means the end of life on that planet (it must be a planet, and not, for example, a spaceship, because only a planet can accommodate a sufficient amount of life and other conditions necessary for perfection, which are not necessary to discuss here). Now, whether the civilization in question voted for the contraction or expansion of space depends on how much life the civilization contained throughout its history, i.e. how much energy has been transferred through the brains of all living beings in that civilization through the surface of the five-dimensional sphere, and whether that energy favors the expansion or contraction of space. Thus, an individual person, or even all the inhabitants of a civilization together, cannot know whether they and the animals living on their planet will vote for the expansion or contraction of space (an attempt to displace God also affects in the vote, but more on that later).

The position of a civilization in favor of the expansion or contraction of space-time depends solely and exclusively on the decisions made by beings with their own will and freedom of choice during their lifetime, i.e. on what each one has concretely done during their lifetime and what the cumulative effects of their actions are in the future:

those actions represent the individual's 'voting ticket' in a cosmological democracy. On the other hand, animals are instinctively guided and therefore do not have the right to vote, although of course the antematter that has passed through the surface of the five-dimensional sphere through their central nervous systems also attaches to the inner gravitational shell. When a civilization is perfected, the 'voting tickets' are counted and all the antematter of the civilization, or energy, attached to the inner gravity shell is used to either expand or contract space. In space, on the other hand, there are countless civilizations in each driftwood group, and each civilization, as it matures, advocates either the expansion or contraction of space by the amount of energy that civilization in question has attached to the inner gravity shell.

How are negative electric charges created?

The energy, or antematter, that passes from the outside to the inside through the surface of the five-dimensional sphere through the protons in the brains of living beings and attaches to the inner gravity shell is used to maintain the gravity shells and to generate *negative electric charges* – electrons in practice. An attentive reader will surely think that such a perpetual motion machine is not capable of creating a gravitational field in space: all the energy used by the gravity shells goes into transferring energy through the surface of the five-dimensional sphere into the energy of the gravity shells, and there is not enough of it to maintain the gravitational and electromagnetic fields in space. But this is not the case. The energy for building the matter in space as well as the gravitational and electromagnetic fields is obtained from the antematter in the threads, so not all of it goes through the surface of the five-dimensional sphere, but some remains in space. The transfer of energy through the surface of a five-dimensional sphere is of course perpetual motion, and the transfer does not 'consume' energy, because the energy, or antematter, is imprisoned by the threads: in a thread, energy cannot escape anywhere or change its form, unlike in space, because the antematter in the thread has no structure. But the antematter that has penetrated space through the protons belonging to the brain does not continue its journey to the 'north pole' of the six-dimensional sphere, but locks itself into the inner gravity shell. Since the present moment of each driftwood group travels as a front of absolute time, let's say counterclockwise, rotating the five-dimensional sphere, the antematter that has moved during each smallest possible moment of space will always lock itself into its own separate location on the surface of the inner gravity shell, if the antematter dose in question is large enough an energy package – many orders of magnitude larger than a 'normal' antematter dose, but not too large. The condition for locking is just the right amount of energy passing through the surface of the five-dimensional sphere, which only occurs in the brains of organisms with a central nervous system. Smaller energies do not lock, but continue their journey along the thread to the 'north pole', as do rare larger energies. As can be seen, all antematter that locks into the inner gravity shell always comes there from the outer gravity shell in the absolute present, because living beings can only exist in the absolute present. Instead, the souls of beings reach into the past, about which I will tell you more about soon.

On the other hand, it has been discussed above that antematter also has a *structural* form: in this case, the antematter in question is part of the gravity shell. Antematter locked in a gravity shell is an example of structural antematter, but for now it has no other function than to be stored attached to the inner gravity shell and act as a kind of conductor. Namely, the negative electric charges in space, electrons, move antematter from the inside of a five-dimensional sphere to the outside, and the antematter needed for this must be arranged from somewhere. Since the antematter in the threads does not move in this direction, the inner gravity shell must take the necessary antematter from itself, which explains why little antematter passes through the electrons compared to protons. But how could the antematter stored in the inner gravity shell be used as the driving force for negative electric charges such as electrons?

The antematter stored in the inner gravity shell is therefore used to adjust the size of space according to cosmological democracy and to produce negative electric charges, or electrons. Since electrons are everywhere in space, just like protons, but they are never in the same place at the same time, the antematter locked in the inner gravity shell from the protons must move along the gravity shell to the electrons. On the other hand, the same locked antematter is needed later when the civilization in question votes for the expansion or contraction of space. In addition, the same antematter cannot participate in the maintenance of electrons and the voting of the civilization, because the antematter used by the electrons moves from the inner gravity shell to the outer one, and is therefore not available for cosmological democracy. The solution to this problem is that only part of the antematter locked in the inner gravity shell is locked in the shell, while the other part disperses into the inner gravity shell. The dispersion is directed in such a way that if the present moment moves, let's say, counterclockwise on a five-dimensional sphere, then the antematter that is dissipating in the inner gravity shell travels clockwise on a five-dimensional sphere. In the inner gravity shell, structureless antematter is constantly rotating clockwise, and this antematter is used by the inner gravity shell to create both gravitation and electromagnetic forces, as well as particles in space; the outer gravity shell uses the antematter obtained from the threads for similar purposes. But also in the outer gravity shell, antematter, which comes there from negative charges, rotates clockwise. There is

excess antematter circulating in both gravity shells, but if there is too much, God must create excess negative charges to move the antematter into the outer gravity shell and positive charges to move the antematter from the outer gravity shell through space into the threads and then to the 'north pole' of the six-dimensional sphere. Naturally, God does this at some point in time other than the absolute present of any driftwood group.

What is a soul?

The antematter passing through the protons belonging to the consciousness of a living organism with a central nervous system therefore 'prints' a 4-dimensional antematter pillar locked in the inner gravity shell, in a similar way to if you were to draw a line on paper with a pen: in this case, the paper corresponds to the gravity shell and the line to the antematter pillar. Or even more illustratively, in a similar way to how a 3D printer prints a three-dimensional object. This antematter pillar is the *soul* of the organism in question. At the same time, these antematter pillars of the organisms represent the amount of energy that is available for expanding or contracting space. But what does an individual soul advocate, the expansion of space, the contraction of space, or perhaps both? Furthermore, based on what was said earlier, we know that God must not be displaced, but if an individual does so, what does that mean for his soul? The essence of the answer to both of these questions lies in the individual's own decision-making: otherwise, the whole cosmological democracy would have no meaning. In the same breath, it should also be noted that decision-making includes only thoughts that lead to actions or inactions that in some way also affect other organisms. Thinking, for example, thoughts about replacing God, cannot be part of decision-making unless they are realized as actions – and not all organisms are even capable of such thoughts, even on Tellus only humans.

An individual's decision-making is extremely much slower than the progression of time in space: for example, when sleeping, an individual makes no decisions at all. Decision-making is very irregular in both quantity and timing, and making a single decision can take millions of space-time steps, even if the individual makes the decision in the blink of an eye, for example, to catch a fall with his hands after slipping on a banana peel. The antematter statue, from which the decisions made by the individual can be read, is a complex hologram movie of the individual's brain functions. In the afterlife, time-stepping is indeed needed many orders of magnitude more frequently than in space, so that God has time to separate the decisions from other brain functions and process them in real time – real time is essential, as we will soon discover.

After the death of an individual, there are no more decisions to come. God now has a set of decisions, some of which advocate the expansion of space, some of which advocate the contraction, and some of which are about giving God a bad name i.e. displacing God. Let's first focus on how we should treat someone who displaces God – that is, someone who subjugates another or someone who agrees to be subjugated. After all, beings with their own will and freedom of choice have the opportunity to do so, which is a necessity for enabling development in the universe. However, this necessity is not a virtue, and the person who undertakes it is a *harmdoer*. Since it is a matter of causing harm to God (of course it causes harm to the subjugated also), God must determine how big the harm caused is and compare the harm caused by the individual to the development that harmdoer has achieved elsewhere, if there is any. In terms of both harm and development, even God cannot know how great and far-reaching the consequences of a decision are – beings with their own will and freedom of choice each decide for themselves. But if the universe threatens to plunge into catastrophe because of decisions made, God will of course intervene in the course of events by interfering in the decision-making of individuals to the extent necessary to avoid a dead end. In order for God to be able to divide individuals into 'good', i.e. those who created development while they were alive, and 'bad', who displaced God, the investigation in question must be limited to the consequences that occurred during the individual's lifetime, although consequences will of course occur after the individual's death. Thus, God is able to determine the identity of each individual, i.e. whether his life helped the universe to develop or whether he was a harmdoer. And the rather natural conclusion is that the soul of the harmdoer does not take part in cosmological democracy, but the souls of individuals who believe in their conscience will of course be able to vote (Believing in conscience is a very open-ended expression and is otherwise incomplete in this context. There is indeed a precise definition of how to help the universe to develop, which is a here). But an even more natural conclusion from all this is that a being with his own will and freedom of choice is accountable to God for his actions after the death.

