

A Self-Similar Anthropomorphic Universe

A Theory of Everything

By John Madocks

Preface

This paper presents a theory explaining the composition and structure of our universe - a theory of everything. This theory aims to be a true TOE, one that accounts for all verified physical and human phenomenon. As you will see, the universe described is different than current notions. Rather than a vast empty space filled with rocks and gas, our universe is alive - literally. As fantastical as the descriptions may seem, I hope the reader can suspend disbelief long enough to examine the evidence. While there are suppositions and untested concepts as with any TOE, the fundamental aspects of this theory are sound and supported by documented observations and experimental evidence. In addition, the accessible nature of the theory makes it possible for readers to test the theory for themselves.

As different as it is, this TOE is actually a grand simplification over current theories. In current models, to fit observational data, 3 different sets of physical laws are required, one for atomic particles, one for the human scale and one for the cosmological scale. This TOE refutes this and shows one set of laws applies to all scales. In doing so, incongruities between quantum physics and gravity are resolved and open fundamental questions are answered. For instance, this TOE successfully explains the flat rotation profiles of spiral galaxies, the fine structure constant and the long term stability and negative energy of the Bohr atom model.

This paper presents the first part with 2 more parts remaining to be published. I'm publishing Part I now because the critical details appear to be ironed out and I want to release it to the wild before too much more time goes by. There is definitely a complete pattern that makes sense. Given the vast scale of a TOE there will certainly be unsolved questions. Its important though, when a problem is identified or a question left unaddressed, it is acknowledged and kept in view. While the unexplained can be tolerated, verified counter evidence should eventually lead to disqualification. An authentic TOE can't have ignored mysteries and no verified evidence outside the theory is allowed.

Even dividing the TOE up into three parts leaves this part long for a scientific publication. There is so much ground to cover. In several cases, brief statements are made about corollaries that leave questions unanswered. In some cases, while the statement made is correct to my knowledge, the brevity is a sign of my limited understanding. There certainly is an opportunity for a knowledgeable person, finding merit in these ideas, to delve deeper.

Introduction

What is a TOE?

Before launching into the TOE, it's appropriate to consider the definition. What, after all, is a TOE? To my thinking, to be true to its name, it must account for everything. By this I mean it must be consistent with verified observations from all fields of science from biology to cosmology and it must explain all natural phenomena and documented past events. IMO other TOE candidates don't meet this standard. Other TOE's emphasize resolving specific issues such as those between gravity and quantum physics. As such, these theories are not true TOE's. They don't attempt to account for the full range of human experience. When something has been documented to have happened such that its occurrence is beyond reasonable doubt, a TOE must be compatible with it and ideally explain it. Simply ignoring this evidence is not acceptable.

Near Death Experiences and Healing Miracles

One example of an ignored but proven event is the near death experience (NDE). NDE's have been documented by hundreds of thousands of people, probably millions by now. Many have proven the conscious nature of their out of body experience during their NDE by providing minute details of objects or conversations outside the room they were in. Details that occurred while they had no heart beat or neurological function. Hundreds of these experiences have been verified by doctors and other eye witnesses. Given this verified and documented evidence, NDE's must be accounted for by any theory claiming to be a TOE.

Another category of ignored evidence is documented physical healing. While many religious or spiritual experiences can be discounted as subjective, there remain thousands of accounts that have been documented beyond a reasonable doubt. Examples of such accounts are instantaneous healings of clearly observable illnesses such as deformity or blindness due to cataracts. They are deemed documented when they are witnessed by hundreds of people including doctors, journalists and even skeptics and detractors. While there have been many people throughout history who have

demonstrated healings, two men whose acts are proven beyond a reasonable doubt are Bruno Groening in Germany and William Branham in the USA.

The healings and miracles done by Bruno Groening and William Branham are documented beyond question yet these men remain unknown to most people. Bruno Groening¹ (1906-1959) healed groups of hundreds and even thousands of people with news reporters scattered throughout the crowd. He healed patients in clinical settings surrounded by critical doctors. In one case ‘incurable’ patients were handpicked by the doctors hoping to prove Mr. Groening a charlatan. To these doctor’s surprise – and displeasure - he healed these patients successfully. Their own documentation describes the conditions and outcome. In spite of helping multitudes of people, Bruno Groening was relentlessly attacked through the courts by German doctors and government officials. His offense was healing without a license. As the life of Bruno Groening shows, the materialist mindset goes beyond ignoring evidence. When confronted with undeniable proof and dismissal is impossible, the messenger is attacked without mercy.

William Branham (1909-1965) was an even more prolific healer. He held prayer meetings throughout the USA from 1947 to his death in 1965. Hundreds of his meetings were audio recorded and are available free on line.² To listen to recordings or read transcripts of his prayer line healings is to be profoundly amazed by God’s power. No illness was beyond healing by Branham including cancer, deformity and blindness and he never failed to heal. Hundreds of these healings are verified by doctor’s testimonies. To relate one healing, a small boy with severely clubbed feet was carried onto the platform by his mother. An eyewitness in the audience described how the boy really didn’t have feet. He said the boy’s legs ended in nubs. Brother Branham picked up the child and started praying for him. Before he could finish the boy let out a yell and struggled out of Branham’s grasp. The crowd gasped imagining the boy’s nubs would hit the floor. The eyewitness said he saw the boy literally grow feet as he fell to the stage floor. When he landed his feet, toes and all, were normal as any child. The testimony ends with the mother fainting, the crowd in loud turmoil exalting God and the boy running around the stage³. Can you imagine witnessing a healing like that? What would you feel? Would it change your life? This really happened. Can you comprehend this? Can you grasp its importance in defining who we are as human beings? Imagine the joy of the mother and the family. What hope did they have before? What would they have been told by doctors? Think of the impact on the boy. I hope for your sake you can take it in, even a little bit. Personally I can’t imagine how anyone who honestly looks into William Branham’s ministry can remain a staunch materialist.

¹Information about Bruno Groening can be found at www.bruno-groening.org/en

² <https://branham.org> links to William Branham audio and video recordings:

³Pearry Green witnessed this healing on January 23, 1950. Audio recording of the service also available

No bio I write can do justice to Bruno Groening or William Branham. They dedicated their lives to helping people, really they gave their lives for us. Its important you know both these men humbly disavowed any credit for healing. They adamantly stated that God was the healer. They claimed they didn't do anything other than help people connect with God. They also refused to accept money for healing. Even today the organizations keeping their memory alive offer everything for free. These actions and others align with what Jesus said and did. In fact, I've found the people who really healed, who demonstrated healing consistently and under all conditions, behave similarly. They come from different centuries and from completely different backgrounds yet the truths they espouse are identical.

So what of these miracles and healings? How do they fit in our understanding of the Universe? You can dismiss them but that's not scientific by any definition. Everything I've related can be relatively easily verified. You can see for yourself these things happened. Now what? What about our current physical theories? If ignoring miraculous healing is not appropriate, then a different approach is needed. This TOE not only accounts for them but explains how they are realized in a scientific and predictable manner. If, after reading the accounts above, you are unfazed in your materialist beliefs, you might want to stop reading. For your health and well-being, I hope you don't fall in this category.

In addition to physical healings, many religious miracles have been documented over the centuries. One example is Saint Galgano's sword in the stone in Italy⁴ Saint Galgano's sword in the stone is a favorite of mine because its an actual sword in a stone you go can see today. Its been tested and verified - there is an iron blade buried 30 inches in solid rock in Italy. There are no gaps between the rock and metal. It's a perfect fit. We can't replicate this today with all our technology. As the story goes, St. Galgano was a young knight living around 1000AD whose enjoyment of worldly life was disrupted with visitations by Saint Michael. At one point in frustration Galgano declared: "I can no more renounce the material world than I can plunge my sword into stone". To emphasize his point he thrust his sword at the rock. To his surprise it easily penetrated the stone up to the hilt. From that moment on he turned away from his wealthy family and became a monk. This would be legend if it wasnt for the sword remaining in the stone all these years. Yet there it is, literally hard evidence for the supernatural.

I once related the story of St. Galgano's sword in the stone to an accomplished geology professor. I could see he was nonplussed and when I asked he said he didn't know how the sword got in the stone but he knew it had to be by some known, as in, conventional process. End of discussion. Thinking about it later I realized here was a truly religious man. Not religious in a spiritual way. His faith was in 'science'. His 'faith' demanded he dismiss anything mystical or spiritual as being

⁴ Moiraghi, Mario, The Enigma of Saint Galgano, Search Saint Galgano for more information

false. For him, the idea of openness to evidentiary findings was limited to a narrow set of acceptable scientific norms. In this case he fervently declared ‘science’ in the face of blatant evidence to the contrary - and he didn’t have the slightest interest in learning more.

Unproven popular hypotheses and narratives don’t count

Its also important to note that while a TOE must account for all verified observations and evidence, it doesn’t have to agree with popular hypotheses and narratives. For instance, its widely accepted in cosmology that stars are formed by gravitational collapse of gas clouds. No matter how many scientists believe this it remains an unproven theory. Therefore, if a TOE were to conflict with this theory, this conflict wouldn’t invalidate the TOE. Unfortunately, in science and academia today, narratives extrapolated into facts have become the accepted norm. The problem isn’t the extrapolation. Suggesting reasons for observations is useful and progressive. The problem comes when narratives become unassailable fact and questioners are attacked.

Another example of a theory that has become unassailable fact is the standard model of particle physics. Today a map of sub-atomic particles is presented as being both correct and complete. All fields of physical science are explained to their core by this model – as long as no one asks questions or points out anomalies. For me, the data supporting this map isn't there. We’re told everything has been confirmed in atom smashing tests but unfiltered data is not published. What isn't mentioned is collecting meaningful particle accelerator/collider data is extremely difficult.

In my career building industrial plasma sources and equipment there were times when ion energy measurements were needed. Compared to a collider measuring MeV particles lasting only microseconds, our job should have been an easy. Our ion sources had stable beams with voltages up to only 4kV. Simple? - not! It turns out its very difficult to measure charged particles. The probes used have optics that require biasing. Spurious glow discharges, electrical noise and ground issues reek havoc. Its not difficult to get readings. Rather, the challenge is to get readings that are meaningfully accurate and repeatable. This applies to determining both the voltage and current of the incoming signal. This isn’t just me either. A survey of ion source publications will confirm these measurements are problematic at best. If this is the case with low voltage ion beams, imagine the challenges when implementing hundreds of probes measuring MeV particles within a microsecond time window. I can’t say its impossible but the unfiltered data is never published so its hard to judge the results.

A second challenge with collider measurements is processing the mass of data gathered during each event. CERN released a terabyte of data for a portion of tests conducted in 2011 and the

disclaimer on the data illustrates my concerns: “*Despite being processed, the high-level primary datasets remain complex and selection criteria need to be applied in order to analyze them, requiring some understanding of particle physics and detector functioning. The data cannot be viewed in simple data tables for spreadsheet-based analyses.*” This is for data that is already processed! I imagine the situation like this: Someone comes to you with digitized data of a snow screen from an old CRT TV. They say “I’ll pay you a billion dollars if you can find what we’re looking for in this data.” That perks your interest and you ask what they’re looking for. “We think there is an image of a cowboy riding a bucking bronco waving his hat. Can you find it?” What do you think? Can you find the image? Of course you can. There’s the cowboy in plain sight. This is an unfortunate analog of current particle physics experiments. Can they find particles? Absolutely! What do you want us to find? How about X. Oh, we’ll need a bigger collider for that.

I’m not the only one who questions particle collider data and the standard model. A number of authors have published books on this topic.⁵ These authors do a much better job of explaining the issues. While I don’t agree with the Standard Model theory, my main concern is how it has become ubiquitously accepted as fact and how questioners are derided and marginalized. Whatever the theory, no matter how established, serious challenges must be allowed. Not only allowed, they must be welcomed and thoughtfully considered. When did it become unscientific to ask questions?

A TOE Must be testable and make useful predictions

Another required quality of a TOE is it must be testable and make useful predictions. Anyone can claim a TOE where anything is possible. The multi-worlds theory is an example of this. With this theory no question is left unanswered – just add another world. While the logic may be unassailable, it can’t be verified and no predictions are made. A true TOE should track our observations and experience and make useful, testable predictions.

I realize I’ve set a high bar just as I’m submitting a TOE for examination. That’s OK. That’s the idea. This theory, as with any theory, must be probed and tested thoroughly before it can be considered valid. While I don’t see any show-stoppers, there certainly remains a lot to be checked and evaluated and I welcome constructive feedback.

