Our Matrix of Space and Time.

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PDF available at www.multidimensionaltime.com

1. Time

1.1. Introduction

Einstein said, *"We cannot solve our problems with the same thinking that we used when we created them*." We know as humans we live in a matrix of space and time, but do we understand the properties of this matrix and how we fit within it. This is an introduction to our human relationship to space and time, an understanding of which is critical to our future.

1.1. What do we see?

Can we see space? No. We see physical objects within space, and these objects help us define distance. We often think of the objects around us as defining space, but space is invisible.

Asking if we can see time seems like a silly question. We can see a measurement of time on a clock. We can see the result of time as change in the objects of the universe around us. But, fundamentally, both space and time are invisible to us.

Given that space or time are not visible, how much of the universe do we really *see*, or more accurately stated, measure with our instruments. Science says that we can only measure less than 5% of the matter that should be there. So where is all the other matter? Of the other 95% that cannot be detected, 27% is matter in the form of Dark Matter and 68% is in the form of Dark Energy. Astrophysicists theorize that Dark Matter, an undetectable form of matter, has to be there in order for the planetary bodies to move the way they do since it cannot be justified with the existing detected matter. Dark Energy, also undetectable in any way, is theorized by astrophysicists to be present in order to justify the ever-increasing expansion of our universe.

To make matters worse, of the less than 5% of matter that we can detect, more than 99% of it is empty space. The atoms we are familiar with are only 1% matter. It makes you wonder what you really feel when you touch an object if more than 99% of it is empty space. How can a table, for example, be so solid to us if it is really 99% space? The strange truth is that we can

only detect approximately 0.05% of the matter that makes up the universe as we understand it today, a tiny amount.

Why is it then that we cannot walk through what appears to be a solid wall by really only 1% matter? Couldn't you just move fast enough to dodge the tiny bits of spinning matter? As we will see later, humans operate on a slow scale of response times relative to both the small parts of the universe (atoms) and the large parts of the universe around us (cosmos). It is this slow response time that gives the illusion that this tiny amount matter in the atomic world appears solid. Everything in our universe is in constant motion, typically spinning. Here is where the illusion and physical form manifest as solid. Think of a bicycle wheel. Like the atom, it is basically empty space except for some thin spokes. We see the spokes make up only 1% of the space inside the rim of the bicycle wheel. When the bicycle wheel is stationary, it is very easy for us to move an object, like our finger, through the space between the spokes. Spin the wheel very fast and it is looks and feels like a solid surface preventing our finger from going through. Put billions of these spinning bicycle wheels together in a straight line and even photons of light cannot get through. So, this tiny amount of spinning matter, in combination with billions of other spinning particles of matter create what *feels* solid, and also looks *solid*. It is an illusion because of our slow human perception relative to the speed of this matter.

As a kid, when you wished you could be invisible, you had no idea how close you were. Biological beings are already 99% invisible space, and we appear to move forward in an invisible field of time. Our visibility, our ability to see, feel, touch and taste hangs on this 1% of mass and the invisible electromagnetic fields that are generated from spinning mass. When we reach out and touch an object, it is mostly the electromagnetic fields of our biological atoms that are interacting with the electromagnetic fields of the atoms in the wooden surface. This interaction of electromagnetic fields triggers an electrical signal in our nervous system that our brain has been taught to recognize as a pattern of signals we have labeled, for example, as wood. A well-crafted illusion if I say so myself.

1.2. What does the clock measure?

What does a clock measure? Is it time? What we see on the clock is just a measurement of time. The clock, and all our ways of marking time, are based on measuring change, which we understand is time. The clock displays a unit of time which we will call *clock time*, and it is used to measure a unit of change. Looking at the history of how we humans measured time might help us understand time better.

Millenia ago, humans who were growing crops needed to determine when the right time was to plant and cultivate their crops. They saw two large bodies that appeared to regularly change their locations in the sky. They used the *change* in the location of the Sun in the sky to define a day and the *change* in the phases of the Moon to roughly define a month. After some human meddling, the year was broken up into 12 months. A sundial could be used to track the passage of the sun more accurately. Later, with the invention of the clocks, the periodic motion of hands was used to break the day into hours, minutes and seconds.

What is key is that it is change, in many cases in the form of motion, that helps us to measure the amount of change in units we typically think of as 'time'.