When an individual's soul has been accepted for a cosmological vote, it is determined how many decisions in the soul favor the expansion of space A and how many favor the contraction of space B. From these, the ratio R is calculated according to formula (2):

$$R = \frac{A}{A + B} \quad [2]$$

The number R is therefore always between [1, 0], and the number 1 means the smallest possible space and the number 0.5 the largest possible space. The numbers R<0.5 have their own purpose, which I will explain later. The logic by which God decides what an individual's single decision favors, the expansion or contraction of space, is not explained in this text. However, a boundary condition should be mentioned, that an individual cannot advocate a smaller space than his own energy in his soul is sufficient for (I assume in this text that the smaller the space, i.e. the five-dimensional sphere, the more gravity shells need antematter for their structures. I assume this because it is in harmony with Einstein's theory of relativity regarding threads. Furthermore, this choice makes the evolution of the universe work rationally, as we will see later). Instead, I will give a superficial presentation of the logic by which God determines the identity of an individual, i.e. whether an individual is entitled to vote or a harmdoer.

The locked antematter contained in an individual's soul can never contain so much energy that it would be sufficient for the individual's own part to cover the energy needs of an extremely small space. An individual's decision can never be in favor of a smaller space than the energy of his soul is sufficient for, but this limitation does not limit the individual's decision-making or his thinking in general, but only God. One conclusion from this is that the older the individual is, i.e. the more antematter his soul contains, the smaller space his decision can be in favor of, but this does not solve the ultimate question: how could any individual's decisions ever be in favor of an extremely small space? The solution to this problem comes from animals, i.e. beings with a central nervous system, who are not, however, beings with their own will and freedom of choice, i.e. who are unable to question God. Animals also have souls, but they do not have an identity. Animals do not make decisions in the sense of this text, and their souls do not participate in cosmological democracy. But under suitable circumstances, which, to put it bluntly, means a domesticated or farmed animal, God will attach the soul of the animal to its master, if the animal has died before the master and the master himself is allowed to participate in cosmological democracy. In such cases, the decisions made by the master may favor a smaller space than the master's own soul would allow.

When a civilization on a given planet is complete, it ceases to exist, or more beautifully, it *merges with God*. The members of the civilization, from the first free will and free choice to the last, excluding the perpetrators of harm, have their own opinion on the size of space, and the average of these opinions becomes the voice of that civilization in the cosmological democracy. A civilization cannot merge with God until the souls that belong to it contain enough energy to carry out the voice given by the civilization. If the voice's proposal for the size of space does not match the size of the current five-dimensional sphere, God changes the size of space by the amount that is the share of one civilization among all the civilizations of all the driftwood groups in space. The structural antematter needed to change the size, if any, comes from the souls of the civilization to be terminated. The energy contained in the souls, or structural antematter, which is not needed, breaks away from the gravity shell and travels to the 'north pole' of the six-dimensional sphere. All this means that there is a precise, God-known number of civilizations in space. The number can be and inevitably is changing, but in such a way that real-time numerical information is not needed (each driftwood group has its own absolute time), but the precise number is calculated and only becomes precise with a delay.

God's Logic of Identity

Even after the above, the reader may wonder what is wrong with submission or subjugation. All animal interactions are based on submission and subjugation, as are all cultures of human civilization on Tellus. Why would the subjugation of animals be acceptable in God's eyes if the same did not apply to humans or to beings with their own will and freedom of choice in general? The answer to this is still the same, namely because there must be no intermediary between God and the individual; God wants individuals to live in connection with Him, because only God alone can rule the entire universe, and for that rule He needs beings loyal to God with their own will and freedom of choice. An individual who acts as a 'messenger' between other individual and God ruins the whole thing. It is about the same as if a teacher were to give his students an exam in school to find out what they have learned, and the students copied the test answers from the test paper of the best – or no matter even the worst – student in the class. I know that many readers may think that the arrangement is good, the students get good grades and the school's reputation as a good school increases. However, it is corruption, and the self-replicating universe that forms a perpetual motion machine, which is a generator of variation capable of transformation, cannot be based on corruption. Corruption means self-destruction, and thus the universe would have to be an undevelopable monolith in order to contain corruption as its supporting structure. And if the reader wants to ask whether the superior-subordinate relationship is not a forbidden subjugation relationship, the answer is that it depends on the rules that are followed. If there are no rules, the rules are illegal or the legislation itself prohibits God, then of course it is a subjugation relationship and a crime.

The essence of God's logic in determining an individual's identity is whether the individual *subjugates* or *is submitted* to another individual and thus rejected God, not what the individual has otherwise done or achieved in his life. The reader should note that although we are only talking about individuals here, it also covers all possible organizations, because they consist of individuals. But God's logic in determining identity does not include any organizations with their hierarchies, but only legal relationships between individuals. This does not mean that organizations and organizational hierarchies are not needed: they are necessary for the existence and development of both civilization and the societies that belong to that civilization. Emotional ties between individuals are also not part of God's logic in determining an individual's identity (however, emotional ties are of great importance for an individual's decision-making and thus indirectly affect an individual's identity), despite the fact that it is precisely through emotions that God has a bilateral connection with an individual. God's logic is that God is not interested in what beings with their own will and freedom of choice do, as long as they do what they do without subjugating or submitting to each other. This idea is based on the assumption that since beings with their own will and freedom of choice must inevitably organize themselves in order to survive and later to be able build their planet, organization will lead to a civilization with its technologies that will eventually also unite with God, only and only if no one in the civilization can subjugate or submit to another. The assumption is therefore that if individuals are equal and remain equal, civilization will inevitably develop correctly and in time unite with God, regardless of what individuals do.

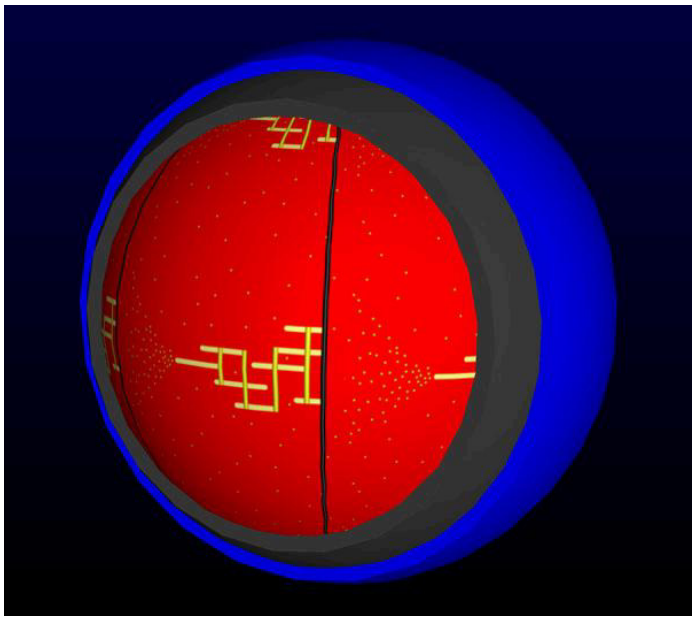

Figure 9: A schematic diagram of the interconnection of souls. The black vertical lines along the longitudes represent the absolute present times of the driftwood groups and they rotate the five-dimensional sphere counterclockwise. The small yellow spheres represent the unstructured antematria rotating clockwise. The bright yellow horizontal lines along the latitudes are souls, and they remain stationary on the surface of the sphere, as do the yellow vertical lines that connect all the souls of a civilization at that time together. For the sake of simplicity, only one civilization is shown in its entirety in the driftwood group and another in part, although in reality there are an immense number of them.

Only decisions read from souls are relevant in determining identity. A decision in this context only means a decision made by an individual that has a legal effect on another individual. For example, a decision to blink eyes is probably not one of these. On the other hand, agreeing to be someone's godfather is an example of a decision that has a legal effect on another individual. A decision always requires two things: the object of the decision and the criterion for the decision. God wants Him to always be the criterion for the decision (someone might say that the criterion for the decision should be local legislation, and they are absolutely right about that. The criterion for local legislation should be the costitution and its criterion should be God), because otherwise the criterion would be someone else, i.e. another individual. A decision that concerns more than one individual is not a decision within the scope of this text, but either a subjugation relationship or an administrative measure (more on administrative measures is explained here). A decision made collectively is also not a decision within the scope of this text, and collective decision always divides decisions made by individuals. Decisions are therefore only those cases that consist of exactly two individuals, the decision maker and the individual who is the subject of the decision: a general instruction given by a leader to his subordinates is always divided into a bilateral matter between the leader and each of his subordinates. All human, political, social, administrative, and all decision-making in general can be reduced to this basic pattern of two individuals. In these decisions, God is only interested in whether they subjugate someone or whether they are subordinated to someone, because either option means rejecting God.

But God does also something else when an individual dies, and this other thing requires God's actions to be real-time in relation to space. We have previously discussed negative electrical charges and the antematter they require. On the other hand, God's logic for determining identity, as described above, is flawed in that the consequences of an individual's actions continue into the future even after the individual's death, and this has not yet been taken into account. Let us now combine these two things as follows: let us assume that the antematter needed to maintain negative electrical charges, which originates from the antematter that has traveled through space through the nervous systems of organisms with a central nervous system, flows let's say clockwise through the soul of the organism until the moment the organism was born in the past, to be released from it into free circulation in the inner gravity shell. Furthermore, God connects the soul of the dead individual to the souls of all organisms alive in the civilization at the moment of death (a small delay is needed for the connection to occur in the past, so that the

connection cannot be detected in space). The connection is structural antematter, just like the soul, and the antematter needed for the connection is transferred by God from the relevant threads through space in the past. Thus, the antematter needed by the negative electrical charges flows from the present moment back in time along the souls to the beginning of the civilization, as shown in Figure 9, and from there it is released to flow freely along the surface of the inner gravity shell.