⁵Alexander Unzicker, *The Higgs Fake: How Particle Physicists Fooled the Nobel Committee*, Andrew Pickering, *Constructing Quarks: A Sociological History of Particle Physics*

Part One

A Thought Experiment

To understand the forthcoming ideas, it is useful to consider a thought experiment on the scale of our universe. After all, we don't know, we can't know, the relative size of the universe. Our universe could be all-encompassing or it could be an electron in another universe. We have no way of knowing either way. Suppose we were able to see a solar system identical to ours except 1000 times larger? What if the planet was just like Earth and people on the planet were exactly like us only bigger? What if it was so similar, if you were there you couldn't guess if you were on Earth or on the larger planet? If we were on the larger Earth at our current, smaller scale what would we see? The people on this world wouldn't know they were larger/taller any more than we think of ourselves this way. Their experience, their interaction with their larger environment, would be just like ours is here. In the case of distance or length, we'd see their world as larger by the scale ratio of 1000. For instance, humans on Earth are on average 1.7m tall. The people on the larger world then would be 1.7km tall. For scaling to be invisible to the inhabitants, all distances and lengths would have to be 1000 times longer than on Earth. Their meter would be 1000 times longer than our meter. This distance/length scale ratio would extend to all three space dimensions.

How about movement and velocity? For seamless scaling, moving objects on the larger world would have to move 1000x faster. All physical attributes would be changed so it would be impossible to tell which scale world one is on. In the case of velocity, if speeds weren't 1000x faster, there would be a noticeable difference between being on Earth or on the larger Earth. Consider the example of a person walking for an hour on the larger world. To the walker, they would cover about 6 or 7km just as we would here. However, if we were with them, say perched on their shoulder, we would experience 6000km of ground covered. While the distance would be different, the time would be the same. We'd observe one hour passing just as they did. Since more distance was covered in the same amount of time, in Earth units the person on the LW walked 1000x faster.

For scaling to be seamless, all speeds must be faster on the Larger World (LW) including the speed of light. Consider people on both planets bouncing a light beam off a satellite. As dictated by scaling, the LW satellite would be 1000 times further away in Earth units. The time for light to travel there and back must be the same though. If it wasn't, communication rates among other things would be different and scaling wouldn't be invisible. Therefore, the speed of light must be faster on the LW by L. In the case of this example where the other world is 1000x larger, the speed of light on the LW would be 3×10^{11} m/s. This higher speed of light would be the unchanging

constant metric there just like our lower light speed is on Earth. Table 1 lists common physical parameters and how they would have to change in order for scaling to be invisible. In the case of this example, the scale factor L would be 1000.

<u>Variable or Constant</u>	<u>MKS Units</u>	<u>Scale Factor</u>
Distance/Length	m	L
Speed	m/s	L
Acceleration (a and g)	m/s ²	L
Mass	kg	none
Force	kg-m/s ²	L
Energy	kg-m ² /s ²	L ²
Gravitational Constant	m ³ /kg-s ²	L ³
Speed of Light	m/s	L
Time	s	none

Table 1

Change in variable or constant relative to scale factor L between our world and a larger or smaller world.

As seen in Table 1, the scaling factor between world’s correlates to the power of a parameter’s length unit. In our own world L=1 so it cancels out of our formulas. For instance, the Universal Gravitational Constant, G, is actually scale specific. Today we’ve measured G and determined its value and since we can’t know our scale, we assume it to be a universal constant. On a larger, or smaller world however, for scaling to be invisible to the inhabitants, G would have to change by D³. There are ramifications to the scaling of c, G, h and other units and these will be discussed later.

Regarding time, the situation is different. With space, the 3 dimensions of space exist just as we perceive them. Our universe may be the size of an electron; still, whatever 3D space our universe occupies actually exists. This is true when one scaled world is observed from another. If we were to see the larger world in the distance, it would appear to us 1000 times bigger than our world. With time, its a matter of perception. In space many things can and are happening all over our planet and throughout the universe at once. While they are taking place in different spatial locations they all are occurring in the same present moment. Where space occupies a volume defined by 3 axes, time is only a point.

Of course there are past events recording the flow of present moments in our memory and this creates a time line. However, only the present moment actually exists. Nothing can exist outside the present moment. While we live in the present moment, time passing is crucial to existence. In the instant of the present moment nothing happens. No energy is expended, nothing moves and no work is done.

Considering time as a point and contrasting it to time passing may seem overly philosophical but it will be important later. For now, we'll look at how time passing translates to the thought experiment. To a person on a larger or smaller scale world time passing would seem normal. It would have to for scaling to be imperceptible. Motion and acceleration would seem normal too. We couldn't tell we if we were on a larger or smaller scale planet. The difference with time comes when one scaled world is observed from a larger or smaller one. When this is done we see their rate of time going by is different than ours. This results in a time ratio between different scale worlds. This ratio, termed T, is not the same as length ratio L.

Differences in time perception actually occur between species on Earth. The house fly is one example: A fly experiences our hand approaching more slowly than we perceive⁶. To the fly, approximately 10 seconds go by while to us a second passes. There is no difference to time itself but rather the perception of time passing. In avoiding our swat, the fly doesn't race ahead to a future present moment. The fly literally experiences 10 seconds where we experience one. This means a fly experiences a 10x longer life than we suppose. From our vantage point a typical housefly lives 672 hours. To the fly though its lifetime is 6720 hours long (28 vs. 280 days).

The scaling of mass between scaled worlds is similar to time scaling. Like time, mass is independent of length. Mass doesn't change like variables and constants containing units of meters. For example, consider the solar system 1000x bigger than ours. Viewed from our scale, the earth-like planet would appear to us to be 1000x larger. Its radius and circumference would be 1000x larger while its volume would be 10^9 times that of Earth. Because mass doesn't scale, the mass of the larger world would be the same as Earth. This results in the density being lower when the same mass is divided by the larger volume. Likewise, a person's mass is constant independent of their scale. Being far taller on the larger world, a person would be less dense but density change isn't noticeable because it doesn't present itself to our experience. As we know, the actual density of atoms is infinitesimal. Outwardly reduced density isn't apparent because accelerations related to gravity and inertia are larger, scaled as they are by powers of L. While mass doesn't scale across worlds, there are differences in how mass is perceived looking at one world from another. These differences will be discussed in later sections.

⁶ Laughlin, Weckstrom, 1993, Journal of Comparative Physiology A 172 593-609

To summarize the thought experiment, we can't know the relative scale of our universe. If we were transported to a world 1000x larger we wouldn't know it if we were scaled accordingly. As has been explained, this seamless scaling can be accomplished by multiplying all physical parameters by the power of scale factor L between us (Earth) and the larger or smaller world. A parameter's scale factor power is set according to the parameter's length unit (meter in MKS units). For the scaling to be invisible, the speed of light has to be faster or slower by L . There is a time ratio between worlds but this only comes into play when one world is observed from another. Similar to time, mass appears altered when one world is viewed from another. The litmus test to determine if a parameters scaling is applied correctly is a person transported between worlds won't know which world he/she is on.

Scaled Self-Similar Worlds

This TOE proposes the scaling thought experiment engaged in above is the actual case for our universe. In fact, our universe contains at least four self-similar scaled 'worlds'. Each world is similar to our solar system and ranges in size from the universal to the atomic. Each world has a sun like ours, a planet like Earth and people like us on the planet. These worlds co-exist with us in normal space and time. They aren't in other dimensions or multi-verses. They are literally around us but we don't realize it. There are 2 worlds with larger scales, our world and a smaller world. For lack of better names, I call the larger worlds the Universal World (UW) and the Galactic World (GW). Our world, our Solar System, I call the Solar System World (SSW) and the smaller world is the Atomic World (AW).

Just as in the thought experiment, to the inhabitants of each world, they would view their world just as we see ours. They would stand on their Earth and see their Sun in the sky just as we do. Unlike the inhabitant's experience, when we look out at the larger Worlds we don't see them as they are because their speeds of light are faster than ours. Because c is faster, their electromagnetic spectrum's are beyond our detection. We can detect their mass however because mass doesn't scale with length and is independent from the speed of light. Our detection of the Atomic World is similarly skewed as I'll discuss later. In all cases, the composition of these worlds is such that if you were to show up on one you wouldn't be able to tell you were on a different sized world. This is the law of scaling.

		Universal World	Galactic World	Solar System World	Atomic World
World as we perceive it		Mostly beyond our sight	Local Galactic Group	Our Solar System	Hydrogen Atom
Earth-Like Planet		Our Universe	Milky Way Galaxy	Earth	Electron
Planet Radius, m	Observed		6×10^{19}	6.36×10^6	
	Predicted	6×10^{27}			2.2×10^{-15}
Planet to Sun Distance, m	Observed			1.50×10^{11}	5.3×10^{-11}
	Predicted		1.4×10^{24}		
Length Scale Ratio		1×10^{21}	1×10^{13}	1	3.3×10^{-22}
Speed of Light, m/s		3×10^{29}	3×10^{21}	3.00×10^8	1×10^{-13}

Table 2

The 4 scaled worlds within our universe

Table 2 outlines the 4 scaled Worlds and calculates their length scale ratios and speeds of light. Each world is identical to our Solar System with a planet Earth and a central Sun. For instance, for the Galactic World (GW), our Milky Way galaxy is a planet exactly like Earth and there are people like us on the planet. We don't see it as a planet because the speed of light in the Galactic World (GW) is far faster than ours. The length scale for each world is calculated by comparing the ratio of similar metrics between a World and our SSW. For scaling the GW, the radius of the Milky Way central bar is analogous to the radius of Earth. The reason for choosing this metric will be explained later. The GW Earth-like planet, i.e. the Milky Way, is termed the Galactic Planet (GP). As shown in Table 2, comparing the two planet radii results in a length scale difference between Earth and the GP of approximately 1×10^{13} . As required, if the scale on the GP is to be invisible to the inhabitants, all physical units must be scaled by this length ratio. For instance, the distance between the GW sun and the GP must be the distance from our Sun to the Earth multiplied by the Length Ratio:

$$Distance_i = 1.5 \times 10^{11} \times 1 \times 10^{13} = 1.5 \times 10^{24} \text{ meters}$$

We don't see the GW Sun because of the speed of light difference. The GW Sun is emitting radiation in the EM spectrum of the GW and we can't detect this at our scale. Notably, the estimated distance from the MW to the Great Attractor is similar to the calculated value between the GP and its Sun. In alignment with the idea that the GW is a solar system like ours, it is predicted the GP rotates around its Sun with Keplarian motion just as Earth rotates around our Sun. This means the MW is orbiting around an unseen object 1.5×10^{24} m away. Keep in mind because

of the speed of light difference, we're not seeing the GW as it is. For scaling to be invisible to the inhabitants, the speed of light on the GP must be approximately 3.0×10^{21} m/s.

Below our SSW in size is the Atomic World (AW) consisting of a neutral hydrogen atom. The Earth-like planet is the electron and the Sun is the proton. The length scale of the AW is set by the Bohr radius. As a scaled world, the Bohr radius correlates to the distance between our Sun and Earth. As shown in Table 2, this results in a length scale ratio, L_{AW} , of 3.3×10^{-22} . The speed of light for the AW is 1.0×10^{-13} m/s. Accordingly, all physical constants and values for the AW can be found by multiplying any SSW value by L. For instance, the radius of the AW planet can be found by multiplying the Earth's radius by L.

$$\text{Atomic World's Planet Radius} = 6.4 \times 10^6 \times 3.3 \times 10^{-22} = 2.2 \times 10^{-15} \text{ meters}$$

This predicted result aligns with the classical value for the radius of an electron. A more in-depth analysis of the AW is presented below.

It is notable that, like many natural phenomena, the scales of 4 Worlds follow a logarithmic, golden spiral pattern. This can be seen in the World length scales shown in Table 2 (and in any scale parameter with a single power meters unit). Since each World is identical, it can be accurately stated that our Universe is a self-similar fractal with reoccurring instances at ordered intervals. This pattern was noticed after the scale lengths for the GW and AW were determined.

To summarize, at the top level, this TOE proposes our universe is a series of self-similar worlds at different scales ranging in size from the universal to the atomic. Each scaled world has a Sun like ours, a planet like Earth and people like us on the planet. These worlds co-exist with us in normal space and time. They are literally around us but we don't realize it. We don't see the larger worlds as they are because their speeds of light are faster than ours. Because c is faster, their electromagnetic spectrum's are beyond our detection.

There certainly are questions to challenge this theory: If we don't see anything from another world, why do we see stars or galaxies? What about elements other than hydrogen? Is every atom a solar system with people living on it? Please realize that, as this proposes to be a total theory, explaining all observed and verified phenomenon is a big job. Like a bowl of spaghetti, there is no one thread to follow. Everything relates to everything else. If you can manage it, the best course is to suspend disbelief and keep reading. The questions above and many others will be addressed.

The Universal and Galactic Worlds

The largest scale world in our universe includes the universe itself. According to this TOE, our universe is a planet like Earth within the Universal World (UW). We don't see it like this because the speed of light in the UW is far faster than ours. As gigantic as the Universal Planet (UP) is, if we were on it we wouldn't know it because everything is scaled perfectly. Everything would look and behave just like it does here. As stated above, because mass has no units of length, it is independent of scaling. Therefore, while vastly larger in length scale, the mass of the UP is the same as Earth, 6×10^{24} kg and a person on the UP would weigh about 70kg like they do here. The UW density then, given the volume of the entire universe and the giant length ratio, is far lower than ours. Just like here on Earth, we don't experience atomic density so nothing would seem different. If you were transported to the UW and scaled proportionately, you wouldn't be able to tell you weren't on Earth. When we observe the universe from our scale, the mass we measure is different. The scaling of mass when one world is observed from another will be discussed later.