Our ability to measure change more accurately with atomic clocks, which is used in GPS technology, allows us to measure change in unit of time of 1/9,192,631,770 seconds, or in units of about 100 picoseconds [a thousand billionth of a second]. Now this might be a bit extreme, but it is necessary to have this resolution in time with GPS positioning technology because there is a huge amount of space for each second, as we will discuss later. Theoretically, the smallest unit of time, call Planck Time, is 10^-43 seconds, so we have a long way to go to get down to measuring events at this time scale.

Since change requires energy, time can be associated with energy. Another way to think about this is the following. Is the temperature that the thermostat measures the same as heat? No. The unit of temperature represents a measurement of heat. Heat is energy and has the power to change matter. Just heat up some water and it turns to steam. Cool down water and it freezes into ice. Heat can break apart molecules, and so on. So, while temperature is a unit measurement of heat, it is also indirectly a measurement of a unit of energy.

We measure the ability of the *energy in heat* to effect change in units of time. When time is added to space, particularly in the form of space divided by time, you have motion. We know that motion is energy. So, the *change* that *time* brought to *space* in this relationship manifests in energy. Take away time, and all you are left with is space. The mass in space cannot change, it requires energy in the form of change, which is the *real time*, different from the '*clock time*'.

1.3. Where is time in space

Where is time? Can we point to a location in space where time is? What about in this room? Inside the nucleus of an atom? In our Milky Way Galaxy? Outside of our galaxy? Is it the same form of time? Is the time inside of ourselves the same as time as outside of us?

Certainly, matter appears to behave repeatably because it appears to be tied to the same Master Clock. If it were not, the emission from atomic transitions would be different today than yesterday, and from 50 years ago. And we know that this is not true.

What are the physical laws of the universe that create this timing that we associate with a master clock? If change is time, and the master clock measures a unit of change, what is driving changes in our universe? That is unfortunately not clear to us.

What is clear is that time appears to be something much more fundamental that is everywhere in the universe, from the smallest parts of the atomic particles to the largest parts of the universe, and is luckily for us humans, relatively well behaved.

2. Past, Present and Future

Where is the Past? Is it out there? We commonly point to objects made years, or Millenia ago, as representations of the past. The objects could be paintings, photos or buildings. But if these objects are eliminated, is the past eliminated. No. It is a tragedy that these objects representing the past are gone, but the past can be reconstructed through the memories of those who experienced this past. As an example, if a small number of people grew up in a village which is totally wiped up, and there are no photographs to document anyone being there, where is the past then. It is carried inside the minds of those inhabitants.

These physical objects do make it easier to establish some physical facts of that past period and help to trigger memories of the past in our minds, individually and collectively. Everything that is not physically present is stored in the minds of people. But memories are not always factual. Psychological studies have shown that our recollection of past events is biased by our thoughts and emotions, making the accurate representation of the history of an undocumented past event by human memory difficult.

Where is the future? It cannot be found anywhere in the physical world. The future is only in our minds and the future is a product of the creation of the ideas that we held, individually and collectively, of this future moment in the recent past. I repeat, this moment now is a manifestation of thoughts in all of our minds of this future moment in the recent past. This means that a significant part of our experience of reality is generated in our minds, individually and collectively. That is ever more obvious in the world as technology compresses all of our experiences of change [time] closer and closer together. We are actively creating our own collective Matrix experience. No need to take the red pill. We did that at birth.

Where is the Now. Is it Now?.... Now?.... Now? Each statement is made after the Now has passed. We are always chasing the Now.

Let's discuss what I will call the Pin Prick experiment to help clarify our experience of time. Two neuroscientists, Benjamin Libet and Bertram Feinstein did an experiment which involved pricking a subject's finger and having them respond by pressing a button and also telling the researchers when they felt the prick. The researchers measured electrical signals in the nervous system and around the brain. Here is what they found. It took a one tenth of a second for the subject to press the button and half a second to say 'Ouch'. The electrical activity in the nervous system and the brain responded on the order of fractions of a millisecond, or about 4000 times faster than the verbal response. That is a lot of clock cycles for a master pattern recognition machine like the brain to process, and modify, the information that we, or more accurately our brain, takes in.

This experiment tells us that, if we act, or verbally respond to any stimuli, we are doing it in the past. Even our nervous system, being thousands of times faster, is still behind the now. This is why when practicing a talent that requires a physical response, like in sports and music, you

have to bypass the conscious mind, because it is way too slow. You have to rely on the much faster reaction times of your nervous system.

The structure and rate of change of our universe is determine by laws, typically we refer to these as the laws of physics. I imagine other universes are structurally different because their laws are different than ours. For the next thought experiment, let's assume that the rate of change in each universe manifests as a sort of Master Clock since this help us visualize how tied we are to a particular version of space and time.