Now it is time to explain the necessity of real-time in the actions explained above. Namely, the antematter flowing along the souls is structural antematter – it carries information with it. When the antematter finally breaks out of the souls to travel along the surface of the inner gravity shell, its structure breaks down and only unstructured antematter flows on the gravity shell. But what is the information carried by the antematter? Let us remember that the antematter originally comes as unstructured from the threads outside of the five-dimensional sphere, and the antematter passing through the protons belonging to the consciousness of the organism gets locked in the inner gravity shell: once locked, the antematter becomes structural and at the same time a complete copy of the brain functions of the organism in question at a certain moment. From this copy (or actually copies of the time series, since even the simplest brain functions have a duration that is many millions of times longer than the shortest possible moment in space) certain structural parts detach and flow through the soul back in time. These detached parts contain the sensations of the living individual, which flow through all the souls of the dead, as shown in Figure 9: when the individual is dead, it must immediately (or at least after a short preparation period) begin to experience these sensations of other living individuals and animals. For this to be possible, God must define the identity of the individual in real time.

Life After the Death

The sensations of a living individual flow into dead individuals? I really need to open up this idea more! Since the logic of God for determining identity described above is flawed because it does not include any consequences for the individual for his actions, except for the loss of the right to vote, the matter is corrected at the death of the individual. I assume here that the spirit of a living individual, the consciousness of the individual, is not located in space in his brain, but in his soul in the inner gravity shell, the latest recording of the individual's brain functions in the absolute present. Three things fascinate me about this solution: First, beings with their own will and freedom of choice cannot themselves build a conscious, or living, being, but that is always the exclusive right of God. In other words, no matter how computers and artificial intelligence develop, they will never be able to create a living, conscious being. Second, the arrangement allows for the continuation of an individual's life in the afterlife, which is verified by the individual returning back into space in the books of the living to continue his or her life, which is admittedly extremely rare even on a cosmological scale. Third, the consciousness of a deceased individual continues to exist in death, which is the fate that awaits all of us living beings.

We are interested in point three, the existence of the individual's consciousness in death: not life in the afterlife, because the individual no longer returns to the books of the living. But when God connects the soul of the deceased individual with other souls, as shown in Figure 9, the consciousness of the deceased finds itself in a kind of cinema: it is unable to do anything, but is forced to simultaneously follow the lives of countless living individuals, feeling the same feelings that the living individuals in that civilization feel.

There is one more important detail left unsaid in determining the identity of an individual with free will and freedom of choice: the individual is accountable to God for his actions, and at death God holds the individual accountable for his actions. In addition to the fact that God connects the soul of the deceased individual to other souls, God also makes a crucial change in the consciousness of the individual. Namely, the feelings of living individuals in general, which the deceased

Despite the catchy title, life after death is very limited: it could be compared to the helplessness of an individual who has been anesthetized for surgery, if the individual is conscious despite the anesthetic, as sometimes happens. The survival of an individual after death is a one-off exceptional case that can only happen by God's will. Survival here means that a dead individual sometimes returns from the afterlife back into space as the same individual and continues his life from where he left off when he died, if the individual's body has not decomposed (the body of a dead person begins the process of decomposition immediately, and only God can prevent this, just as God can manipulate events in space). On the other hand, God can return a dead individual back to the books of the living in another body, and this body can only be a fertilized fetus to which God has not yet given consciousness.

Let's consider what I have said above means technically. How, for example, could the life of a middle-aged man continue in a fetus? An individual is made up of two parts: a body located in space and consciousness, or life, located in the afterlife. Of these, the body is matter and consciousness is antematter. An individual needs both of these in order to be able to 'live' as we do in space: the ability to think is located in the brain, but the connection to God, or consciousness, is located in the soul, the soul's latest copy of brain functions in the absolute present. I want to emphasize that consciousness, or a living being, can never be achieved artificially; a computer or any calculator is always lifeless, no matter how powerful it is or how advanced its algorithms are.
Consciousnesses differ in different species: for example, the consciousness of a nematode is cramped compared to the

individual has to experience, are divided into pleasure and happiness on the one hand, and pain and anguish on the other. This completes God's logic of identity: an individual who has been harmdoer in his life receives a connection to his consciousness that prevents him from experiencing the pleasure and happiness experienced by living individuals, but does force him to experience all the pain and anguish. On the other hand, an individual who helped the universe to develop is prevented from experiencing the pain and anguish experienced by living individuals, but is allowed to experience the pleasure and happiness that he also helped to bring about with his life. Regardless of whether an individual feels pain or happiness at death, it will last until that civilization merges with God: then the souls and their consciousnesses will cease to exist, because the antematter that formed them is used to change the size of space, or the antematter in question simply detaches from the gravitational shell and flows along threads to the 'north pole' of the six-dimensional sphere.

consciousness of a horse, not to mention a human. Different individuals also have both group-specific differences in the structure of consciousness, for example possibly by gender, and individual differences in consciousness due to hereditary factors and life history. In order for the life of a deceased person to continue in a fetus, the fetus's genetics must be compatible with the available consciousness of the soul. This means that the brains of the deceased man and the developing fetus must be similar in certain respects, since consciousness is stored in the afterlife as a copy of brain activity. In order for the dead to return to the books of the living, God must duplicate the soul's latest copy of brain activity, i.e., artificially continue the soul of the deceased, so that it remains attached to the absolute present moment until God returns the soul in question to space to live in a new individual.

On the other hand, individuals who do not have their own will and freedom of choice, i.e. animals, such as a horse or a nematode, do not really need any identity verification. As animals, they are beings who, unable to question God, will always receive God's grace to avoid experiencing pain and agony in their death, because surely the God described in this text cannot be evil?

Specific Questions

This text has talked about beings with their own will and freedom of choice, which humans undoubtedly are, but what are the beings with their own will and freedom of choice like in other civilizations in other solar systems? It is worth approaching the question with the idea of cosmological democracy: the purpose of the voting rights of beings with their own will and freedom of choice is to guide the development of the universe. Space is isotropic and homogeneous throughout, and the same natural laws prevail everywhere, although they change as the universe develops. How can God use voting results as indicators of the direction of development if, in a similar space, there are different beings everywhere, whose voting behavior is based on completely different biology? What benefit does it have for the development of the universe that the electorate is biologically contradictory to each other, that they necessarily want to develop the universe in different directions? Cosmological voting could be thought of as beings with free will and freedom of choice being like meters, based on the votes they give, or meter readings, God receives information about the state of space. If these meters have a different scale or if they measure different things, God cannot summarize the data they provide. Therefore, I assume that there is only one species of beings with free will and freedom of choice in our own driftwood group, we humans. I also assume that in all solar systems where life arises in space in our driftwood group, evolution will eventually also give birth to same humans. I also assume that human populations that have developed separately in different solar systems are able to have offspring capable of reproducing with each other. However, my assumptions only apply to driftwood groups, each of which has its own absolute present. There are countless driftwood groups in the universe, and because they are completely isolated from each other, different driftwood groups may possibly contain slightly different beings with free will and freedom of choice. In this case, the data coming to God from different driftwood groups will be somewhat different, but when divided into different driftwood groups, it can be beneficial to God.

The former raises another question: if all civilizations in our driftwood group consist of humans, wouldn't they encounter each other in the form of interstellar travel (I will present the technological solution that makes interstellar space travel possible at the end of this text) and representatives of different civilizations interbreed? I believe this is what happens, and now I will find out what this means for souls and for determining human identities. An individual's soul can only belong to one civilization, and the civilization to which the soul belongs cannot change. However, the decision about which civilization the soul belongs to is made by God after the individual dies by connecting the soul to other souls of a civilization, and what is decisive is not blood inheritance, but the individual's social environment. Instead, determining a person's identity does not distinguish between civilizations, but decisions made, whether they concern a member of one's own or a member of a foreign civilization, are always taken into account when determining identity. However, there is a problem here: a decision that affects a member of another civilization affects the development of the other civilization through this member. Let us remember that the essence of God's logic in determining the identity of an individual is whether the individual has subjugated or submitted to another individual and at the same time rejected God or not: this is

human freedom of choice, and it must be safeguarded for every human individual with regard to every decision. Let us think about what would happen if a fleet of representatives of a civilization capable of interstellar travel appeared on Tellus: would the decision-making criterion for the inhabitants of Tellus, i.e. us, then be God or that fleet of representatives? That is right, the decision-making criterion would then be that fleet of representatives, because they are so much more advanced than the people of Tellus that they represent God to the people of Tellus. But if that fleet of representatives were to visit a civilization where interstellar travel is commonplace, it would not arouse any wonder.

The third question, to which the reader has probably already guessed the answer, is: if there are other civilizations in space, why do we know nothing about them? There is a cosmological rule that applies to cooperation between civilizations, that it may only be practiced with a civilization that is at the same level of development as our own. In practice, this means that a civilization that is not capable of interstellar travel will remain a hermit among civilizations. However, the structure of the universe requires that all civilizations eventually unite with God, and this is not possible without the ability to interstellar travel due to reasons that I will not go into here. Therefore, advanced civilizations have an obligation to help civilizations that are stumbling in their development to develop, but in such a way that the civilization being helped does not know about it. The matter is serious, because if a civilization does not develop in time, the entire universe is in danger of destruction: each driftwood group has a certain sector of the time dimension of the five-dimensional sphere available to it, and if it is not enough due to the procrastination of a civilization, the souls of that civilization will be pushed into the absolute present of another driftwood group, which of course must not happen.