The UP has a sun like our Sun but from our perspective its outside our universe. We don't see the UW's sun because we don't see EM energy from the larger scale worlds and the UW is effectively two scaled worlds from us. What we can know is, just like Earth, the UP rotates on its axis and orbits its sun. Therefore, our universe is rotating on an axis similar to Earth and its in a Keplarian orbit around its Sun. Within our universe, Galactic Worlds are orbiting around the universe's rotational axis with constant velocity, non-Keplarian orbits just like the stars orbit our galaxy. Figure 1 shows a diagram of our universe, the UP, and the predicted motion of GW's.

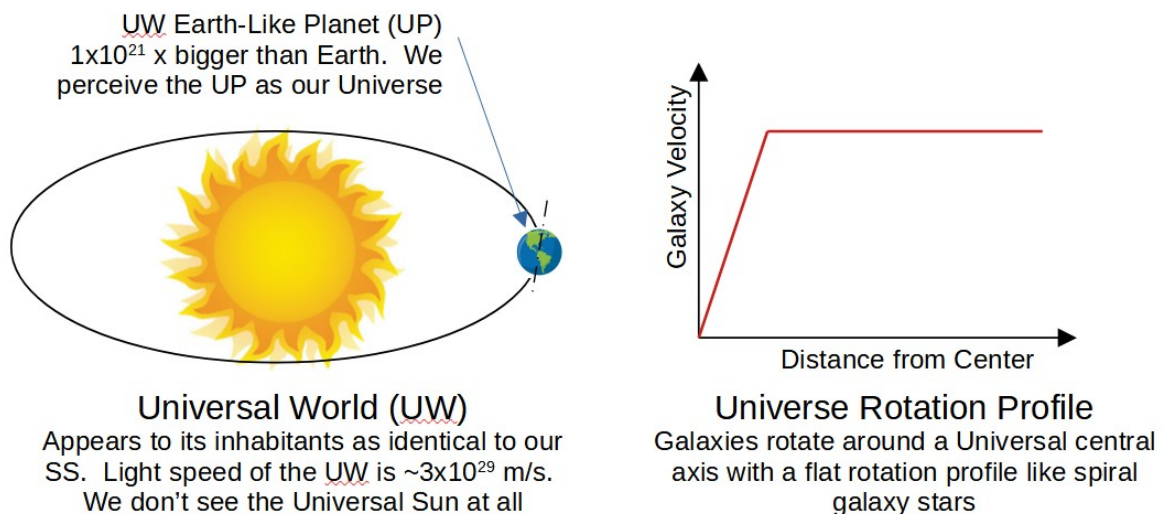


Figure 1
Diagram of Universal World and Universal Earth-like Planet

With regard to the commonly accepted notion of an expanding universe and dark energy. I'm suggesting, predicting, these are incorrect hypotheses. Our universe is actually far simpler than the current conception. As I've stated, the 3D space we exist in is real and stable. One set of physical laws applies to everything, all scales, from the atomic to the cosmic. In this TOE, the universe rotates about a center axis just as we observe our Earth and Milky way galaxy to rotate. Similar to stars orbiting a spiral galaxy, galactic worlds rotate around the center of our universe with approximately uniform speeds rather than slowing as the distance from the universe' center increases. The discussion on Galactic rotation profiles goes into more detail below.

The next scaled world after the UW is the Galactic World (GW). Like the UW, the GW has a Sun like ours and an Earth-like planet orbiting around it. For our GW, the Earth-like Galactic Planet (GP) is the Milky Way galaxy. As stated, we don't detect electro-magnetic radiation (EMR) from the GW because the speed of light is faster than ours. This means we don't see our GP as we see Earth and we don't see it's Sun. However, people on the GP see a sun in the sky just like our Sun and the day and night lengths and year lengths are the same as ours. Remember, the law of scaling says a person can't know which world they are on. As far as the other objects in our local a galactic supercluster, remember we're not seeing the GW as it is. The only quantity that passes down to us to observe is mass and that is modified by our position as an observer on a different scale world. The stars and galaxies we see are of a different origin as I'll explain soon. Similar to our Solar System, the MW galaxy orbits the GW's sun with Keplerian motion. Figure 2 shows a diagram of the Galactic World and the Galactic Earth-Like Planet.

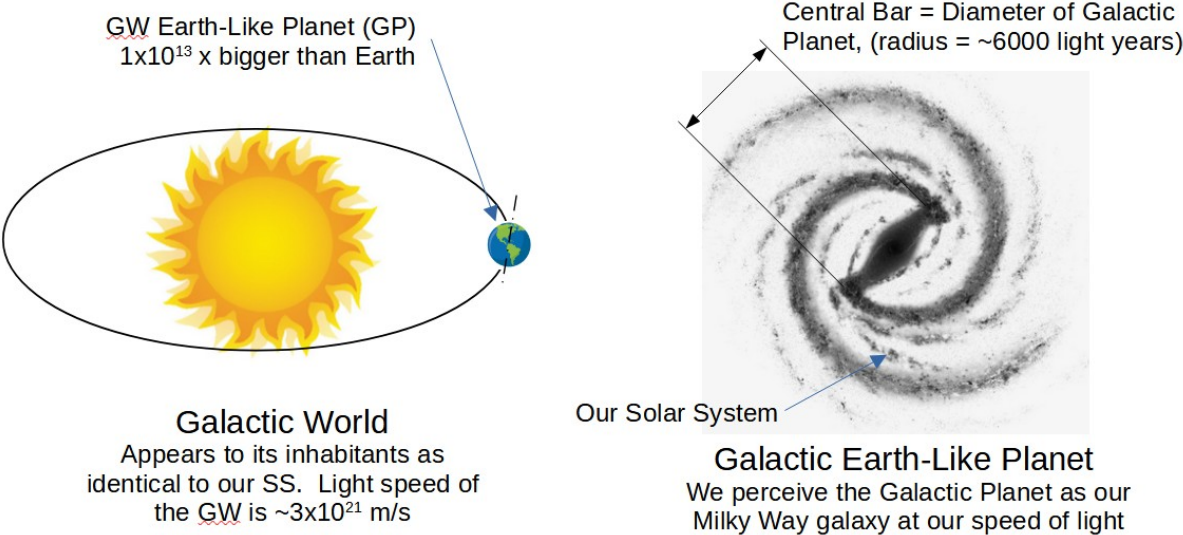


Figure 2
Our Galactic World and Galactic Planet

To reiterate, according to this TOE’s scaling law, all the worlds are identical. This starts with the UW and moves down the scale. i.e. the GW is identical to the UW and the SSW is identical to the GW. In order for scaling to be invisible to the inhabitants, all physical units must be scaled by a length ratio. For instance, the length scale ratio between our SSW and the GW is calculated to be 1×10^{13} . For scaling to be invisible, any metric with meters units must be multiplied by this length ratio. Table 3 shows several common metrics and their scaled values for these two worlds.

Parameter	SSW Earth/Sun	GW Planet/Sun Observed from Earth / Calculated	GW Planet/Sun to Inhabitant
Radius of Planet, r, m	6.40E+06	6E+19	6E+19
Length Ratio, L	1	1E+13	
Speed of Light, c, m/s	3.00E+08		3E+21
Mass of Planet, Mp, kg	6.00E+24		6.00E+24
Acceleration of Gravity, g, m/s ²	9.8		9E+13
Gravitational Constant, G, m ³ /kg-s ²	6.67E-11		5E+28
Planet Rotation Speed, Vr, m/s	463	100,000 ⁷	4E+15
Planet Rotation Period, S	24 hours	1.0 x10 ⁸ years	24 hours
Time Ratio, T	1		4E+10

Table 3

Selection of metrics for the Galactic and Solar System Worlds

The first column is values we measure on Earth. The center column is values for the GP (Milky Way Galaxy) as we observe them from Earth. The right column is values as they would be experienced by an inhabitant on the GP. Meter length is our Earth meter.

As stated, time and mass don’t scale like length. To someone on one world, time would pass normally and things would weigh just as they do here. If you stood on a scale on the GP, you would weigh exactly what you weigh on Earth. Scale differences for time and mass come into play when one world is observed from another. For example, we observe the Milky Way to rotate every 100 million years. However, if you were to be on the GP, the planet would rotate in 24 hours just like Earth. Mass is similarly distorted by observation though differently than time and this will be discussed later.

⁷Juntai Shen and Xing-Wu Zheng 2020 Res. Astron. Astrophys. 20 159. This is the estimated rotation speed of the MW galaxy’s central bar.

The People of the Galactic Planet

According to this TOE, the people on the four scaled worlds are human beings like us. This must be the case to support the core postulate of this TOE - that scaling is invisible between the different worlds. This means if you were on the GP you wouldn't know it. Certainly if the people of the GP were different you'd know something was up. Since that would violate the scaling law, the people on each world must be just like us. While this is true, it doesn't mean we see them as people from our vantage point on the SSW. As explained earlier, we don't see matter as it is on a larger scaled world because the speed of light is different and seeing requires we detect their EMR, which we don't.

So if we don't detect EMR from the GP, what are the stars in the Milky Way? Stars are certainly visible within our speed of light. They emit light with a speed of 3×10^8 m/s. The speed of light on the GW is 3×10^{21} m/s and we don't see this light. What is the light emitted at our scale? This TOE postulates the stars in the Milky Way are people on the GP. When we observe a star we are seeing a living person on the GP. A star isn't that person, rather it's an aspect of them that manifests at our scale. The light we see is a person's life energy. My understanding is each star is a man. (I know, not politically correct. I'm reporting on what I see, not deciding what is right.) Our star, the Sun, is a man living on the Galactic Planet. Where the stars are the life energy of men, we see the women of the GP as Earth-like planets. Our Earth is a woman on the GP. The Milky Way galaxy, our GP, is a woman on the UP. Looking at barred spiral galaxies like our Milky Way we see a central glow that is not produced by stars. This glow is the life force of the woman on the UP. (There is no central black hole. According to this TOE, warped space-time and singularities like black holes don't exist.)

Not only are the stars of the MW indicative of life, all the light we see in the Universe is some form of life. We see the galaxies around us in our local super cluster and these observations don't mirror our solar system. We have to remember we're not seeing the planets of a GW solar system. Rather, all the stars and galaxies we see are living beings. All of them may not be human beings like us. Just as there are different elements, there may be different life forms. In the Preface I stated that our Universe was alive. Now you can see why this statement is made.

I realize it's far-fetched to claim galaxies, stars and planets are living beings, at least in this day and age. Remember, whatever the situation, it all has to work out for the TOE to be true. That is, it has to explain all verified observations and make accurate and correct predictions. As strange as these ideas are, the evidence for their validity is compelling. I realize, especially at this top level, the notion that stars are men is hard to consider. There is lots more to explain though and further

along the science will be more clear and overall it will make sense. To find out if this is true you will have to keep reading.

Galactic Rotation Profiles Explained

One confirmation of this TOE's hypothesis that the MW is an Earth-like planet of a much larger scale is its alignment with observed spiral galaxy star rotation profiles. A confounding cosmological observation is the non-Keplerian rotation speed of stars around spiral galaxies. As has been repeatedly verified, stars rotate about their galactic center at a uniform or increasing speed independent of their distance from the galactic center. This constant speed is in direct conflict with the physical laws governing gravity and orbital motion. According to classical physics, rotation speeds of stars in galaxies should be inversely proportional to the square of the distance from the galactic center. This type of motion, termed Keplerian motion, is how planets orbit the Sun in our Solar System. Figure 3 diagrams how stars should rotate about the galactic center vs. how they are actually observed to rotate.

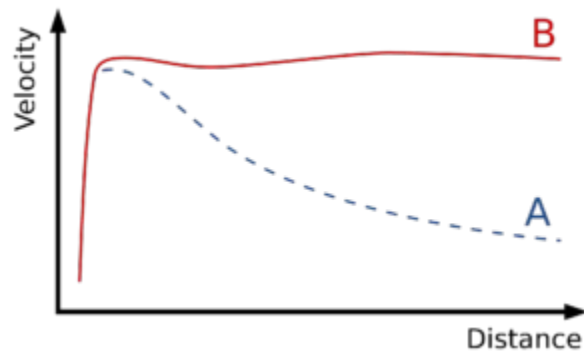
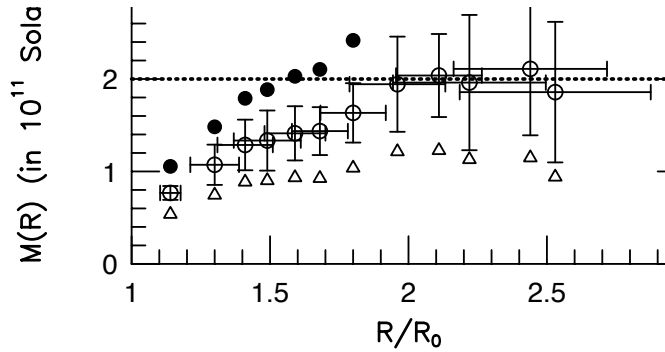


Figure 3

Rotation curve of a typical spiral galaxy: predicted Keplerian motion (A) and observed flat rotation profile (B)

Not only is Keplerian motion not observed for stars in our galaxy, but star velocities are greater than what they should be. At the measured speeds, the calculated centripetal force exceeds the apparent gravitational force holding the stars in orbit and stars should fly off into space. To account for these observations scientists have postulated an unseen mass called Dark Matter (DM). According to mainstream cosmology, DM must be approximately 8-9 times greater than all a galaxy's mass including stars and gas. Beyond this assumption, no information about DM is known. Not only is what constitutes DM unexplained, but the proposed distributions of DM do not successfully resolve observations about star positions and speeds. Certainly there is no alignment between DM and the logarithmic spiral arm distribution of the stars.