If you imagine that every universe is run by a music conductor who can set the beats of this universal composition, the conductor could select a beat as fast as the theoretical limit of 10^-43 seconds. A very fast beat. In this thought experiment, let's assume that the smallest unit of time the human can sense is 1/10000 of a second which is the speed of our nervous response. This means that a human life of 85 years would be made of roughly 27 trillion of these time units.

If the conductor wanted to play this human lifetime at the fastest beat of the universe, the Planck unit of time, this human lifetime would take 1 x 10^-30 of our seconds, an extremely short period of time. Next, the conductor wants to speed up time by 100x, a lifetime would pass in 0.85 years, or 10 months and 5 days. Now, if the universal conductor decides to run this other universe at 8 beats in one of our seconds, a fairly fast musical pace, then it would take 106,945 of our years to complete the 27 trillion units of time that elapse during one of our lifetimes. In each of these examples, the same number of units of time are experienced, so any being in that universe could have exactly the same life experiences. The fundamental properties of the matrix would be adjusted and everything would be experienced the same for all those 'living' in this particular spacetime matrix. You think faster, you imagine faster, the clocks move faster all by exactly the same amount. It is not hard to imagine other universes running at different keys for the same composition. Much like a musical composition that is in a key so high that it is out of our ability to hear the music, if other universes are in a high enough key, it would be out of the range of our instruments to detect. Just as the 'music' is still there but we cannot hear it, so the other universes would be there, but undetectable by us.

Let's consider our smartphones and computers. They have a master clock in the CPU that organizes the operations that are needed to take in data, analyze it, modify it and present it to you on the display. These smart phones are capable of billions of operations per second. Because they can process so fast, the computers can create the illusion that you are typing letters on a page, watching continuous motion in a video clip and so on. On a very fundamental layer, millions of tiny pixels are being modified very quickly in such a way as to construct this eloquent illusion. That is also true for your brain, and as you can see, for your interpretation of how you perceive life. Your brain, at a very minimum, has many thousands of operations available to it before you consciously express an idea or comment on what you perceive. Like the computer, the brain has plenty of time to modify the input data to match previous patterns of behaviors and beliefs that it has stored in its, or your, memory.

Let's do another thought experiment that can highlight the relationship between your perception and your physical body. Although it might not seem like it, our brain is making all sorts of assessments on information that is presented to it and then triggering a physical response. Most of the time, this works flawlessly. But, in practical jokes, we see that at some level that our body is waiting for us, our brain, to assess the information as real, even though it is false. If you 'decide' on some level operating in your subconscious, a level operating far faster than your conscious assessment, that what is being presented to you is false, you have no alarming reaction to the situation, and the practical joke is a dud. But if on a deeper level you decide this false reality is real, your body will immediately spring into action, triggering the necessary release of body chemistry to deal with the perceived threat.

This is key for virtual reality. If the images presented to your eyes are not of a significant field of view, or not quick enough, your brain does not take it seriously. Developers realized this. With the new Virtual Reality [VR] headsets, the images are of a large enough view and fast enough to trick the brain. Those of you that have tried a VR headset with the images of a major roller coaster or other physically challenging images know that at some point your brain decides this is real, and immediately your body begins moving to compensate for the perceived motions, or dangers, shown in the images within the VR headset. Fundamentally, through experiencing life we have unknowingly trained our brain and nervous system to assess a situation as threatening or not, and then our physical body gives the appropriate response. This might be a good laugh or panic, but either way, there are operations going on inside of you to assess what should be considered *real* well before you 'say' they are.

Taking that idea even further, placebos are a good indicator that our bodies are waiting for information to determine how to react. Placebo studies clearly show that the size of the pill, the color of the pills, the number of pills they take, the type and way the health provider interacts with the patient, all effect the efficacy of the placebo. In the patient's brain you can imagine the following: went to a clinic or doctor's office – check; doctor sounded confident pills would help – check; blue and white pills are large – check; container looks like a regular pill container – check. A document by the BBC on a clinical study called 'The Placebo Experiment; Can My Brain Cure My Body', as well as many other clinical studies on the placebo effect highlight all the necessary components to trigger a healing, or feeling better, in a statistically significant number of people. Find this disturbing. It should be. This highlights how you interpret the information presented to you and uncovers the power of your belief systems inside of you. Understand, this is going on all the time between the information you take in and your body/mind interpretation of that information. It is a subject everyone should investigate for themselves.