The fourth question that arises is what prevents an advanced civilization from abandoning God and subjugating undeveloped civilizations under its rule? There is a general answer to this that the more advanced a civilization becomes, the more difficult it becomes to subjugate and submit, to abandon God in general. But in theory, there is no obstacle to this scenario.

The fifth possible question concerns the merging of a civilization with God: if the criterion for a civilization to merge with God is a sufficient number of living individuals, then wouldn't even a civilization that has rejected God merge with God, if they only procreate powerfully enough? No, because the criterion for merging with God is also the civilization's participation in cosmological democracy, which is not realized in a civilization that has rejected God, but the sheer number of lives needed would prevent a civilization that has rejected God from merging with God: Let's imagine that the human population of Tellus were to grow to well over 60 billion people and remain that way for a couple of millennia...

Prime Numbers

I have written practically everything essential about our universe as I understand it. However, some very important things are still unexplained, namely God's logic, the control of gravity and thus the possibility of interstellar travel, and an explanation of how the universe could be perpetual motion. By God's logic I mean the 'laws' according to which the afterlife operates. Since we can't possibly go into the afterlife to study what is really happening there, we should find things or phenomena that could be assumed to be exactly the same in space and in the afterlife.

The structure of the universe is extremely complex: space contains countless tiny particles, which make up all the matter and interactions we observe, but the antematter of the afterlife consists of at most one type of particle, if any. It makes no sense to talk about particles in the context of antematter, because the laws of particle physics do not apply in the afterlife: the emission, absorption of a particle, or the empty space a particle needs to move are all things that do not necessarily exist in the afterlife, and one should not even begin try to model the laws of the afterlife that way. The *'upper level'* that governs the afterlife and also the space need to be studied differently. Because the afterlife is so different from space, we have little way of testing its properties in the laboratory; we simply do not have the opportunity to see the afterlife. However, a civilization must at least partially understand the logic of the afterlife in order to fully develop. For this to succeed, the structure of the universe must be such that it offers, from space, from the *'lower level'*, such *universally valid phenomena* that, by applying them, a theory of the afterlife can be developed, the validity of which is verified by the few means that the afterlife grants us.

In this context, there are no laws of chemistry or physics that are universally valid, as they only apply in space. Even geometry, and in particular the ratio of the length of a circle to its diameter, the number π, does not necessarily qualify as a universally valid law in this context (however, geometry must definitely be studied in more dimensions than the four dimensions of space-time as part of the understanding of the universe!). It is worth looking for things that implement universally valid laws in the area of pure mathematics, where in particular prime numbers, i.e. the number series 1, 2, 3, 5, 7, 11, 13, 17, 19, 23, …, are very interesting in my opinion. There are an

infinite number of prime numbers and they are defined as numbers that are only divisible by themselves or by the number 1.

The laws of the afterlife can only be discovered if they are intended for humans to discover, that is, if the universe is designed in such a way that their discovery and verification can be done with the available bits of information from space. Or by mere guesswork, such as choosing prime numbers as a universal law that would have some fundamental significance in the structure of the universe. However, this guess is not bad, because if the afterlife is possible at all, it should work with some simple logic, for example consisting of natural numbers. Prime numbers provide a good basis for creating such logic. What the 'wheels and gears' that make this logic work may be partially or completely hidden from humanity.

Analytic Number Theory

Prime numbers may seem like an odd choice in an attempt to develop a theory of the afterlife. They have nothing to do with physics! But they shouldn't be related to physics either. Physics is something we can only observe in space, but which is certainly not present in the afterlife – or maybe there is a kind of physics in the afterlife, but its laws are completely different from those in space, so is it worth calling it physics at all? God's logic would be a better expression for 'the physics of the afterlife'. Another disturbing thing about prime numbers is probably that they are natural numbers like 1, 2 and 19. Almost all the constants of nature that we know are real numbers, for example, the well-known ratio of the circumference of a circle to its diameter Pi (π=3.141592265...) is an infinite real number. How could the afterlife get by with just natural numbers? It can't. The theory of the afterlife needs real numbers, just as physics, or the theory of the space, does. But the logic of the universe – the bones of the universe, so to speak – can be described in prime numbers, or so I hope.

When you think about the complexity of the universe, all those 'wheels and gears', and the existence of God in the universe, it is natural to draw the conclusion that the logic of the universe must be hierarchically organized: thus ensuring the fulfillment of God's will and giving people the opportunity to figure out at least something about the afterlife while living in the space. My intention is to create a theory in which the logic of the afterlife – or rather the entire universe – has a determining *'upper level'*, which works only with natural or integer numbers, and a subordinate *'lower level'*, which implements the 'upper level' logic using real numbers. For this we need prime numbers and Analytic Number Theory , which acts as a bridge between natural numbers and real numbers. Let's introduce ourselves in the 'lower level' of logic, which works with real numbers.

Let's look at the stepwise blue graph of the function in Figure 10. This is a function describing the density of prime numbers: whenever a prime number is found on the x-axis, the graph jumps one step higher, indicating that a new prime number has been found again. This creates a graph resembling the profile of an irregular staircase, constantly sloping, but infinitely continuous in the x-axis direction, which in mathematics is given the same symbol as the ratio of a circle to its diameter, i.e. π:

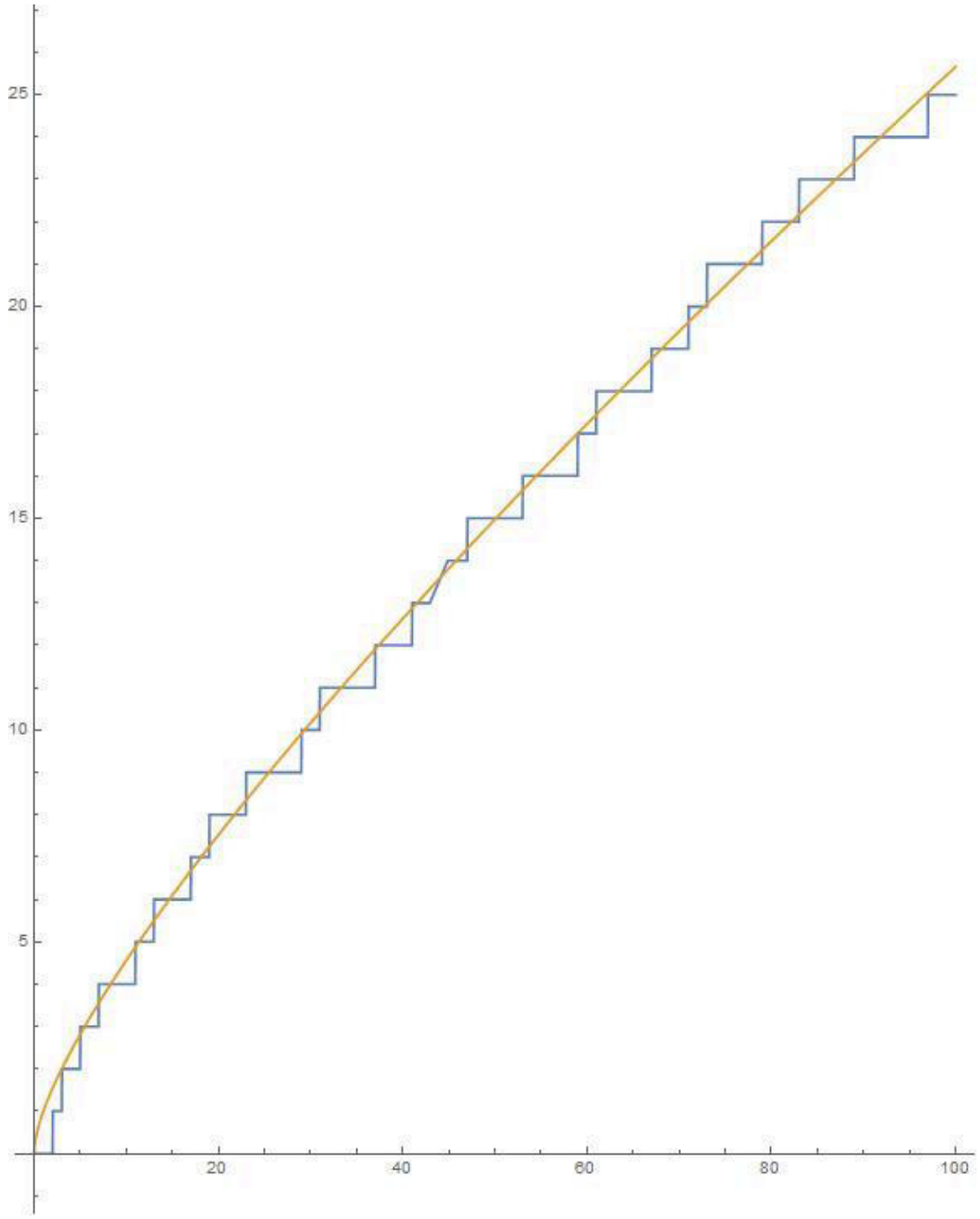

Figure 10.

To bridge the gap between real numbers and natural numbers, we need a mathematical expression that plots the blue graph of π. Formula 3 is a simple but absolutely incorrect example of the mathematical expression needed:

$$P(x) = x^2 - x + 17 \quad [3]$$

The first 34 prime numbers given by Formula 3 are below:

17, 17, 19, 23, 29, 37, 47, 59, 73, 89, 107, 127, 149, 173, 199, 227, 257, *289*, *323*, 359, 397, 437, 479, 523, 569, 617, 667, 719, 773, 829, 887, 947, 1009, 1073, *1139*, ...