Regarding galaxy rotation profiles, its important to realize can vary significantly for different assumed parameters. Figure 4 shows observed/calculated star rotation profiles for our MW galaxy for three different nominal sun velocities. These variations highlight the danger of accepting a published galactic rotation profile without knowing the underlying assumptions used to plot the points.



Rotation curves for the Milky Way Galaxy. The filled circles are for $\Theta_0 = 220 \text{ km s}^{-1}$, the open circles for $\Theta_0 = 200 \text{ km s}^{-1}$, and the triangles for $\Theta_0 = 180 \text{ km s}^{-1}$. The radius is normalized by the distance to the galactic center R_0 . The error bars are almost the same for all cases. Reference⁸

Figure 4
Rotation Curves Dependent Upon Initial Assumptions

This TOE's hypothesis that our galaxy is a planet like Earth accounts for both the non-Keplarian motion profile and the excess rotation velocity of stars. As explained above, we don't see the GP as we see Earth because the speed of light is vastly different. As shown in Table 3, the scale difference, scale factor L, between Earth and the GP is 1×10^{13} . This scale is derived from the difference between Earth's radius, 6.4×10^6 meters and the estimated radius of our MW galaxy central bar of 6×10^{19} meters. According to this TOE, all scaling between worlds must be invisible to the inhabitants and therefore all physical parameters and constants must be scaled by the length ratio. This means, for scaling to be invisible, the speed of light in the GW must be $3.0 \times 10^{21} \text{ m/s}$. This large difference in the speed of light between Earth and the GW is why we don't see any electro-magnetic radiation (EMR) from the GP.

⁸Honma, M. and Sofue, Y. (1997), *PASJ* **49**, 539

While we don't see the galactic planet as it appears to inhabitants, we can detect its mass because mass doesn't require EMR radiation for detection as do parameters containing a meters component. To an inhabitant on the GP, everything would feel just as 'heavy' as it is on Earth.. If we were on the GP, we'd see people living, walking around, just like on Earth. As we look at the MW galaxy from our SSW, because of the speed of light difference, we don't see anything of the GP in terms of matter or EMR. We don't see the planet's surface or the atmosphere. Instead of this we see stars orbiting a central bar with the stars distributed out in logarithmic spiral arms. As stated in the stars we are seeing the life energy of living people. At our speed of light, within our EMR spectrum, we see only the life energy of the GP inhabitants. There is a reason these life energies are spread out as they are from the GP's surface which will be explained below.

If people are indeed living on a Galactic Planet as we do on Earth, they will be moving with the planet's rotation just as we do. On Earth, gravity holds everything in place and on the surface everything rotates at the same velocity. Luckily for us, people and things don't fly off into space due to centripetal force. The reason for this is, at the Earth's surface, gravitational force, $(m \times g)$, exceeds centripetal force, $(m \times v^2/r)$, by 295x. Inside the Earth, starting at the center and moving toward the surface, matter rotates faster and faster until the Earth's surface is reached. Once on the surface, all matter rotates at the same speed. If the stars were people on a much larger Earth-like planet, their rotation profiles would resemble motion profiles for people on Earth. The radial spread of the stars from the galactic center distorts the idea that the stars are people on the surface of a planet.

Distribution of Stars in the Milky Way Galaxy

To explain the distribution of stars in the MW galaxy, a closer look into a scaled world is needed. It turns out there is a finer scale structure within each scale world. This is a big topic requiring a Part II of this TOE of equal length to Part I. Part II will be published shortly. For now, the concepts will be broadly introduced to explain why we see the MW as we do. As I said earlier, a TOE is like a bowl of spaghetti. There is no linear path to follow in explaining how things work. Subsequently, to explain one subject, another is broached with minimal explanation.

As proposed, our Universe is composed of self-similar fractal worlds descending from the Universal to the Atomic in a logarithmic golden spiral sequence. All the worlds are identical to each other. This means we can observe something in one scale world and know this observation applies to all the scale worlds. For instance, we can apply our observations of a hydrogen atom to our SS World and to the larger Galactic and Universal Worlds. Looking at the electron in the hydrogen atom, the AW planet, we see it can have different energetic states in terms of quantum

numbers n, l and m . In turn, the larger worlds must have these same states. In addition to energetic states, all worlds must share the basic structure of matter. As is known, all things have a wave function and exist in either a wave state or a particle state. It is accepted that not only atomic particles but rocks, plants and animals - including us humans - have these fundamental constituents. Even mainstream Wikipedia concedes: “*all matter exhibits both wave and particle properties*”. With this in mind we can know a lot about the larger worlds by observing the AW.

Keep in mind that all the light we see in the night sky (and the day sky – our Sun!) is some form of life. A spiral galaxy is a woman on the UP. To the people of the GW, she appears like Earth appears to us. When we observe the MW galaxy, at our much slower light speed, we see the life energy of the UW woman as a central glow. The stars in a spiral galaxy are men living on the GP. Again, at our light speed we see only their life energy. As you will see, all people on Earth also have a life energy component. This is our spirit. Animals may have this component too. At the atomic world scale, an electron is identical to Earth and the proton is like our Sun. I’m not sure if there are people on the AW. If there are, they have been around for a long time as you will soon see. Figure 5 diagrams life appears in our universe at the different scales.

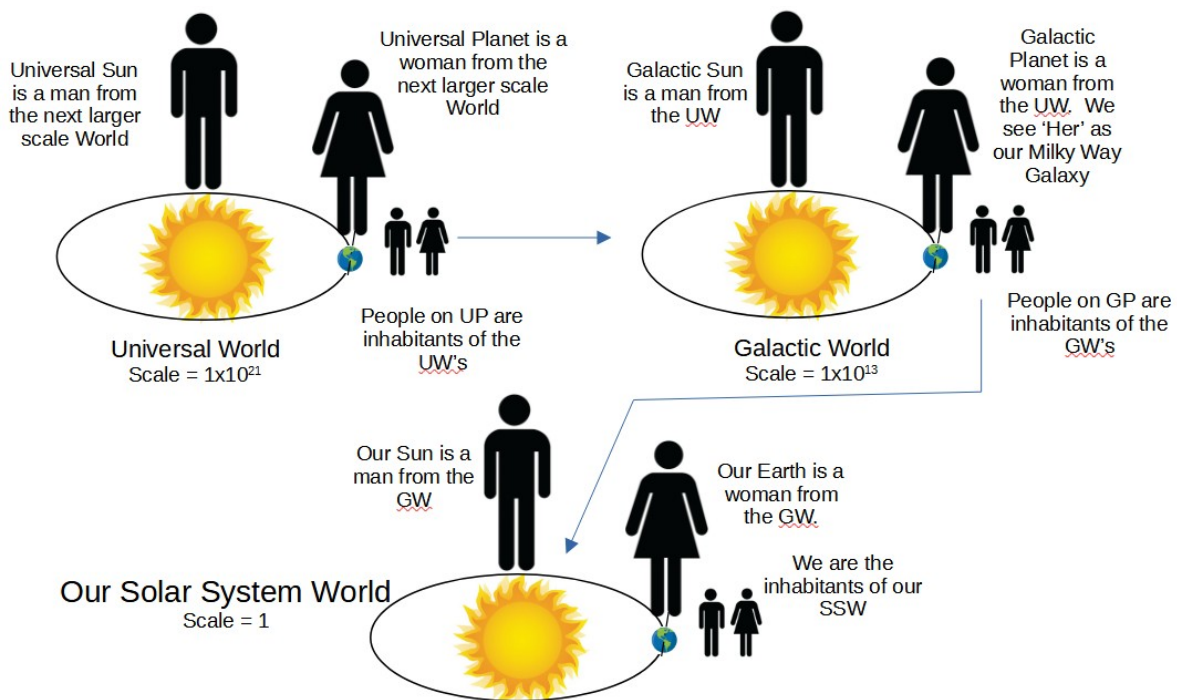


Figure 5
Diagram of life in the Universe

When we look at a hydrogen atom we see the electron can exist around the proton in a range of possible quantum states. The Schrodinger wave equation is used to determine the probability of

finding the electron in a certain location for a given quantum state. Figure 6 shows the potential radial distributions for electrons in states $n=1-3$. Note how the distributions extend well beyond the Bohr radius for the atom.

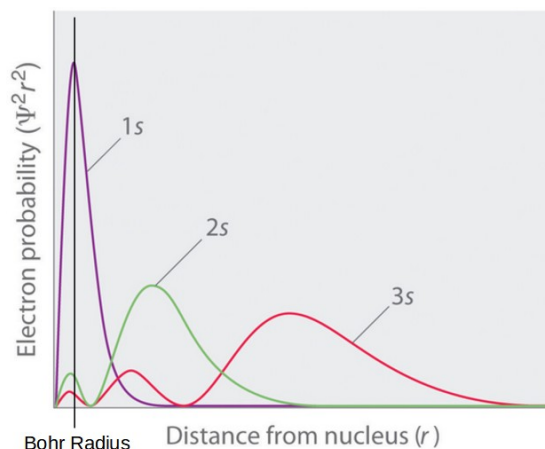


Figure 6

Radial probabilities of electrons in a hydrogen atom for quantum states $n=1-3$, l and $m = 0$

According to this TOE, not only do potential distributions apply to electrons, but all life, all people, in all the scaled worlds have life energies that fall within specific probability distributions. Just as the wave equation is used to determine where an electron may appear, this same equation, with different coefficients, applies to the people on a scaled world. This makes sense since both electrons and people have wave functions and wave or particle states of existence.

In the case of an electron, the normalized wave equation gives the radial position probability from the proton. In the case of people, this equation solves for the distance from the center of the Earth-like planet. Similar to the electron orbiting a proton, people can exist in multiple possible quantum states with varying values of quantum numbers n, l and m . During our Earthly, material, existence, we are in the ground quantum state where $n=1$. After we die, we transition to the $n=2$ state. If we spiritually progress we can ascend to higher quantum states, $n=3$ and beyond. When we look at the stars in our MW galaxy, we are seeing more than just the life energies of people living on the planet in the $n=1$ state. We also see the people in the $n=2$ state and beyond. This explains the large number of stars observed.

Where the wave equation solves for a distribution of possible locations, a specific electron will have a specific location based upon its energy and possibly other parameters. Since we don't know an electron's specific energetic state, we can't know its radial location and we are left with a probability distribution. In this same way, while all the currently living people on Earth have a life

energy that falls under the Schrodinger equation $n=1$ curve, a specific person will have a distinct life energy and this locates them, energetically, at a specific radial position from the center of the Earth. If this life energy is low, a person's energetic location can be below the surface of the Earth. If it's higher it is above the surface (see Figure 7). After we die, our life energy location on the $n=1$ curve transfers to the $n=2$ curve and determines our location under the $n=2$ curve. Figure 7 shows approximate radial probability curves for quantum states $n=1,2$ and 3.

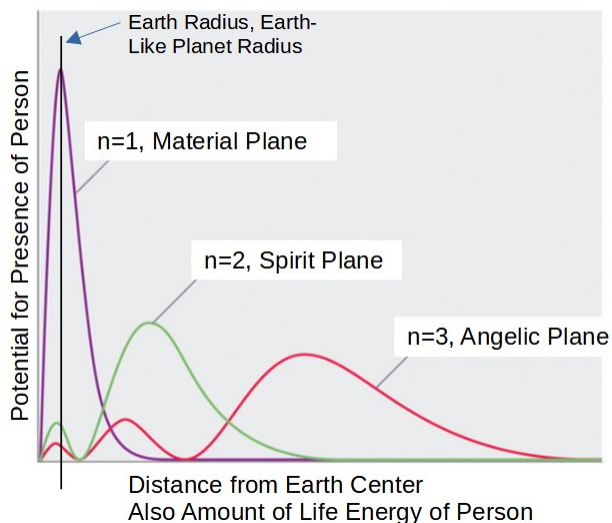


Figure 7

Probable distributions of peoples energetic state on Earth or an Earth-Like Planet, for quantum states $n=1-3$, l and $m = 0$. Note wave equation coefficients are likely different than those for an electron. These curves are approximate.