Speaking of perceptions of reality, it might now not be as strange to consider that we as humans appear to have two experiences of time. The first one is an internal experience of time that can be summed up by these two situations that I am sure we have all had. You are doing something you enjoy and are so involved that when you look at the clock, thinking maybe 15 minutes has passed, it is an hour or more. On the other side, you are doing something you do

not want to do or are in a location where you do not want to be. You look up at the clock thinking maybe 15 minutes has passed by, but only 4 minutes have.

The physical universe marches to time in a very uniform manner. Thank goodness. Our bodies do not have the variable experience of time like we described above. If you look at a human body growing from a small baby to a small child to a teen, you see that biology generally moves along in a well-defined manner. But we, as inhabitants of this biological vessel, experience time in radically different ways.

Why is our internal experience of time so variable when the clocks that measure time are extremely stable? A second last year is the same as today and will be next year, but clearly our internal conscious interaction with time is quite variable. Physics has already shown that how you experience time is based on your relative motion. Time slows down the faster you go and two people going at different speeds will experience time differently. More on that topic can be found in my paper on relativity.

3. Motion

3.1. Motion, space divided by time.

What is Pi? Pi is the *ratio* of the radius to the circumference of a circle. Pi tells us the relationship of these two properties. If you know the circumference, you can calculate the radius and vice versa. It is a universal ratio, showing up in many of the fundamental electromagnetic equations that we use to describe our physical matter.

What other ratio could have that much importance? How about motion in the form of the speed of light [c]. Motion is space divided by time, or more accurately, it is typically the change in the location in space divided by the change in time. We typically do not think of it as a ratio, but if motion is constant, like the speed of light, then it becomes a universal ratio of space to time in a similar way as Pi. If you know how much time a photon of light moved, you can immediately calculate the distance it covered in that time. Also, if you know the distance, you can calculate the time.

We use speed, another term for motion, to convert distance to time and time to distance regularly in our daily conversations. If someone were to ask me how *far* the gas station is, I would tell them 5 minutes from here. I answer a question about distance with an answer in time. They could have asked me how much time does it take to get to the nearest gas station. I could answer by giving them directions in space coordinates, that is, take this street for about a mile, the next street for ½ a mile. Then I could say it should only take about 5 minutes, depending on traffic. We use space and time interchangeably and generally use a space to time ratio of 40 miles to one hour [MPH] for around town. If the journey is mainly highway driving, we likely use 65, or 75, miles to one hour.

Science uses the speed of light as the ratio of space to time, to describe matter. This ratio tells us that light can travel 186,000 miles in one second, or travels at 1.1 billion MPH. We just discussed how the motion, or speed of the car helps us determine the amount of space for a given amount of time and vice versa. The previous values of motion, 40 and 65 MPH, are relatable to us from a human point of view.

How relatable is the most important motion in our known universe, this speed of light, to us as humans? As expected, this incredible motion [speed] does not fit well with our human experience. Why? With this ratio, one second is equivalent to 186,000 miles, or 300 million meters. So, one second is equivalent to ¾ of the distance to the moon. In the time it takes for us to verbally say that our finger has been pricked by a pin, light has travelled 93,000 miles. That is about four times around the earth at the equator. A huge amount of space for one second. So, it is clear it is a pretty good ratio to use for measurements in our solar system, but not for our drive to the grocery store. If we were to travel as humans at about 1.1 billion miles per hour, the same as light, it would take a little more than a second to reach the moon and 8.3 minutes to reach the sun.

Now let's look at this ratio in terms of time. One foot is equivalent to 1 nanosecond, or a billionth of a second. This is a very small unit of time. It is about a million times faster than our human nervous system operates at. But, in terms of time, a billionth of a second seems to work reasonably well for the atomic scale.

So, as we previously found out, our human reaction to input from the world in units of time of a 1/10 of a second seems to work pretty well for our lives in general. But the unit of a second is woefully inadequate to describe events changing in the universe that are measured in millions and billions of years, a scale that to us humans has no tangible meaning. For atomic scientists, the second is also a poor unit since they are working in fractions of a trillionth of a second.

With regards to space, we are comfortable with units of feet, or meters. In astronomy, the size of the universe has to be described in terms of hundreds and thousands of light years, which is about 10 million billion meters. On the other end, the atom has scales of a million billion *of* a meter. So, clearly, we humans reside between the very small atomic scales and the very large cosmos scales.