The first prime number in the sequence is 17, meaning that the prime numbers 2, 3, 5, 7, and 11 are missing. In addition, the prime numbers in italics in the sequence are not prime numbers, but divisible by 17. Formula 3 is an example of a polynomial function that cannot define prime numbers, but it is essential to know that no polynomial function can define prime numbers. This is a good thing, because polynomial functions are not suitable as a bridge between real and natural numbers: you can see this for yourself by placing a real number, such as 3.33, in formula 3. Only analytic number theory can provide an expression that can draw the blue graph of π in Figure 10. The expression is very complicated, so it is worth getting acquainted with it piece by piece. The yellow, smoothly curved graph visible in Figure 10 is drawn using formula 4:

$$R(x) = 1 + \sum_{k=1}^{\infty} \frac{(\log_e x)^k}{k! * k * \text{Zeta}(k+1)} \quad [4]$$

Formula 4 represents one term of the expression that plots the blue graph in Figure 10. The text Zeta in the formula refers to the Riemann Zeta function, which can be found here. At this point, it is enough for us to know the graph of the Zeta function, whose absolute value is a two-dimensional surface in complex space (complex space has nothing to do with the space or universe defined in this text, but is a purely mathematical concept). The surface plotted by the absolute value of the Zeta function touches the complex plane at certain discrete points, which are the zeros of the Zeta function. These zeros are divided into real “trivial” zeros and complex “non-trivial” zeros; the Zeta function has an infinite number of both zeros. Let us add another term to formula 4:

$$R(x) = 1 + \sum_{k=1}^{\infty} \frac{(\log_e x)^k}{k! * k * \text{Zeta}(k+1)} - \sum_{m=1}^{\infty} \left(1 + \sum_{k=1}^{\infty} \frac{\left(\log_e \left(x^{-2m}\right)\right)^k}{k! * k * \text{Zeta}(k+1)} \right) \quad [5]$$

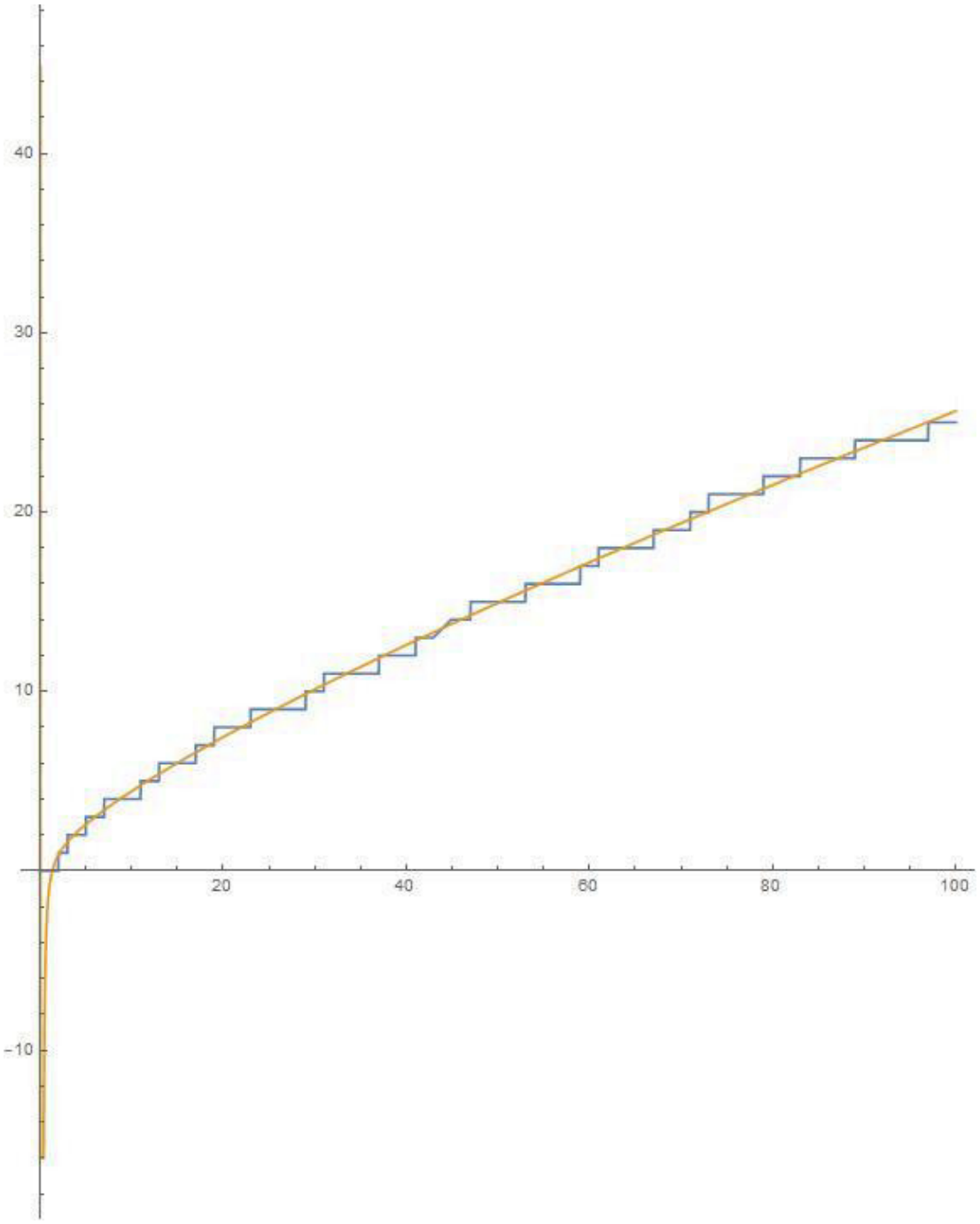

Figure 11.

If we compare the yellow graph in Figure 10 with the corresponding graph in Figure 11, we can see that the graph according to Formula 5 in Figure 11 follows the blue graph π a little better. This slight improvement was achieved by using the “trivial” zeros of the Riemann Zeta function in the m-variable of the sum expression of the second

term in Formula 5 (the “trivial” zeros are the numbers in the sequence -2, -4, -6, -8, ...). But the graph still lacks 'stairs', and to achieve them, one more term must be added to formula 5, which in turn uses the "non-trivial" zeros of the Riemann Zeta function in its sum expressions ("non-trivial" zeros are divided into positive and negative number sequences with imaginary units of real numbers: ±14.1347, ±21.0220, ±25.0108, ±30.4248, ...):

$$R(x) = 1 + \sum_{k=1}^{\infty} \frac{(\log_e x)^k}{k! * k * \text{Zeta}(k+1)} - \sum_{m=1}^{\infty} \left(1 + \sum_{k=1}^{\infty} \frac{\left(\log_e \left(x^{-2m}\right)\right)^k}{k! * k * \text{Zeta}(k+1)}\right) -$$

$$\sum_{n=1}^{\infty} \left(\frac{2\sqrt{x}}{\left| \frac{1}{2} + i * \text{ZetaZero}(n) \right| * \log_e x} * \text{Cos}\left(\text{ZetaZero}(n) * \log_e x - \arg\left(\frac{1}{2} + i * \text{ZetaZero}(n)\right)\right)\right) \quad [6]$$