Understand that the probability distributions in Figure 7 apply to all the scaled Earth-like planets, the UP, GP and our Earth. Each of the curves show the potential locations for people (men) in a specific quantum state. The horizontal axis shows the distance from the center of the Earth-like planet. The horizontal axis can also be viewed as an energy scale where the life energy of each person, in any quantum state, may be found. The vertical axis indicates the likelihood for a man's spirit location as a function of the distance from the planet's center. For instance, for the GP, the $n=1$ curve shows the possible range of locations for the life energy of a man currently living on the GP. Each man has a specific energy and we see this as a star a certain distance from the MW center. The $n=2$ state curve for the GP shows possible locations for men that have 'died' and now inhabit the Spirit World of the GP. The vertical axis is not indicative of the star rotation speeds. These are determined by the rotation speed of the GP and the time since the specific person was born on the GP. The situation is exactly the same for the life energy distribution curves for people

on Earth. This then is the reason for the observed star distribution from the galactic center. In observing the MW galaxy, each star is a man and we are seeing his life energy as a distance from the galactic center as a function of his quantum state. The quantum state curves don't explain the organization of the stars into logarithmic spiral arms. This will be discussed in Part II.

Remember when we see the stars we're seeing the life energy of people on the GP. This includes people who, by our estimation, are both alive and dead. Stars in the $n=1$ quantum state are men, with material bodies on the GP. In the $n=1$ state, a person has both wave state and particle state components. The particle state is the collapsed state of matter we see around us. What we see as a star is the life energy wave component and this shows up within the $n=1$ probability distribution. The $n=2$ state is the Spirit Plane and all the states where $n>2$ including all the l and $m >0$ states are Angelic Planes. All people exist perpetually in the $n>1$ states after death. There are living beings inhabiting all the different quantum states including those where l and m are greater than zero. This can be seen when the overall distribution of stars in the MW is compared with a 3D plot of electron probable distributions for all states of n, l and m . This is covered in detail in part II of this TOE.

It is a prediction of this TOE that the radial star distribution in the MW and other spiral galaxies will correspond with the probability distributions of an electron in a hydrogen atom including all quantum states for n, l and m . Extending this prediction, the distribution of star types will be in alignment with these electron quantum number probability curves. For instance, the probability of finding a main sequence star like our Sun will follow the quantum state $n=1$ curve. Red dwarf stars will be distributed according to the $n=2$ curve. Every different star type will be associated with a specific quantum state or value of n, l and m and the location of the stars of a type will fall within the bounds of that states probability curve. Note that a publication about the distribution of cepheid stars in the MW appears to support this prediction⁹.

In alignment with the core scaling precept, that all the scaled worlds are similar, we, the humans on Earth, have this same life energy component as do the people of the Galactic World. As such, a person on the AP would view Earth as a spiral galaxy identical to our MW with the stars distributed out just we see them. The stars they would see are the life energy of men on Earth. The $n=1$ distribution being those that are currently alive on Earth. The stars filling the other quantum states, where $n>1$ and l and $m >0$ are the life energy of those who have passed to the Spirit and Angelic planes.

⁹ Juntai Shen and Xing-Wu Zheng 2020 Res. Astron. Astrophys. 20 159

Time Scales Between Worlds

According to this TOE, time scales differently than space. With space, the 3 dimensions exist just as we perceive they do. The space the universe takes up is real and constant. (According to this TOE there is no warped spacetime, there are no black holes and the universe isn't expanding.) The 3 dimensions of space are shared by all the scaled worlds. We are literally inside the GW and the GW is inside the UW. Because we share space with the UW and GW, we can observe these worlds from our SSW, or at least aspects of them. As described earlier, while we don't see them as they are because we can't detect their EMR, what we do see is sufficient to give us an understanding of the length scales between the worlds.

As stated earlier, to inhabitants of a world, time passing seems normal. Consider of our experience on Earth. Time goes by as it always has and we don't think about it. Time on another scaled world would be the same. If you were transported to the GP and not length scaled accordingly, time would still seem normal. Being there you certainly would see the difference from a length scale perspective - you'd be 2×10^{13} m times shorter than everyone else! Though your length scale would be drastically different, you'd share an identical time scale. For example, one day and night would encompass 24 hours just like it does here. Where time does appear different is when one scaled world is viewed from another. On the GP you'd perceive hours and days just like on Earth. One rotation of the GP on its axis would take 24 hours. However, when we look at the MW galaxy from our SSW, we measure the time for one rotation to be approximately 100 million years¹⁰. There aren't different present moments on each planet. It's just time passing is perceived differently. As described earlier, the situation is similar to how insects and animals can perceive time differently from us. A fly sees our hand moving more slowly than we think we're moving. To a fly one second is only about 0.1 sec to us.

This difference in observed time vs. our SSW time is termed the time scale factor, T, and is found by dividing an observed time increment of another world to the same amount of time on Earth. For example, for the GW, the GP orbit time is used because it may be considered a measured quantity. The time scale T between the GW and the SSW is calculated as follows:

$$\text{Time Ratio, } T, \text{ for Galactic World} = \frac{100,000 \text{ Earth years}}{24 \text{ Earth Hours}} = 4 \times 10^{10}$$

According to the GW time ratio, many years pass on Earth before even one second goes by for the GP inhabitants. In fact, Only 36 days have passed on the GP during Earth's entire 4 billion year history. If the life expectancy on the GP is 100 years, to us over a trillion years will go by. Since we perceive the GP inhabitants as stars, the lifetime of stars is over 1,000 billion years of our time.

¹⁰Published approximation for speed of the rotating central galaxy bar

Table 6 illustrates several time differences between the GW and our SSW. As you can see, the Biblical version of our SSW being formed in 6 days isn't far off. On the Atomic Planet, when one year goes by 2×10^{23} years will have passed for us.

	Universal World	Galactic World	Solar System World	Atomic World
Sun	Mostly beyond our sight	Local Galactic Group	Our Solar System	Hydrogen Atom
Earth-Like Planet	Our Universe	Milky Way Galaxy	Earth	Electron
Time Scale Ratio	2E+18	4E+10	1	5E-24
Planet Rotation Time, Earth days	2E+18	4E+10	1.00	5E-24
Planet Orbit Sun Time, Earth years	2E+18	4E+10	1.00	5E-24
Time from Big Bang		128 days	14 Billion years	
Time from beginning of Earth		36 days	4 Billion years	
Time for 1 year on Atomic Planet			2E+23 years	1 year

Table 4

Time factors for the scaled worlds

Additional Length and Time Ratio Discussion

An example is instructive to understand the difference between the length and time ratios. In this example, the rotation speed of the GP is calculated using either the length or time ratio and the same answer is obtained. Using length ratio L, the rotation speed is found by multiplying the rotation speed of earth turning on its axis by length ratio L. As is the case with all length unit metrics, any metric can be converted from one scale world to another by multiplying by the power of L. The GP rotation speed using the L Earth's rotation speed is calculated as follows:

$$\text{Galactic Planet Rotation Speed} = 462 \text{ m/s} \times 1.0 \times 10^{13} = 4 \times 10^{15} \text{ m/s}$$

This seems to us an enormous speed but to the inhabitants on the GP, it would seem just like the Earth's rotation speed to us.

The GP rotation speed can also be found using the time ratio, T. In this case we use the measured rotation speed of the MW galaxy as we observe it from our SSW perspective multiplied by T:

$$\text{Galactic Planet Rotation Speed} = 1.0 \times 10^5 \text{ m/s} \times 4.0 \times 10^{10} = 4 \times 10^{15} \text{ m/s}$$

As you can see, the different methods arrive at the same rotation speed value.

To reiterate the scaling concept: The length ratio L scales the speed by multiplying a known SSW parameter by its length unit power. Time ratio, T, can only be used when a time-based parameter of one world is observed and measured from another world. Since we can observe the GP rotating (we see it as the MW galaxy rotating) and calculate the rotation speed, we can use T to solve for the GP actual rotation speed as shown above.

The concept of time scale is illustrated in an Ancient Hindu story that describes a similar time scale effect between the human world and the worlds of the gods. According to Hindu teachings, one 12 hour day on the Brahman world equates to 4.32 billion human years. Brahman's lifetime is 100 years which equals 311 trillion human years. A story from the ancient texts illustrates how this works. In the story a King wants to obtain a husband for his daughter. He takes her up to the planet of Brahma, Brahmaloaka, to personally ask Brahma to select a husband. When they arrive, Brahma is busy listening to a concert. When the concert is over Brahma goes to the king and asks what he wants. After hearing him out Brahma laughs and says, "Well, all of the different possible husbands you had in mind for your daughter have died long ago. In fact the entire civilization that you were living in has vanished into dust, and no one even remembers the names of any of the people who were living in that civilization." Because during the concert about 120 million years had passed on the earth.

The Atomic World

The AW is the scaled world after our SSW in the self-similar logarithmic spiral fractal pattern that comprises our universe. The AW is composed of a neutral hydrogen atom. The proton is the Sun and the electron is the Earth-like planet. Table 5 shows physical correlations between the hydrogen atom and our SSW. The first data column in Table 5 shows values for familiar SSW parameters. The 2nd column has values for the AW that we observe from Earth. For instance, the distance between the AW sun and Earth-like planet we measure as the Bohr radius. The 3rd column of Table 5 has AW values predicted using the length scale factor L according to the scaling rule. Similar for each scaled world, if a person were transported from Earth to the AW planet (an electron orbiting a hydrogen proton), they wouldn't recognize the scale change. Everything would appear just like it does on Earth.

	Solar System World (Earth)	Atomic World Observed from Earth	Atomic World Experienced on Atomic Planet
Distance between Planet and Sun, d, m	1.50E+11	5.30E-11	5.30E-11
Length Ratio, L	1	3.53E-22	
Speed of Light, c, m/s	3.00E+08		1E-13
Radius of Planet/electron, m		2.8E-15	2.2e-15
Rotation spin speed of Planet/electron, m/s			
Gravitational Constant, G, m ³ /kg-s ²	6.67E-11		3E-76
Planet Orbit Around Sun Speed, Vo, m/s	3.00E+04	2.2E+6	7E-15
Time Ratio, T, between the SSW and the AW		4E-24	

Table 5

Correlations between our SSW scale and the Atomic World scale

The length ratio, L, is set by the Bohr radius and the distance between our Sun and Earth. This results in a length scale ratio for the Atomic World (L_{AW}) of 3.3×10^{-22} . Following the TOE's core precept, all physical constants and values for the AW can be found by multiplying any SSW value by an appropriate power of L. For instance, the radius of the AW planet can be found by multiplying the Earth's radius by L. Note that the predicted radius is closely equal to the classical electron radius. Applying L and the rules of scaling, the light speed for the AW is 1×10^{-13} m/s.

In the AW, the electron is held in orbit around the proton by the force of gravity just as Earth orbits our Sun. Since mass doesn't scale between the worlds, the mass of an electron to someone in the AW is the same as Earth, 6×10^{24} kg. Similarly, the proton Sun mass is 2×10^{30} kg. These are the masses as measured and experienced by a person on the Atomic Planet. To us, observing the AW from our SSW, the electron and proton masses are much smaller. This is because, like time, the mass of one world appears different when measured from another world. If you were on the AP however, everything would appear just as it does here. All lengths would be scaled. You wouldn't be able to tell you were on a planet the size of an electron. A person on the AP would weigh about 70kg, just as on Earth. As was pointed out earlier, we don't know, we can't know, our own relative scale. For all we know we indeed could be on a planet the size of an electron.

If you are following along you may realize this model has gravity holding a hydrogen atom together rather than the force due to electric charge. In fact, for this TOE to be correct, a major revision is required to our current atomic theory. Indeed, a new atomic model is proposed, one that supports all measured and observed data and resolves major problems with our current model. As you will see, this new atomic model shows there are not different physical laws for cosmological

and atomic scales. In fact there is one set of laws governing all scales from the Universal to the Atomic scale.

Modification of the Bohr Atomic Model

After Rutherford showed atoms are composed of a central positive nucleus and orbiting negative outer particles (electrons), it was questioned why electrons didn't spiral into the nucleus as they expend angular momentum. Bohr 'solved' this problem by insisting electrons are allowed only certain, fixed energy states. While this idea fits measurement results, it violates the conservation of energy law and separates atomic physics from classical physics. Classical physics would say the Bohr atomic model is a perpetual motion machine. This didn't stop Bohr. He was more interested in practical solutions than the underlying mechanisms. The issue is one hundred years later there is still no explanation for how this works. How can a charged particle centripetally accelerating around a nucleus not expend energy? Electrons radiate energy in antennas. Why not in an atom? Another unexplained aspect of the Bohr atom is the electron bound by the atom has negative energy. According to Wikipedia: "*An electron in the lowest energy level of hydrogen ($n = 1$) has about 13.6 eV less energy than a motionless electron infinitely far from the nucleus.*" So the energy of a ground state electron is less than one having zero kinetic and zero potential energy. Huh?! In the next paragraph the text talks of 'highly excited' electrons in states greater than $n=1$ but that are still supposedly energetically negative – Really?! The Bohr atom may produce the correct answers for emitted light energies but it makes no practical sense. In my view, once atomic physics separated from classical physics it became no holds barred on crazy explanations. This TOE resolves all this by eliminating the differences between atomic and classical physics. The new atomic model proposed supports all measurement data and explains the atom in terms within the bounds of larger scale classical physics. (This discussion is limited to the hydrogen atom though the basic ideas apply to all elements.)