If you are in motion at a constant speed, that is your ratio of space to time is constant, we do not *feel* it. It is only when the amount of space, or the amount of time, changes, that we *feel* this motion. This change is known as acceleration. Travel in a car, or plane, at a constant ratio of space to time, and you do not know how fast you are going unless you look at an instrument. It could be 65 MPH in a car or 600 MPH in a plane. But as soon as the brakes are applied, you immediately feel that change. This inability to feel constant ratio of space to time is crucial to our surviving in this cosmos.

Just as a fun fact, just sitting in place here, you are moving at about 600 mph as the earth spins on its axis. It would be 1000 mph at the equator. You are also moving at 67,000 mph as the

earth moves through our solar system, orbiting the star we call our sun. Then, our solar system is orbiting the center of the Milky Way Galaxy, and since we are about 2/3 of the way out from the center, we are moving at over ½ million MPH. Here we are, as humans, moving at over ½ million MPH in a complex helix through the universe and we don't even know it. So, it is impossible to ever 'be still' from a physical point of view.

3.1. How we humans interact with space and time

Let's do another thought experiment on how we experience space and time. It is Friday afternoon, near the end of the spring semester, last class of the day, and it is 60 F and sunny out. There are 20 students in the class. We know where their location is in space, in the classroom. Imagine, we could measure where each student's thoughts are in time in a simple way by categorizing it as past, the pseudo present and the future.

Here is what we might find. Seven students are in the pseudo present [pseudo based on what we learned about the now] because their minds are actively focused on the lecture and not much else, or so the teacher hopes. We find 8 students are focused in the future, entertaining thoughts about what they will do this afternoon, who they will meet this evening, what they have planned for Saturday. The other 5 students are focused on the past. Their thoughts are focused on what their friend confided to them last night, the disagreement with a boyfriend/girlfriend last night, what happened last weekend, how the experience of this semester has been. We can say that these students are in the same location in *space*, the classroom, but very different locations in *time*.

Now let's assume there is a world sports event, like the World Cup. All over the earth, more than a billion humans are tuned into that single event. We have billions of humans spread out over tens of thousands of miles all focusing their minds on one event, that soccer match. So here we have many minds distributed all over *space* and in one location in *time*, the pseudo present.

If you have a team that is playing in what now is called 'the zone', often described as a special experience where time seems to release its grip on us and efforts in space manifest with much less effort. We have likely all experienced a period of being 'in the zone'. In this condition, you as an individual, or many individuals as part of a team, are all in the same location in *space* and the same location in *time*.

3.2. Motion and what we perceive

This ratio of space to time, motion, changes what we see. The present moment is moving out from us at the speed of light. A being on the Moon would see this moment a little more than a second later. No big deal. A being as far away as our sun would see this event 8.3 minutes later. When we gaze up at the stars, we are seeing the stars as they were in the past, sometimes

billions of years ago. A star that exploded right now would only be known to us humans millions, or billions, of years in the future. Astronomy is really a study of history since everything they look at is from the past.

If we can travel faster than the speed of light, then we could overtake the photons of light that represents the present and see what happened earlier. We could 'see' the past, instead of having it just reside in our minds and in images. If we traveled at exactly the speed of light, we would forever see those photons of light that represent the present moment. Motion could allow us to access the past and stay forever in the present.

But what about the future? Our Future, our collective imaginings, has not happened yet. What if everything you think is radiated out by yet-to-be-discovered photons. That means with motion, you could visit a place in time that has all these past and present human imaginings of the future as energy potentials.

It could be stated that the accumulated intensity of these 'new' types of photons behind each imagined future possibility is a measure of the probability that this certain event will likely happen since so many people are focusing on it. As you move around, you would have access to all the others potentials of future events, each with their own probability. *Our future then is just a sum of all probabilities of all imagined possibilities*. If you could travel to this place and you could measure the total intensity of each probable outcome, you might be able to predict the likely outcome of a future event in a more scientific way. Imagine that in our minds we can travel to this place, and when one of our own potential actions is in alignment with a probable positive future outcome, we have a good gut feeling. Likewise, when one of own potential actions is not in alignment with a probable positive future outcome, we have a bad gut feeling. This is a feedback mechanism from the potentials of the future to our present moment.

You could also imagine that not everyone's imagining would have the same value, or probability of outcome. History has shown us over and over again that one, or a few individuals, with very focused and intense emotional dedications to a particular imagined future outcome, can inspire large amounts of people to think in a new way and produce a result in the future that most individuals do not think is possible. Individuals like the Mahatma Ghandi, Dr. Martin Luther King and Nelson Mandela are but a few examples of individuals who have challenged the existing imagining of the future and in that process helped large groups of people imagine a new future for themselves.