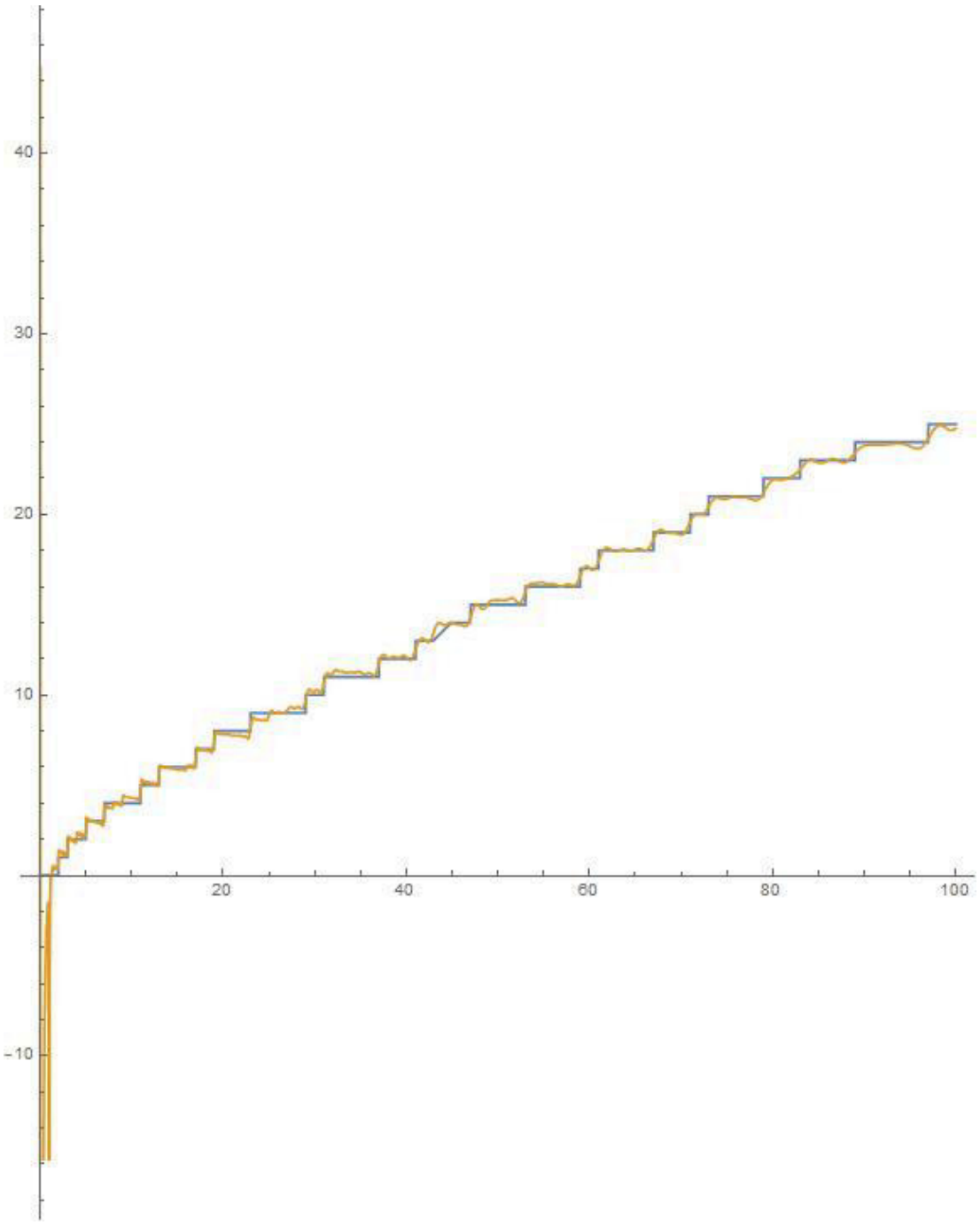

Figure 12.

In formula 6, ZetaZero represents a function that calculates the absolute value of the imaginary unit of a “non-trivial” zero; calculating this zero is not a simple matter. But now to the point: formula 6 is the expression we have been looking for! This expression is able to create a bridge between the natural numbers and the real numbers! Of course, there are still differences in the blue and yellow graphs in Figure 12, but these differences are due to the imprecision of the calculation: the sum expressions cannot actually be calculated to infinity (in the case of Figure

12, only the first 100 non-trivial zeros have been used), but in practice one has to be satisfied with short summations due to the limited computational capacity. However, this does not destroy the theory that prime numbers and the zeros of the Riemann Zeta function form a pair, where one can be derived from the other. We have found a way to connect the 'upper level' of the universe's logic that works only with integers to the 'lower level' of logic that uses real numbers, provided that integers are the building blocks of the universe's structure!

Perpetual Motion Machine

The universe is the only perpetual motion machine in existence. The force that maintains this perpetual motion machine is the gravity acting on the threads of the afterlife, which moves the antematter in the threads at the speed of light when the gravitational shells allow the antematter to travel (the application of gravity in space, gravitation, acts on material via photons and is in no way related to moving antematter). The force that maintains the perpetual motion machine is the basis of the 'lower level' of logic, and thus the zeros of the Riemann Zeta function must be the natural constants that form this force. Or more precisely: between the zeros of the Riemann Zeta function and the prime numbers, there must be some intermediate result that must be a basis for the force that maintains the perpetual motion machine.

But what would the zeros of the Riemann Zeta function or the corresponding numerical values represent in the universe? First, I would like to point out that the ideas I have written here are, in my opinion, very incomplete and mere speculation. Second, the reader should keep in mind that the Riemann Zeta function is an analytic, i.e. complex-valued, function, but complex numbers do not belong to the structure of the universe modeled in this text! By this, I mean that the complex mathematics of analytic number theory does not impose any conditions on the universe. So I am completely free to use the imaginary parts of the “non-trivial” zeros of the Riemann Zeta function as if they were real numbers. Unfortunately, such arbitrariness almost certainly leads to conclusions that do not correspond to reality, but they are suitable for speculation. And speculation is always the first step towards knowledge. So here is my very incomplete speculation about the functioning of the afterlife of the universe.

From formula 6 we see that three separate terms are needed, which together form the desired function π. Let us consider that there are also three separate factors in the universe, all of which are needed to form a perpetual motion machine. Earlier in this text here, cosmological democracy and its effect on the expansion or contraction of space were discussed. There, formula [2] was introduced, which I show again below:

$$R = \frac{A}{A + B} \quad [2]$$

The number R was therefore always between [1, 0], and the number 1 meant the smallest possible space and the number 0.5 the largest possible space, but what do the numbers 0 – 0.5 mean? In Figure 6, we saw a five-dimensional sphere of space as a ring on the surface of a six-dimensional sphere (note that a five-dimensional and a six-dimensional sphere are different things!). In order for space to move from the situation in Figure 6 to the situation in Figure 13, space must first expand, and then shrink. In a cosmological vote, an individual is in favor of this happening when the decisions he or she has made during his or her life favor a change in space between the numbers 0 – 0.5. In theory, the surface of the six-dimensional sphere is therefore the entire platform for the development of space: this surface is divided into zones by latitude, and the boundary of each zone is the imaginary part of the “non-trivial” zero point of Riemann’s Zeta function. The numerical value of the imaginary part expresses the distance of the zone boundary from the 'equator' of the six-dimensional sphere (this idea means that the sum expressions of formula 6 are integrations that cover a quarter circle on the surface of the six-dimensional sphere). But at the same time, the numerical value of the imaginary part also expresses the speed of light in that zone! The antematter traveling in the threads of the afterlife moves only at the speed of light, and the speed of light is different in each zone of the latitude circle, and the magnitude of the speed is determined by the "non-trivial" zero of the Riemann Zeta function representing that latitude circle and the expression of formula 4 in a way that will be explained later. When the antematter moving in the thread crosses the boundary between the zones, its speed changes completely steplessly to the speed of light corresponding to that zone.

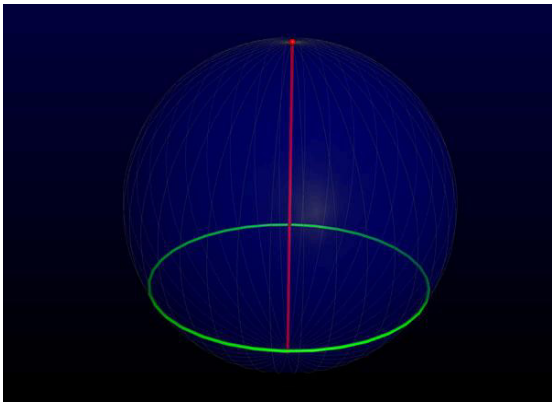

Figure 13: the green space has moved to the south pole of the six-dimensional sphere.

Now we have discussed one and touched on another of the three separate factors of the universe that constitute the

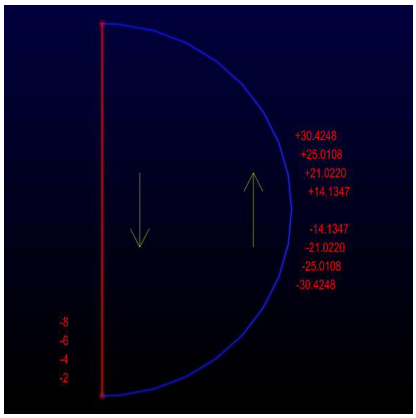

Figure 14: the zeros of the Riemann Zeta function can be thought of as the latitude circles of a six-dimensional sphere. Antimatter rotates in the universe in the direction of the yellow arrows.

gravity in the universe, which is perpetual motion. This is how I have explained the movement of antematter on the surface of a six-dimensional sphere, let's say from the 'south pole' to the 'north pole'. But the antematter must also move back from the 'north pole' to the 'south pole': this requires the "trivial" zeros of the Riemann Zeta function and the expressions of formula 4. When the antematter moves from the 'north pole' to the 'south pole' along a straight line, its speed of light slows down according to the "trivial" zeros of the Riemann Zeta function. It specifically slows down, because the line between the 'north pole' and the 'south pole' is a narrow corridor where antematter should 'congest' in the same way as cars at traffic lights, so that the antematter can equalize among all the threads (the line between the north and south poles is the only place besides gravity shells where antematter can change threads). In general, the direction of travel of antematter in threads is that if the zero point of the Riemann Zeta function for that location is negative, the antematter travels in the thread in the direction where its speed of light slows down – or this could be the other way around. Figure 14 shows schematically the course of antematter in a closed loop of the universe.

The above presentation of the movement of antematter is still incomplete in that the speed of light determined solely by the zeros of the Riemann Zeta function results in incomprehensibly huge speed differences between the 'equator' and the 'poles': if the speed of light crawls almost stationary at the 'equator', at the 'poles' it really travels at the speed of light! Of course, this cannot be the case, but the speed differences must be marginal. For this, the third separate factor of the universe, already mentioned above, is needed, the expression in formula 4. The expression in question alone roughly defines the density function π of prime numbers and in the same way it also roughly defines the speed of light in the universe, so that the zeros of the Riemann Zeta function give the speed of light a very marginal small addition. Then the speed differences also remain marginal.

So here is my explanation for the perpetual motion of the universe: the gravity that moves antematter in the threads of the afterlife is a force that does not consume energy. It is an existing absolute, an eternally unchanging 'backbone' of the universe that does not follow the energy principle prevailing in space. The justification for its existence relies solely on number theory about prime numbers, and humanity may never get an answer to what lies behind those prime numbers. But it hopefully enables the modeling of a universe that is self-replicating and evolving. It enables development in space, because the expansion and contraction of space changes the constants of nature. The change in the size of space made possible by cosmological voting is structured a way that space constantly oscillates around its largest possible size, i.e. it moves alternately to the 'north pole' and 'south pole' on the surface of a six-dimensional sphere. At the same time, the content of space is constantly changing irreversibly, always in a new way, because oscillation does not mean that the same familiar worlds repeat themselves, but rather that due to the influence of evolution (evolution must be understood more broadly than just as a biological phenomenon, in fact causality would be a better expression), space is always uniquely different.