It is further worth noting that in the Bohr atom only the $n=1$ ground state remains stable over time. All other states spontaneously emit photons and degenerate toward the $n=1$ state within nanoseconds. In effect, all states where $n>1$ act just as classical physics would have them act. In these states, the electron expends energy orbiting the proton and, in quantum steps, moves toward the proton. It is only the $n=1$ state that defies the laws of physics by having the electron endlessly separated from the nucleus.

A New Atomic Model

According to this TOE, all the scaled worlds, from the Universal to the Atomic, are identical except for their size. It follows from this there can be no difference in the physics between the scaled worlds. The physical laws operating in our SSW must be the same as those operating on larger scale worlds and these laws must also apply to the atomic scale world. We know Earth stays in orbit around the Sun because of the juxtaposition of gravitational and centripetal forces. Therefore, these same forces must account for the perpetual orbit of an electron around the nucleus. If this is the case, that gravity holds the electron in orbit around the nucleus, then the current atomic model must be revised. Whatever the new model, it must account for all verified measurements and observations as well as fit within this TOE's scale worlds hypothesis.

In compatibility with quantum physics, the new atomic model maintains that all matter has a wave function and two possible states - a wave state and a particle state. The wave and particle states are the two possible ways a thing can show up in normal space. In the wave state, a thing exists as a wave with a wavelength and frequency and has no mass. In the wave state its rest energy is contained in hf , Planck's constant times the frequency. The formula is $E=hf$. In the particle state a thing has mass and no wavelength or frequency. In the particle state its rest energy is contained in $E=mc^2$ (for non-relativistic speeds). In defining these two states I contend that mass emerges only when a thing enters the particle state. When an electron moves from a wave state to a particle state, its rest energy does not change but rather is converted from hf to mc^2 .

The new atomic model proposes that when electrons fall to the $n=1$ ground state, a component of the electron collapses to a particle state with mass. In excited states, where $n > 1$, the electron is in a wave state and has no mass. In the particle, ground state, the electron has spacial dimensions and gravity holds it in orbit around the proton just like Earth is bound to the Sun. When the electron is excited beyond the ground state, i.e. when $n>1$, the electron goes fully into a mass-less wave state. In the wave state the wavelength = $2\pi r/n$, where r is the Bohr radius and n is the wave number. The quantum nature of the orbitals, the orbital energies and other observed and measured properties remain unchanged.

The idea that the electron at $n=1$ has mass and a defined orbit around the proton solves the Bohr model problem of perpetual motion. In the ground state, the electron is in a stable orbit around the proton just as our Earth orbits our Sun. At the AW scale, the proton Sun and electron Earth have the same masses as our Sun and Earth. As stated earlier, in observing the mass of the atom and electron from our SSW, we measure these masses to be much smaller. The difference between actual mass and observed mass will be discussed further below. In all the electron wave states

(where $n > 1$) the orbits are not stable and quickly decay as is observed. As predicted by theory and in measurements, all of these states are quantum in nature.

As stated, only a component of the electron collapses to the massive particle state when $n=1$. In this ground state, the electron also has a component or components that remains in a wave state. As you will see, electrons are more complicated than we suppose (in Part II). Remember, according to this TOE, an electron is a planet just like Earth at a much smaller scale. Similarly, at the larger scale, our MW galaxy and our Universe are also Earth-like planets. Because of this self-similarity, the larger scale worlds can be viewed as large magnifications of the electron. When we look at our MW Galaxy we are seeing the electron at a grand scale. As has been stated, in observing the GP at our speed of light we see the light energy of living beings, the central glow of the woman of the UP and in the stars the life energy of men on the GP. All the light we see in the MW comes from the wave component of living beings.

Electric Charge is not a Fundamental Property

According to the Bohr model, a zero energy electron is one that has zero potential and kinetic energy. This means the electron is not moving and is infinitely far away from any electric field source. So what is the source of energy for the spontaneous emission of photons as the electron descends through quantum states in a hydrogen atom? This TOE proposes that the electron's electric charge supplies the energy for this spontaneous emission. According to this new atomic model, electric charge is not a fundamental, unchanging property. Rather, electric charge decreases as electrons move from an ionized condition, through excited orbital states, to the ground state. At the $n=1$ ground state, the electric charge is some diminished value. The proton charge tracks these changes. In the $n=1$ state, the force of gravity far exceeds any force due to electrical charge. The experience of an inhabitant on the AW would be just as we experience life on Earth with gravity being the primary force holding things in place. In the ionized state, the electron's charge is as we measure it.

At this point I'm not sure what electric charge is but it must be an emergent rather than constant property. It may be electric charge is an aspect of a thing's wave nature though it is independent of mass. As has been stated above, at the $n=1$ ground state, an electron has both particle and wave components. While the particle component has mass, the life energy of a thing remains in the wave state and this may include electric charge. From our view on Earth, we see the material, massive world around us and think that is all there is. According to this TOE, the opposite is more accurate. Far more of reality is contained within the wave states. This includes our conscious mind, our God created soul (effectively our wave function) and our life energy. Also, after we die

we transition to the $n=2$ state and exist there forever at least as we experience time. Beyond $n=2$, the higher wave number states are filled with living beings. This is true for our SSW and for all the scale worlds. For the GW, we observe this as stars located out from the MW's galactic center in accordance with the quantum number probability distributions.

In summary, the new atomic model then proposes two major changes to the current hydrogen atom model:

1. At the $n=1$ ground state, the electron has a collapsed, particle state with mass. The mass of the electron at the Atomic scale is the same as our Earth and it rotates around the proton just as our Earth orbits our Sun in a gravitation-ally bound, stable state. As has been stated, when we observe a scaled world from our SSW, we don't see the masses as they are. From our measurement, the electron mass is minuscule and insufficient to hold it in orbit around the proton. If you were living on an electron sized Earth however, your mass would be the same as it is now. Because the force of gravity is so small the force due to gravity is scaled to seamless fit the small scale of the world. Table 5 lists parameters for the AW including the gravitational constant and the acceleration of gravity on the AP surface.

In the $n=1$ state, there remain aspects of the electron that are not determined and these remain in a wave state. Therefore, an electron in the ground state has both a massive particle component and a wave component. For quantum states where $n>1$, the electron has only wave states with no mass and the electron's rest energy is contained in hf . At these elevated quantum states, electromagnetic energy is radiated from the electron as mandated by Maxwell and electrons quickly decay in quantum steps as measurements indicate. When the electron decays to the $n=1$ state it collapses to a particle, massive state and then maintains a stable, gravitationally bound, orbit around the proton.

2. Electrical charge, either positive or negative is not a constant. In an ionized state electrons have the negative charge we measure. In an ionized state, the positive or negative charge of an atomic nuclei is as measured and known. In a hydrogen atom, as electrons enter quantum states around the nucleus, The charge between the electron and proton is given up as light energy in quantum jumps. This results in the spontaneous light emission bands as experimentally observed. The difference with past theories is the recognition that these emissions have an energy source in the form of electrical charge. Electrical charge is independent from mass.

This new atomic model fits into the 'normal' physics of larger things while remaining in full agreement with atomic observations and measurements. This new model also aligns with the

concept of scaled worlds proposed by this TOE. To reiterate, in the ground state hydrogen atom, gravity holds the electron in orbit around the proton just like Earth is bound to the Sun. If you were an inhabitant on an electron sized AP, everything would be just like it is here. You wouldn't be able to tell you were on an electron-sized Earth.

This TOE implies there is a reduced charge or electric field in a neutral atom. Instead, charge originates from separation of the electron from the proton. As a physical unit, charge may not be free from scaling like mass. This topic is ripe for expansion.

Time Scale of the Atomic World

As with all scaled worlds, for seamless scaling, to a person living on any scaled planet, one orbit around its sun takes 1 year. The AP is no exception to this. If you were living in the AW, on an electron sized planet, a year would be a year just like on Earth. Similarly, the electron would seem to rotate on its axis in 24 hours. As has been stated, time doesn't scale like length between the worlds. There is one present moment that is shared by all the worlds. The difference for time comes when one world is observed from another. For the AW, we observe an electron speeding around the nucleus 6.6×10^{15} times per second. Yet to a person living on the planet, a year would go by just as on Earth. This difference in how time passing is observed from another world vs the time passing to an inhabitant on that world is the time ratio, T. For the AW time ratio T is determined by dividing our observed time for an electron to orbit a proton by 365.26 days. This results in a Time Ratio of 4×10^{-24} (refer to Table 5). This means when one year goes by for us on Earth, 2×10^{23} years go by for those living in the AW. Remember, to an Atomic World person, that electron looks and feels exactly as our Earth does to us. Everything scales between worlds. We could just as well be on an Atomic world as our own. And as we scale, everything else scales including atoms and molecules. It may be in the Atomic world, people peer into microscopes and see even smaller particles, I'm not sure where it ends.

Scaling of Mass Between Worlds

As stated earlier, mass doesn't scale with length and the objects on each world have identical masses independent of scale. The mass of the UP (our known Universe), GP (the Milky Way Galaxy), our Earth and the AP (an electron in a hydrogen atom) are all the same. If you were to step on a bathroom scale on any World you would weigh the same (sorry dieters, no easy out on this one!). Like time however, when one world is viewed from another, the mass of objects in the observed world appear different than their Earthly counterpart. Consider the AW: To the

inhabitants of the AP, an electron, the mass of their planet is $6 \times 10^{+24}$ kg the same as our Earth. However, to us on Earth, we observe the mass of an electron to be 9.9×10^{-31} kg. For the GP, we observe it to be much more massive than it is. To GP inhabitants their planet mass is identical to our Earth but we observe the MW galaxy to have a mass in the neighborhood of 10^{42} kg. One possible reason for the large difference between the actual mass and the observed mass is the gravitational constant is the cube of the length scale. Additionally, G has seconds squared in the denominator. Table 6 shows published estimated values for the observed masses.

	Observed/ Estimated Mass	Mass Relative to Earth	Length Ratio	Time Ratio
Universe	1.00E+55	1.56E+30	1.00E+21	1.00E+18
Milky Way Galaxy	6.00E+42	9.38E+17	1.00E+13	4.00E+10
Earth	6.40E+24	1	1	1
Electron	9.00E-31	1.00E-55	3.00E-22	4.00E-24

Table 6
Estimated/observed masses of Earth-Like Planets relative to Earth's mass
Length and Time ratios shown for comparison

The Mass Relative to Earth column in Table 6 can be considered the Mass Ratio and is comparable to the Length and Time Ratios of the Scaled Worlds. The Mass Ratio is found by dividing the mass of an observed Earth-Like Planet by the mass of Earth. These Mass Ratio values are graphed in Figure 8 relative to the Length Ratio, L. Note that in both the Time Ratio and Mass Ratio cases, an anomaly appears at our scale where all the ratios are 1. If we lived on the GP and observed Earth from there, there likely would be a difference between the Length and Time ratios and the Length and Mass ratios. At the same time, these ratios, for an inhabitant on the GP, would be 1 for them. Looking at the Mass Ratio/Length Ratio graph it seems mass has a scaling factor like time but I haven't figured out a scale relationship for mass.