We can account for some changes as coming from our minds, but the imaginings of our mind primarily impact our societal and physical environments. We know that a certain amount of *Change* in the universe will continue with or without our human imaginings. What has become clear is that with over seven billion of us on planet earth, we have clearly shown that we are capable, as a large collective, of radically changing the environment around us. It was not so long ago, in terms of human history, where the poor imaginings of a particular culture impacted mostly their own future. They could disappear without having a major, or in some cases, any impact on other cultures or the environment. That is no longer true today. We are so

interlinked, that we now have to think in terms of a global consciousness, instead of the tribal consciousness that we have been working with for so much of history. It is this radical shift of global alignment in our thinking that is really challenging us today. A virus that has gone global has certainly made this very apparent.

4. How well do we know what we know.

Back at the end of the 19th century, there was a young student, Max Planck, in Germany who was a musician and came from a prominent musical family. He had been studying music and physics and was torn between these topics for his graduate education. His family really wanted him to give up this idea of becoming a physicist and take up a proper profession as a musician.

He consulted a physics professor who told him to continue with music because science was very close to wrapping up everything there is to know about the physical world. There were just a few pesky little holes in physics which this professor was confident would be solved soon.

Max chose physics and one of those pesky holes to be solved, a problem where the theory did not match experimental data regarding radiation in the field of thermodynamics. After getting his PhD, he taught and worked on his research in this area. After 16 years of work, he published his first theoretical solution to this problem, but it had a major issue. In order to make it work, energy had to be bundled up into packets, which came to be called 'quanta'. This new idea really upset the physics community and lots of intense debates followed. This new constant for the quanta of energy came to be called Planck's constant. Poor Max disliked this constant, as did many of the people in the physics community. It upended everything they currently understood about energy. Max went back to his work to try and come up with a new theory that had the same predictive accuracy, but without this Planck constant. Ten years later, still unable to get rid of this constant, he wrote a second paper which had a new term in his equation. This new term indicated that in space, with no matter, there is a huge amount of energy. This energy came to be known as Zero-Point Energy. This Zero-Point Energy is enough energy to vaporize all the known matter in our universe. Even given that previously we mentioned that we can only detect less than 5% of the matter in the universe, that is still a lot of energy.

Max's theory triggered a technical revolution in physics called Quantum Mechanics that resulted in the computers, smart phones, and most of the technology that we use every day. I hear similar rumblings that all we need to do is unite gravity with quantum physics and we will have a Theory of Everything.

4.1. What we think really matters, literally

It is now clear that our social experiences of the present are the summation of everyone's thoughts in the past. If we understand that *totally*, it generates a certain amount of clarity, but

also anxiety, as we have to own our role in what we create. In this moment in history, it is so much easier to see how human behavior is initiated with thoughts from the recent past. We now know we create our future realities in this local spacetime matrix here on planet earth, but we are just not sure exactly how.

While we might not understand exactly the source of all our thoughts well enough in current scientific terms, in the same way that astrophysicists cannot understand the source of Dark Matter or Dark Energy, we do not have to, since we can measure their effects. I theorize that our thoughts are a yet-to-be-discovered form of Time energy and this Time energy can be turned into power to manifest a present reality we continuously experience every moment from the Time energy of our past thoughts. Accepting that we actively generate our future in our mind creates a new attitude about the responsibility we have for our thoughts. We have to be diligent about how we *came to think* the thoughts we have and pay attention to our *intentions*. If we are not diligent about the source of our thoughts and beliefs, others with the power to do so will gladly do this for us by hijacking our own critical thinking, and in doing so, create a future for us in our own matrix of space and time that is based on *their* desires and intentions, not *ours*.

Like any energy or mass in motion, there is inertia which manifests as resistance to change, and so it would be expected that the large collection of energy focused by humans on the social outcomes we are witnessing today have resistance to a change of direction as well. Just as it takes concerted effort to turn a large ocean tanker, it will take a dedicated effort on our part to make new changes, but it can be done. Change is typically started by the younger generation and this is clear all over the world, where in the last decade this new generation from all countries have made their dissatisfaction very clear by protesting in large masses.

I hope this discussion has expanded your idea of who you are as a human and your individual and our collective interaction with this incredible matrix of space and time that we are immersed in. We desperately need a new vision of who we are as humans if we are ever going to imagine and create whole new sets of solutions to our global problems in our local matrix of space and time.