God's Logic

The other side of analytic number theory, the 'higher level' that determines logic, is the world of natural or integer numbers based on prime numbers. To be logic, the 'higher level' must use prime numbers as 'basic building blocks' and from them compose larger numbers, which are no longer prime numbers, but composite numbers. Prime numbers themselves are 'basic building blocks', unique individuals that cannot be represented by other integers, as composite numbers can.

First, the idea of the 'higher level' of logic is to determine the rules according to which God governs space. Thus, God cannot govern arbitrarily, because if he did, God would destroy the universe just as humanity on Tellus is destroying its home planet. The destruction of the universe is not possible in a finite and limitless universe, which is a self-replicating generator of variation. Secondly, since beings with free will and freedom of choice, i.e. humans, are part of the governance of space through cosmological voting, the 'higher level' logic must be humanly understandable. Then it would be possible for humanity to figure out what they should do in space and why. On the other hand, the 'lower level' logic, i.e. the 'wheels and gears', are probably hidden from humanity. Thirdly, the 'higher level' of logic, as well as the 'lower level' of logic in the afterlife, are unchanging things in the universe, unlike the physics and chemistry of space, whose laws change as space changes in the evolution of the universe.

The 'higher level' of logic could be called *God's logic*. However, this text will not delve further into God's logic.

Interstellar Space Travel

The sad fact is that rocket-like spaceships familiar from science fiction movies are impossible, and physicists should tell the general public this directly. The laws of Einstein's theory of relativity make interstellar travel impossible: The distances to the nearest stars are so great that they are calculated in at least several light years; In order for the travel time not to take an absurdly long time, the travel speed should be increased to close to the speed of light, in which case the passage of time in the spaceship would slow down and the travel time would become short-lived (while traveling at the same speed of light, the travel time would take zero seconds regardless of the distance); Here it is good to remind the reader that even though as the speed increases, the travel time is shortened to, for example, a couple of hours in the opinion of the travelers, the same does not happen on the home planet, where the travelers sometimes return after years; But the closer the speed of travel is increased to the speed of light, the more energy is required, according to Einstein's theory of relativity (accelerating to the speed of light would require an infinite amount of energy). Therefore, the only objects that humanity has been able to accelerate to close to the speed of light are tiny particles, such as electrons, accelerated in enormous particle accelerators. Humanity will never be able to accelerate any object on a human scale to even a tenth of the speed of light, because the energy requirement would be on the order of the total amount of energy used by humanity in a year; not to mention any spacecraft intended for interstellar travel, the size of which would inevitably be the size of a medium-sized city (a spacecraft must be a completely independent unit that would in principle never need to return to its home planet, and therefore is very large. This is because if the spacecraft were to travel at the speed of light to a distance of even 100 million light years, which travelers believe happens in the blink of an eye, after returning to its home planet in the blink of an eye, the home planet would be 200 million years older and there would not necessarily be any life anymore.)

There are an enormous number of different technical problems in interstellar travel, but the problem with relativity presented above is certainly the worst of them: the amounts of energy needed for relativistic speeds simply cannot be obtained from anywhere. From the point of view of space travel, the good thing about relativity is that at relativistic speeds (i.e. speeds that are at least 1/10 the speed of light), the travel time required by travelers is reduced to a tolerable level: a destination light years away could be reached in a couple of days, or even instantly if the speed of light were reached. But are enormous amounts of energy really necessary for interstellar space travel? Now I will tell you about an idea that could keep the good side of relativity and get rid of the bad. To do that, we need to invent a technology that can regulate gravitation.

Controlling Gravitation

The model of the universe presented in this text, although its possibility of correctness may not be denied, nevertheless needs evidence of its actual existence. Let the technology of regulating gravity qualify as such, if someone can actually make my idea work. The characteristic feature of gravity is its point-centeredness: a single center of gravity is perfectly suited to be caused by a single thread (of course, the gravity caused by a single thread, even at its strongest, is extremely small. In practice, the smallest observable gravity is always created by the combined effect of countless adjacent threads). Point-centeredness suggests that the technology capable of regulating gravity is spherically symmetrical.

Now we need to choose some point-centered physical phenomenon with which we could connect to this single thread or set of threads. My choice is facilitated by the fact that in my model of the universe, only gravitation and electromagnetic interaction are available. Gravitation cannot, of course, be regulated by gravitation itself, so that leaves electromagnetic interaction. Electromagnetic interaction includes two different force fields: the electric field and the magnetic field. Both fields are in very wide and diverse use among humanity on Tellus, but they have not been observed to cause any effects on gravitation. This further facilitates the search for the right physical phenomenon, as it must be one that humanity has not yet used. A suitable physical phenomenon can be found in the magnetic field, namely a magnetic monopole, which the scientific community claims to be impossible, could be the perfect center of gravitation.

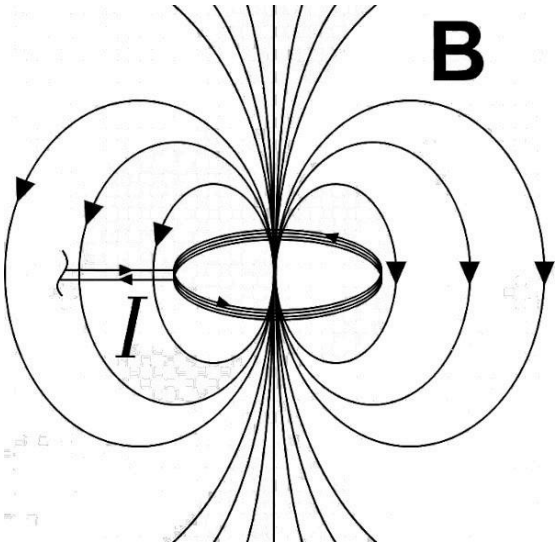

Figure 15: the normal magnetic field that is created when an electric current I flows in a current loop. The lines of force describe the magnetic flux density B, and they are closed loops.

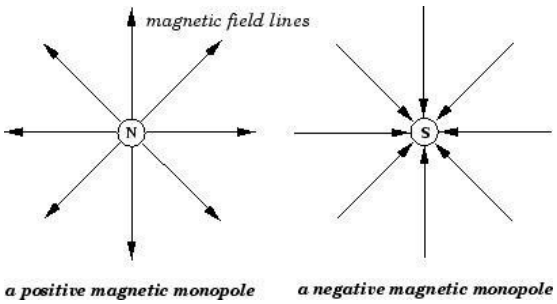

Figure 16: The magnetic field caused by a magnetic monopole is source-based, just like the electric and gravitational fields.

Figure 15 shows a normal dipole magnetic field, which is the same as all known magnetic fields, and Figure 16 shows a magnetic monopole field, which is exactly the same as the electric field or gravitational field of a point charge (the gravitational field is only an attractive field, so the example on the left in Figure 16 cannot describe a gravitational field). A magnetic monopole field has not yet been created and apparently does not occur in nature, with the possible exception of the magnetic field of the sun. Since the field of a magnetic monopole is source-based, i.e. it has a center, it is possible that it can be connected to threads in the immediate vicinity of the center. But how could a magnetic monopole be created? There are two types of magnets: permanent magnets and electromagnets. We are interested in electromagnets because their strength can be adjusted. The aim is to assemble a spherically symmetric structure from current loops like those in Figure 15, which 'insulates' the other pole of the dipole magnetic field inside itself and thus forces the dipole magnetic field to become a monopole magnetic field, i.e., as shown in Figure 16. However, forcing it to become a monopole magnetic field is not easy, as can be concluded from Figure 17: each current loop (hexagon or pentagon in Figure 17) tends to form a dipole field as shown in Figure 15, and since the lines of force in all of them point either outwards from the sphere or inwards from the sphere, the current loops repel each other. Opposite lines of force tend to form at the seams between the hexagons and pentagons, the formation of which should be prevented. Therefore, building a magnetic monopole is at least as difficult as building an implosion atomic bomb. Hopefully, it is possible, for example by assembling the spherical systems of Figure 17 in layers so that the loops of the different layers overlap.

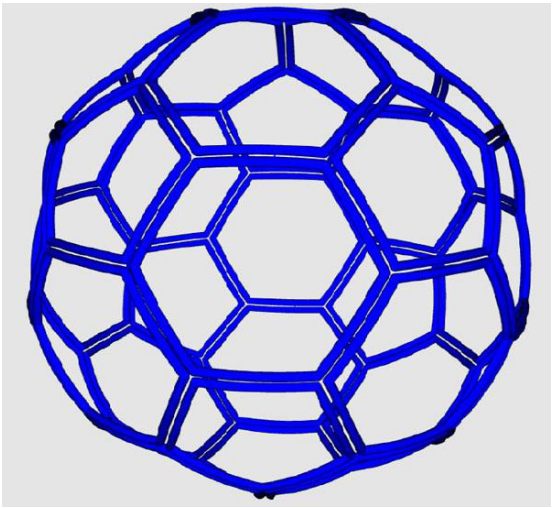

Figure 17: The dipole field of the current loop in Figure 15 is intended to be forced into a monopoly field with a current loop system resembling a football. Each hexagon and pentagon is a current loop, in which one and the same electrical wire is probably wound around a hundred or so turns, after which the same wire moves to the next loop, winds around the same hundred or so turns again, etc. Clicking on the image opens a CAD link to the gravitational ball.