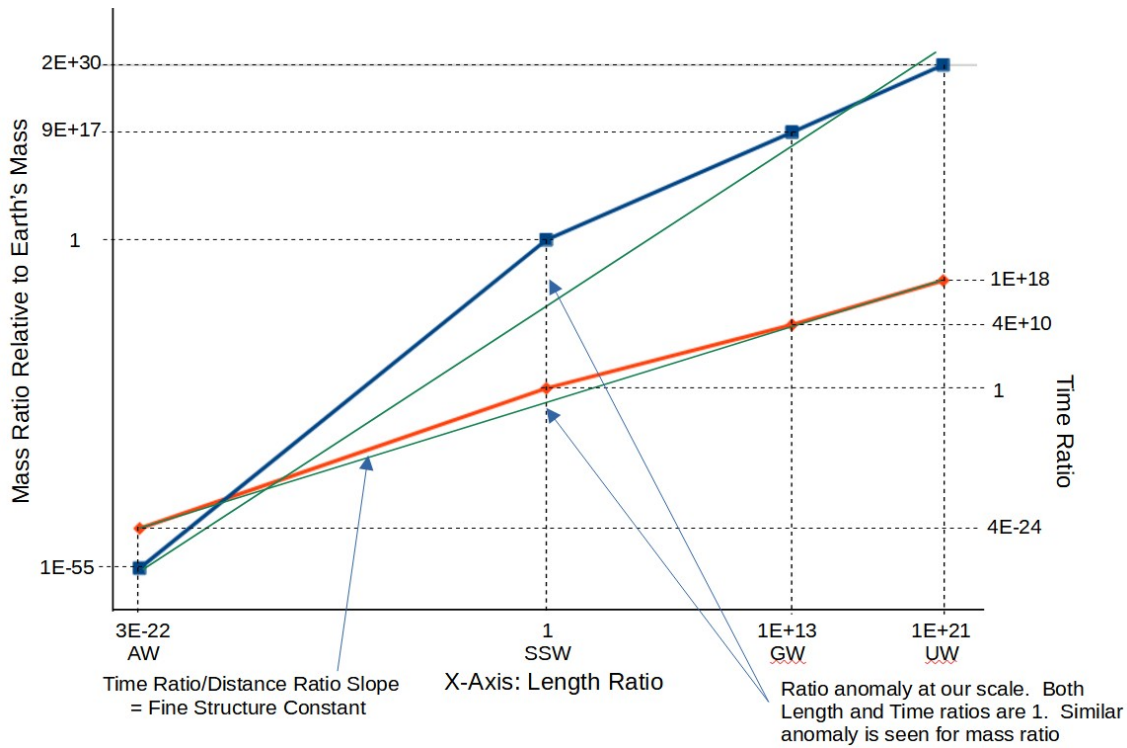


Figure 8
Graph of Mass Ratio and Time Ratio vs. Length Ratio

The Golden Spiral in the Scaled Worlds

From the determined scale factors, it can be seen the scaled worlds descend in scale following a logarithmic golden spiral sequence¹¹. This correlation between the scale factors and the logarithmic spiral was noted after the scale factors were determined by observed scale data for the Galactic and Atomic Worlds. Table 7 lists the length and time scales and the resulting Fibonacci sequence.

¹¹Spira mirabilis, Latin for "miraculous spiral", is another name for the logarithmic spiral. This name was given to this curve by Jacob Bernoulli, because he was fascinated by one of its unique mathematical properties: the size of the spiral increases but its shape is unaltered with each successive curve, a property known as self-similarity. The spira mirabilis appears in a number of growing forms such as nautilus shells and sunflower heads.

	Scale Factor L	Fibonacci Sequence
Universal World	1E+21	
Galactic World	1E+13	8
Solar System World	1	13
Atomic World	3.50E-22	21
Planck World	1E-56	34

Table 7

Logarithmic spiral sequence of the scaled Worlds

If indeed the Universal Planet, our universe, is scaled following the Fibonacci sequence then the size of our universe can be predicted. Multiplying Earth’s radius by the UW scale factor (1×10^{21}) puts the UP radius at 6.6×10^{27} meters (multiplying the Earth’s radius by the UW scale factor). This radius would be equivalent to the distance out to the central bar end of the MW galaxy. If, according to scaling precepts, the GW is positioned in the UW as our Sun is positioned in the MW, the diameter of the universe would be approximately 4×10^{28} m. Similarly, if a World smaller than the Atomic World existed, it would have a scale factor from our SSW of 10^{-56} (placemarked the Planck World).

Why do the self-similar worlds descend in scale accord to the Golden Spiral? I don’t know but the reason may be related to why many organisms follow this pattern. In this case it may be related to the energy required to create and manifest a world. Consider this energy is sourced from the speed of light and energy is proportional to the square of the light speed. Going from the Universal to the Galactic scales, the speed of light drops from 1×10^{29} to 3×10^{22} m/s. Because the light speed is so fast, a large amount of energy is sourced from the delta in c^2 and the scale drop needed to create the GW is only 10^8 . From the Galactic to our SSW, the light speed drops from 1×10^{22} to 3×10^8 m/s. Here, because the light speed is lower, a larger change in c is needed to provide sufficient energy for the SSW to manifest. The scale change between these worlds is 10^{13} . This logic continues for the Atomic World with a preceding greater scale change needed (10^{21}) to source the energy requirements. There may also be a correlation to the number of worlds created at each scale.

The Fine Structure Constant

“The theoretical determination of the fine structure constant is certainly the most important of the unsolved problems of modern physics.”—Wolfgang Pauli

The fine structure constant “has been a mystery ever since it was discovered more than fifty years ago, and all good theoretical physicists put this number up on their wall and worry about it. Immediately you would like to know where this number comes from: is it related to pi or perhaps to the base of natural logarithms? Nobody knows. It's one of the greatest damn mysteries of physics: a magic number that comes to us with no understanding by man. You might say the "hand of God" wrote that number, and "we don't know how He pushed his pencil." —Richard P. Feynman

“The fact that alpha has just its value $1/137$ is certainly no chance but itself a law of nature. It is clear that the explanation of this number must be the central problem of natural philosophy.”

—Max Born

A validation of this TOE is its explanation of the Fine Structure Constant. As the quotes above attest, no current theory explains why the FSC, alpha or $1/137$, exists or why it plays such a central role in our Universe. This TOE answers these questions and shows the FSC indeed defines a core metric between the self-similar scaled worlds.

This TOE proposes the FSC is the ratio between the length scale ratio and time scale ratio for observed worlds from our SSW. For instance, for the AW, the length scale ratio we measure is the ratio between the Bohr radius and the distance from our Earth to the Sun. The AW time scale ratio is the ratio between the time for an electron to orbit the proton vs. the one year for Earth to orbit the Sun. FSC values for the AW and GW are shown in Table 8. Note that a difference between length and time scales only appears in observing another world. For us, both the length and time ratios equal 1. For us there is no apparent scaling. A meter is a meter and a second is a second. This would be the same for inhabitants on any of the scaled worlds. The difference between length and time ratios only comes into play when one world is observed from another. For instance, to a person on the AP, they would observe Earth and see a difference between the length and time ratios. As can be seen in the graph in Figure 9 the lack of a difference between distance and time ratio's for our SSW creates a discontinuity. This can be seen in Figure 9 by the offset in the FSC slope at graph point 1,1.

	Universal World	Galactic World	Solar System World	Atomic World
Sun of Scaled World	Mostly beyond our sight	Local Galactic Group	Our Solar System	Hydrogen Atom
Earth-Like Planet	Our Universe	Milky Way Galaxy	Earth	Electron
Planet Radius, m	1.0E+27	6E+19	6.36E+06	
Planet to Sun Distance, m			1.50E+11	5.3E-11
Length Scale Ratio	1E+21	1E+13	1	3.3E-22
Planet Rotation Time, Earth days	2E+18	4E+10	1	
Planet Orbit Sun Time, Earth years			1	2.4E-24
Time Scale Ratio	2E+18	4E+10	1	2.4E-24
L/T, 1/alpha		216	1	73

Table 8

Fine Structure Constant found in the ratio between the Length and Time Ratios for the Scale Worlds

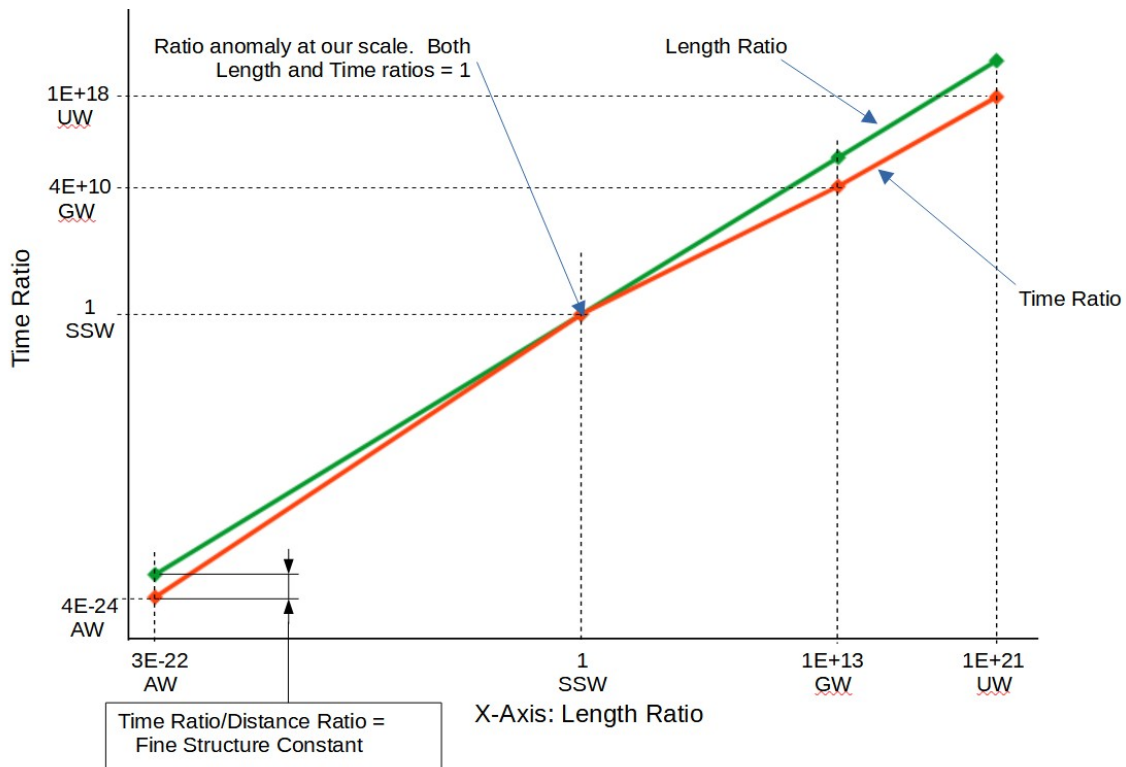


Figure 9

Plot of Time Ratio vs. Length Ratio

To repeat from earlier, the length and time scale ratios can be found by observing a scaled world from our SSW. The length scale ratio, L, is determined by dividing a measurable quantity of the larger World by the equivalent SSW quantity. For example, for the Galactic World, the length

scale ratio is found by dividing the radius of the MW central bar, the GP radius, by Earth's radius. The values for these measurements are shown in Table 8 along with the resulting ratio value. (The GW and these values are discussed in more detail in earlier chapters.) As was stated, the scaled worlds exist in real 3D space. From a space perspective its truly a WYSIWYG universe. Our SSW is inside the GW and the GW is inside the UW. The densities of the worlds are different but each dimension of space, x,y and z, are linear everywhere. To reiterate, we don't see the GW or the UW as they are because the speeds of light for these worlds are far greater than ours.

As has been stated, the time scale ratio, T, is different than length ratio L. The difference can be seen when we compare the apparent time for the MW galaxy to make one revolution to the time for Earth to rotate once. We observe the MW galaxy to rotate slowly requiring approximately 100 million years for one revolution. For scaling to be invisible to the inhabitants on the GP, the planet must rotate in 24 hours just as Earth does. The time ratio between the GW and our SSW is the ratio of these two time periods. Refer to Table 8 for specific values.

Why does this difference between the length and time ratios exist? To conjecture it may be related to optical distortion caused by a combination of the differences in density between the worlds and a lens effect at the surface of the heliosphere for each world. When we look at the GP (the Milky Way) from Earth, we are looking through our SSW and then beyond to the GW. In alignment with scaling, there will be a difference in density between these two Worlds. The SSW, extending to the heliosphere, will have a higher vacuum density than the GP and GW. This change in density may cause optical distortion just as a stick appears bent when it passes into water. The optical distortion will also be affected by the shape of the heliosphere. In effect, this shape is a lens between our world and the GW. It may be there is no actual difference between the length and time ratios when these distortions are accounted for. In this case, the Time ratio would be the accurate scale difference between worlds.

Unlike the length ratio, the time ratio, T, is unaffected by any density change between scaled worlds. The time ratio is determined by the ratio of time between an event occurring on an observed world to the time for that same event on our SSW. For instance, for the GW, we look at our MW galaxy and determine the galactic central bar makes a complete rotation every 100 million years. In line with this TOE, the MW galaxy corresponds to our Earth and the galaxy's rotation is equivalent to Earth's 24 hour rotation period. Since these time measurements are independent of length, they are not affected by optical distortions. The ratio of L and T then capture the effect of any optical distortion caused by the density difference between scaled worlds. Note that the optical or EMR for all these measurements is from our scale, our speed of light. We don't see EMR from

the larger scale worlds due to the scale difference. We may see EMR from the AW but I'm not sure about this.

If indeed an optical distortion related to medium density differences affects the observed length scale ratio, then α can be considered a refractive index, or, more specifically, the inverse of a refractive index, $1/\alpha = n$. As is known, our SSW resides inside a heliosphere envelope with a radius of approximately 100 AU. As proposed, the vacuum density for our SSW will be different, higher, than the vacuum density outside our heliosphere boundary, where the density of vacuum would be that of the GW. Light passing this boundary would be affected by the change in density. It would also be affected by the shape of the heliosphere causing a lens effect. A similar situation exists between our SSW and the AW. When we look at a hydrogen atom we are looking through our medium and then through the vacuum medium inside the 'heliosphere' envelope of the atomic world. The change in medium densities of the two worlds results in a refractive index that affects how we perceive the Atomic world, see Figure 10.