If a magnetic monopole is successfully created inside a sphere like the one in Figure 17, let's call it a *gravitational ball*, according to my theory a center of gravitation will be created at the center of the sphere. Depending on whether the electricity flows clockwise or counterclockwise in the current loops, the center of gravitation in the center of the gravitational ball will either strengthen or weaken (I can't say which one does which). The weakening of the center of gravitation is only possible if there is already a massive object in the center of the gravitational ball, let's say a small planet, whose center of gravitation is weakened: if there is only air or some heavy object as the "center of gravitation", then there is no center of gravitation there, and only the creation of a center of gravitation and its strengthening is possible.

Gravitation is always an attractive force, because the model of the universe described in this text does not allow for anything else. Repulsion from gravitation cannot be obtained by weakening non-existent gravitation even further.

A magnetic monopole can only affect gravitation, but it cannot manipulate electric charges: otherwise, people would have the opportunity to control the antematter flowing from one gravity shell to another through the surface of a five-dimensional sphere, i.e. to interfere with the sovereignty of God, which must be impossible. It is also worth noting that the gravitational field created by a magnetic monopole does not take the energy it needs from the gravitational ball, but from the thread or threads of the afterlife, and the magnetic monopole of the gravitational ball acts only as a regulating force! There are several different options for how the control force should be operated to generate and control the gravitational field, but I assume the simplest way is correct: the energy and strength of the magnetic monopole field created by the gravitational ball are fractions of the energy and strength of the gravitational field generated by it, and the gravitational field immediately follows the location of the monopole field in space (i.e. the threads causing the center of gravitation change to other threads as the gravitational ball moves in space) and its strength. I assume that the gravitational ball can create very strong gravitational fields, so strong that the upper limit of the strength is the physical endurance of the gravitational ball.

It has been said above that "If gravity shells couple a gravity to a thread that is not exactly the same size as a massive particle, the excess forms a gravitational field," but God cannot allow a magnetic monopoly field to create material in space! That would once again give people the opportunity to encroach on God's sovereignty by controlling the appearance of material in space. Instead, "if gravity shells couple a gravitation to a thread that is smaller than the lightest possible massive particle, a mere gravitational field without material is formed" is exactly the right way to operate when it comes to a magnetic monopoly field. And that means that a single thread cannot create a very large gravitational field without also creating the lightest possible massive particle, the electron. Therefore, a gravitational ball can only create a gravitational field in such a way that several adjacent strands (a huge number of strands!) are activated at the same time, which is of course a given in even the smallest observable gravitational field.

Practical Applications

Now we know how humans can possibly create and control gravitation, but what use is this for interstellar space travel? Well, first of all, a gravitation ball could be used to propel a spacecraft, as shown in Figure 18. The important thing to understand from Figure 18 is this: if the magnetic monopole were replaced by a massive object, the system would not move anywhere. But, because the gravity of the massive object has been replaced by the gravity generated by the gravitation ball, there is no material in the center of gravitation that gravitation should move, but the center of gravitation follows the gravitation ball completely without resistance; the spacecraft, in turn, feels the gravitation created by the gravitation ball, and thus the center of mass of the spacecraft tends to move towards the center of gravitation! A gravitation ball as a spacecraft engine would outperform any other type of engine in both performance and economy, because a magnetic monopole maintained by a small seed current would release many times the amount of energy as gravitation from the threads of the afterlife for lossless use.

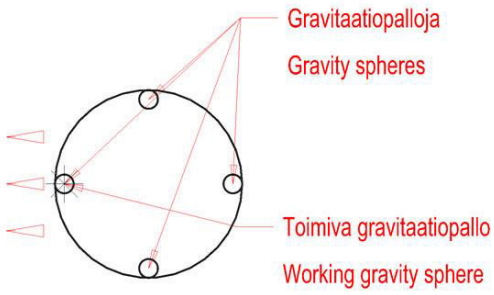

Figure 18: Although gravity is an attractive force, it can be used to move objects by placing a gravitational ball (gravity sphere) attached to the object outside the object's center of gravitation. In this case, the magnetic monopole pulls the object towards itself, as the massless center of gravitation remains in the magnetic monopole at all times and moves with it.

On the other hand, a gravitational ball would also open up completely new possibilities for the development of a fusion nuclear reactor. Today, attempts are being made to harness the nuclear fusion of hydrogen atoms for energy production with tokamak or stellarator-type fusion reactors. Both of these reactor types are characterized by their donut-like shape: the basic structure of both is a magnetic toroid, in which the nuclear fuel, which is millions of degrees Celsius hot, is kept away from the walls of the device using a magnetic field. But it would be much easier to keep the hot fuel away without touching the device with a center of gravity!

The above was probably interesting reading, but a spacecraft engine alone will not solve the problems of interstellar space travel. Gravitation cannot be increased so much that the spacecraft's structures or organisms cannot withstand it, and this solution does not provide unlimited amounts of energy. Fortunately, not all the possibilities offered by the gravitation ball have been exploited yet: we have fed electricity into the current loops of the gravitation ball so that the gravitation ball increases gravitation. What happens if we use the gravitation ball to reduce gravity? We already know that gravitation cannot change from attraction to repulsion. It is clear that an object the size of a person, for example, in a gravitation ball, loses its attraction – or rather loses its rest mass – but this cannot be measured, because the attraction of a small object is nonexistent and the object still feels, for

example, the attraction of the Earth. The reader may be confused by the previous sentence, because physics teaches that only objects with rest mass can feel gravitation – for example, a photon with no rest mass does not feel gravitation. However, inside the gravitational ball we have a massless object that feels gravitation... Wait a minute, even if the object, or rather a massive particle, feels gravitation, the particle ITSELF does not move itself towards the center of gravitation, but the gravity shells have to switch on the gravitation to the appropriate threads to move the particle! But if they don't, does the massive particle even stay in the absolute present moment? Let's assume that it stays in the absolute present moment, just like photons do. And how would it move in space without its rest mass, or stay in place?

Based on the above, it is quite certain that it is not possible to change material into a massless state and at the same time retain a sense of gravitation: the immediate consequence of this would be a catastrophe when massless material collides with massive material. Therefore, the only way to prevent material from feeling gravitation is to exchange massless material particle by particle for new particles! This is the third way in which antematter can move through the surface of a five-dimensional sphere: to replace a massive particle in space with a new one of the same kind. Since the old particle goes inactive to the north pole of the six-dimensional sphere and the new particle replaces it in space-time, this does not threaten God's sovereignty and is possible for mankind.

Thus, with a gravitational ball it is possible to remove the rest mass of material, which at the same time changes material into an antematerial state: matter is accelerated 'in place' to the speed of light, i.e. each particle is in time-space only for the shortest possible moment, after which it falls towards the 'north pole' of the six-dimensional sphere, and is immediately replaced by a similar particle in another thread in the near future. Falling is exactly the right expression in this case, because as can be seen in Figure 14, gravity drives antematter in threads on the surface of the six-dimensional sphere from the 'south pole' towards the 'north pole', and the inner gravity shell of the five-dimensional sphere happens to be just on the side of the north pole. Thus, if the inner gravity shell unlocks a thread (i.e. does not unlock the inner gravity shell's own gravity, that is a different matter), it releases the material particle in space at the thread to fall freely into the afterlife towards the 'north pole' of the six-dimensional sphere. The idea of this exchange of massive particles is that since the particles are in space for only the shortest possible moment, they have time to feel gravitation, but do not have time to move in space: thus the gravity shells get information about where the particle would have liked to move and can create a replacement particle in that direction. Thus, if a current is fed to the gravitational ball in a way that reduces gravity, the gravitational ball changes the matter in space into antematter, which is stationary in space for a minimal moment and is then replaced by new matter.

If a spacecraft and its crew could be made massless, space travel at the speed of light would be incredibly easy! Now we have the basic idea of a spacecraft capable of interstellar travel in place: small gravitational balls are needed as engines to generate gravitation to move the ship, and the entire spacecraft must be one large gravitational ball that transforms the ship into antematerial state. Of course, there are a lot of open questions, the most important of which is perhaps how the physical behavior of antematter differs from the physical behavior of material in space. In particular, it would be important to know whether living beings can survive in antematerial state. I believe and hope so. However, I will not start to consider these questions, but only hope that what was written above is true and that the use of antematter would enable interstellar space travel.

Summary

This text presented an alternative model of the universe to challenge the scientific community's big bang-based understanding of the universe. The universe does not need to have originated in the big bang, because the only two criteria that require it, the redshift of starlight and Einstein's general theory of relativity, do not actually require that the universe originated in the big bang or that the universe is expanding. Instead, the assumption was made that the universe is finite and unlimited, which requires a six-dimensional universe, which also needs a seventh dimension to ensure its finiteness. The universe was divided into observable space-time and the afterlife, which is the kingdom of God. It was presented how, through cosmological democracy, evolution occurs in the universe, which changes the natural laws of space-time. It was stated that the evolution of the universe does not, however, change the logic of God, which is eternally unchanging, and whose rules can be modeled in an understandable way by humanity using prime numbers. I discovered that the modeled universe enables humanity to use technology to control gravitation, and presented the basics of this technology and its potential applications for interstellar space travel.