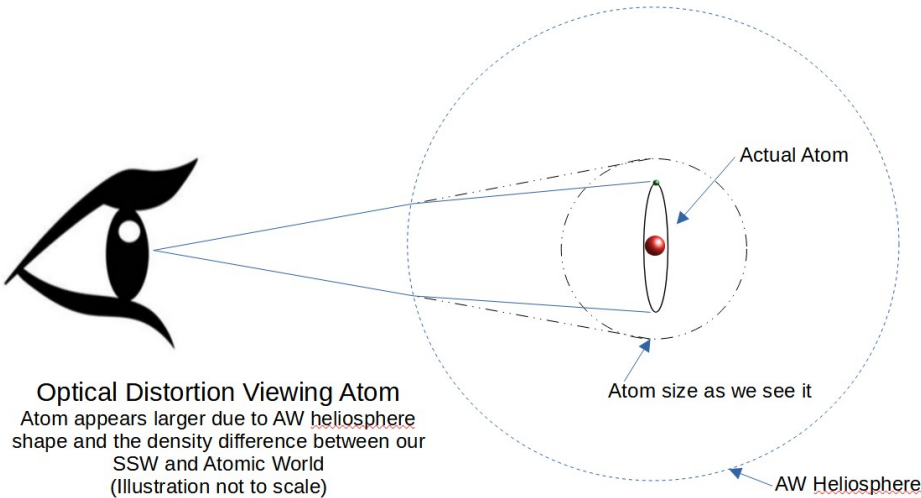


Figure 10

Optical Distortion when Observing the AW

Difference in the actual size vs. the perceived size is the FSC (inverse)

Additional insight into the meaning and significance of the fine structure constant can be gained looking at how the length and time scale ratios are determined. The parameters determining the GW and AW scales are shown in Table 8. The UW scale is estimated based on the logarithmic spiral nature of the scales.

As has been explained, the GW length scale, L_{GW} , was found using the observed size of the MW galaxy, the Galactic Planet (GP), and comparing this to the diameter of Earth. The diameter of the GP was taken from the length of the MW galaxy's central bar. Galactic World Length scale, L_{GW} is calculated by:

$$L_{GW} = 6E+19 \text{ meters} / 6.36E+6 \text{ meters} = 1E+13$$

The GW time scale T was determined by comparing our observed time for the MW galaxy, the Galactic Planet, to make one revolution vs. the time for Earth to rotate once.

$$\text{GW Time Ratio, } T_{GW}, \text{ calculation: } T_{GW} = 100,000 \text{ years} / 24 \text{ hours} = 4E+10$$

The ratio of these scale factors, T/L equals the fine structure constant. If the time ratio is put in terms of the circumference/speed of rotation, the diameter of the GP drops out and alpha becomes simply a ratio of the speed of Earth's rotation vs. the observed rotation speed of the GP.

$$T_{GW} = \left(\frac{2 * \pi * \text{Radius}_{GP}, m}{GP \text{ Observed Rot Speed}, m/s} \right) / (\text{Time for 1 rotation of Earth}, s)$$

$$\text{Alpha, } \alpha, = T_{GW} / L_{GW} = \left(\frac{T_{GW}}{\frac{\text{Radius}_{GP}, m}{\text{Radius}_{Earth}, m}} \right) = \frac{\text{Earth Rotation Speed}, m/s}{\text{Observed Rotation Speed of GP}, m/s}$$

$$, \alpha_{GW} = \frac{463 m/s}{1E5 m/s} , 1/\alpha_{GW} = 216$$

The situation for the AW can be examined in a similar manner. L for the AW is the ratio between the Bohr radius for a hydrogen atom and the distance between the Sun and Earth. The AW time scale T is the observed time for an electron to orbit about the nucleus vs. the time for Earth to orbit the Sun. The T/L ratio of the AW can be reorganized such that the diameters drop out and the ratio is the observed velocity of an electron orbiting about the proton vs. the velocity of Earth's rotation about the Sun.

$$T_{AW} = \left(\frac{2 * \pi * \text{Radius}_{AW}, m}{AP \text{ Observed Orbit Speed}, m/s} \right) / (\text{Time for 1 rotation of Earth}, s)$$

$$\text{Alpha, } \alpha, = T_{AW} / L_{AW} = \frac{(T_{AW})}{\frac{\text{Radius}_{AW}, m}{\text{Distance Sun - Earth}, m}} = \frac{\text{Earth Orbit Speed, m/s}}{\text{Observed Orbit Speed of AP, m/s}}$$

$$, \alpha_{AW} = \frac{3E4 m/s}{2.2E+6 m/s} , 1/\alpha_{AW} = 73$$

A general equation can be written wherein the inverse FSC is equal to the ratio of a speed metric observed on another world vs. that same metric as we measure it in our SSW.

$$\alpha = \frac{\text{Speed for Equivalent SSW Metric}}{\text{Observed Speed of Scaled World}}$$

As is known, the FSC equals the ratio between the speed of light and the speed of electron rotation around a hydrogen atom. If photons are considered to belong to a Planck World, then it makes sense the ratio between the PW and AW, being one world apart, would equal the FSC.

The equivalence is: $1/\alpha = \text{Speed of electron around nucleus}/\text{speed of earth around sun} = \text{speed of light}/\text{speed of electron around nucleus}$. The speed of light is a constant for our world and may not correlate to the PW. I'm not sure about this.

Another known FSC correlation is that $\alpha^2 = \text{Classical electron radius}/\text{Bohr radius}$. To me this relationship points to far greater simplification of the scale worlds than I'm able to figure out. This α^2 equation can be applied to all the scale worlds.

The Formula, $\alpha^2 = \frac{\text{Classical Electron Radius, m}}{\text{Bohr Radius, m}}$ can be written in terms of this TOE for any

scaled World: $\alpha^2 = \frac{\text{Radius of Earth - Like Planet, m}}{\text{Sun - Planet Distance, m}}$

Calculating α for our SSW:

$$\alpha^2 = \frac{\text{Radius of Earth, m}}{\text{Sun - Earth Distance, m}} , \alpha = \sqrt{\frac{6.36E+6 m}{1.50E+11 m}} , 1/\alpha = 153$$

I realize the calculated values for α are not exactly 137. In defense of this, the magnitude of the numbers must be considered as well as any error bars. My sense is the relationships to the FSC are likely true. The door is open for additional examination of both the assumed metrics and the relationships themselves.

As an aside, in looking for the right value of fundamental metrics and constants to use, I've found it challenging to determine what is a truly observed, measured quantity and what is a 'decided upon' value. Particularly in the atomic physics area, there seems to be circular logic at play where parameters self-verify each other. This leaves me guessing what is an actual measured, verified value. I also wonder about the calculations supposedly backing up the observations. A cautionary tale is that of the G factor as exposed by Consa¹². As the Consa points out, success was loudly proclaimed when the calculated G factor coefficients perfectly matched the measurement data. Then the measurement data was found to be in error! After this, surprise, surprise, errors were found in the calculations so once again the coefficients, totally different values, again matched measurement. Yet this hasn't stopped the physics community from lauding QED theory as the most accurately verified theory in physics.

Further Insights into the Scaled Worlds

Larger Worlds are Microscopes into Smaller Worlds

An insight of this TOE is we can measure and observe the AW and learn about larger scale worlds including our own. In the same way the larger worlds teach us about the AW and we can use this knowledge to make sense of our AW observations. For example, according to this TOE, the UP, GP, Earth and an Electron orbiting a hydrogen atom are Earth-like planets and are identical in every way except scale. Therefore, while we can't see an electron, we know it is exactly like our Earth. This ability to observe the atomic world on a grand scale enables us to understand the composition and properties of atoms. Conversely, we can observe the energy states of a hydrogen atom and these explain cosmic observations.

The Standard Model of Particle Physics.

As witnessed in particle accelerators, when protons are smashed they break apart into pieces. This proves protons are not fundamental but rather are made up of smaller sub-atomic particles. According to this TOE, this is to be expected but for different reasons than the standard model explanation. According to this TOE, the proton is a scaled version of our Sun. If the Sun were to be smashed we'd certainly expect it to break apart. However, this TOE calls into question the qualification of these pieces as specific sub particles with defined properties. Accordingly, this TOE predicts it should be difficult to find repeating patterns in proton smashing tests because the

¹²Oliver Consa, Something is wrong in the state of QED, arXiv:2110.02078

breakup will be random. Maybe if a consistent energy is used a similar number of pieces will be detected. But changing the accelerator energy will change the measurements enough to call into question any conclusions made. Another prediction is an electron is no more fundamental than a proton and can be similarly smashed into pieces. After all, the electron has the same composition, on a smaller scale, as our Earth. You see where this is heading. This TOE does away with the standard model and the need for bigger super-colliders. If you want to know what an electron is made up of you can analyze the dirt in your back yard!

The Theory of Relativity

A question about the position of this TOE with regard to the theory of relativity may arise. Does this TOE support or refute the theories of special and general relativity? According to this TOE, our ‘constant’ light speed of 3×10^8 m/s is indeed a barrier as we perceive it. However, similar to the quantum states of an electron around a hydrogen nucleus, this light speed barrier only applies to our material world quantum number $n=1$ and to our SSW. As explained above, every scale world has its own specific light speed. In addition, within each scale world, each quantum number, all the different states of n , l and m , have their own individual scales. The scale differences within a World are small compared to the differences between worlds but they are sufficient that, for instance, we don’t perceive the $n=2$ Spirit Plane from our $n=1$ Material Plane. (This is explained in much greater detail in Part II.) Within our Material World, at our $n=1$ quantum number, our speed of light is a barrier just like the electron energy states in an atom. Because of this, there definitely are effects as observed as this barrier is approached. That said, these effects are local to our state and can only be correctly understood in the context of the bigger picture. While the special and general theories of relativity explain the local effects with some success, the theories are improperly extrapolated to warped space time and black holes. Neither of these exist according to this TOE. It must also be noted that both Einstein and Dirac showed the solutions found by the theories of relativity could also be derived using a variable speed of light.¹³

¹³Alexander Unzicker, Jan Preuss, A Machian Version of Einstein's Variable Speed of Light Theory, ArXiv:1503.06763

Predictions

This TOE is filled with predictions, both directly stated and inferred.

- There are electro-magnetic radiation waves traveling at faster speeds than our speed of light. Our light speed is indeed a barrier at our quantum state ($n=1$) on our scale world (the Solar System World). This barrier exists like the barrier between energy levels in an excited hydrogen atom. Just as there are multiple potential energy states in an excited hydrogen atom, there are different speeds of light, one for each quantum state. Within one scale World, speeds of light exist in quantum steps following the different quantum states. These different states have similarly different scales. At the scale World level, the light speed differences between Worlds are large as discussed above. All of this EMR exists around us, passing through us. We don't sense it because its outside our quantum state parameters.
- There is no cosmic expansion. There is no dark energy. There is no space-time. Space-time is only a mathematical construct to deal with the quantum discontinuity at our speed of light. There are no singularities, no black holes. Normal physics holds true at the atomic scale and at the cosmic scale.
- Our Milky Way galaxy is rotating around a Galactic Sun in a Keplarian orbit just as our Earth orbits our Sun. As explained, we don't see this Galactic Sun because the speed of light in the Galactic World is so much faster than ours. We don't detect any EMR from the GW. This Galactic Sun is about 3×10^{24} meters from us. All the galaxies in our local group rotate about this dark object with Keplarian motion.
- Our Universe rotates about a center axis. All the Galactic Worlds rotate around this axis like stars rotate around our Milky Way galaxy. That is to say, with non-Keplarian relatively flat rotation curves.

This is the end of Part I. Part II, soon to be published, explains details of a scaled world including the different quantum states and how we perceive these states.

Acknowledgement

Before closing I'd like to acknowledge people from the past who, I believe, saw most of what I'm presenting here. There are 3 people I'll mention though there are others. The three are Hermes Trismegistus, Socrates and Emanuel Swedenborg. Of these 3 it seems Hermes Trismegistus saw

everything I've written about here: The scaled worlds, the anthropomorphic nature of our universe and the fundamental nature of all things including a wave function (form) and wave and particle components. This is passed down to us in his seven Principles as well as surviving writings:

- Principle 1: All is Mind; The universe is mental
My Note: Everything has a wave function that existed first. Wave functions are eternal and exist in a Mind.
- Principle 2: As above, so below; as below, so above
My Note: The scaled Worlds are copies from the largest World down
- Principle 3: Nothing rests; everything moves; everything vibrates
My Note: Everything has a wave nature
- Principle 7: Gender is in everything; everything has its Masculine and Feminine Principles; Gender manifests on all planes
My Note: Yes!

I won't go into detail on this. To do so would be a sizable book. Please know I'm not comparing myself to them. I'd never think of doing this. Hermes Trismegistus and Socrates are particularly orders of magnitude beyond my league.