

Idiostasis, The Mechanism of Identity

A Work of Natural Philosophy

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Despite radical shifts in medical, technological, and scientific capability, the phenomenon of consciousness has remained stubbornly elusive, even a hundred years after we mapped Time and Space. While many theories have been proposed, the barrier between the physical and the mental remains unreconciled. In *Idiostasis*, I propose both an identity model and an ontologically mathematical framework as a mechanistic solution to the ‘hard problem of consciousness,’ by considering the Universe as its own Observer, through a process of continually shifting perspective through orders of complexity. By this method, I propose a singular contextualization of the currently accepted mathematics of quantum physics through quantized self-measurement, conceptually reproducing both particles and the strong force, mathematical constants, and quantum activity, as well as demonstrating inherent mechanisms for quantum entanglement, quantized gravity, dark energy, dark matter, and how both the Riemann ζ (Zeta) Function and Euler’s Identity may have foundational applications.

Key Words: identity; consciousness; experience; subjective nature; time; gravity; idiostasis, emergent complexity

One of the most fundamental questions in the history of humanity is the question of *Who am I?* Debates on the nature of consciousness have existed since we developed a singular internal identity those thousands of years ago. Its unique experiential and subjective nature have kept it the subject of perpetual poking and prodding, from the arts of debate and philosophy, to the exorcism of demons, until the advent of serious neurobiology and psychology. And it seems to me that people today generally fall into one of a few camps.

The first simply never questions it, and this does seem to include most people, otherwise the fields of philosophy and neuroscience would be ever flush with new adherents.

The second is at peace with the concept of emergence, that complex self-awareness arises as a byproduct of neurological processes, and we are the brain's hallucination of itself. While that certainly seems more scientific, it completely discounts the experiential and subjective nature of the phenomenon, which, it seems to me, is in fact its primary component.

The third defines it as the soul, in the religious tradition. This refers primarily to your mind or psyche, and is that which is expected to determine where one would spend eternity after mortal death. I expect much of the first group are those that accept this third view without question.

The last group is composed of a few who will not be satisfied until there is a truly mechanistic explanation for the subjective nature of it all, having been popularly defined as the 'hard problem of consciousness', (Chalmers, 1997). There are about one or two dozen serious theories at the moment, few of which have made significant progress in the years since they have been proposed. I apologize for any more recent theories which I may be grouping here.

I must first begin by expressing that I myself sit firmly in the fourth group, with the hope that if such a mechanism were to be divined, it would explain the second, contextualize the third, and make no difference to the first. Quite frankly, I did sit in that camp for a long time, but I was pulled from my dismissal rather forcefully when I was listening to an episode of *Within Reason*, a podcast put out by philosopher Alex O'Connor, in which he was discussing this very topic with Annaka Harris, a NYT bestselling author whose work focuses on attempting to bridge the gap between the scientific and subjective nature of consciousness. In the podcast, she shared how she had come to define the target of her search as fundamental 'felt experience', and that the identity is an illusion in these terms (O'Connor, 2025).

It was this aspect of 'felt experience' that stuck out to me phenomenally, and almost immediately an analogy popped into my head, as they are wont to do when I am thinking on a complex subject. The whole process seemed perfectly simple from a particular understanding, that being in the form of film, the craft and theory of which has been a constant fascination.

Before we continue further, and you consider this all very reductive, I must ensure you understand that this paper will not just be analogies. I am explaining the mechanism on a number of levels, increasing in informational complexity at each step so that my understanding is best communicated. I am not so much relaying information as attempting to convey a perspective, which is necessary for the understanding of the fundamental mechanism, which will indeed be in defined scientific terms. But this is how I first came to understand consciousness.

Think of a frame of film that you have paused. The still image, assuming a 4K resolution, is composed of approximately eight million individual points of light known as pixels. Each of these is controlled through varying levels of red, green, and blue, as well as brightness control, all on a scale from 0 to 100. As you may remember, red, green, and blue light, when combined, form white. By varying the degree of redness, blueness, greenness, and brightness for each pixel, you create a complete picture when viewed in totality. With twenty-four frames, you get one

complete second of film. For a two hour film, across the number of frames, and the pixels per frame, and the variables for each pixel, you have $\sim 10^{11,000,000,000,000}$ possible unique combinations. For context, the total estimated number of particles in the Universe is 10^{80} .

Now think of your present moment, right now. Maybe you're sitting on the couch, reading this paper with a cup of tea in hand and fire blazing in the hearth. Or you might be like how I am writing this, on my laptop while I ride the bus to work. In any case, at every waking moment, your brain is processing an incredible amount of information. It's receiving tactile sensation, smells, tastes, sounds, and of course, visuals. Through a process known as binding, your brain takes these various inputs, weaves them into a cohesive experiential flow, accounting for when the sensation occurred, and you receive the final compiled conscious experience of the moment roughly 500ms later (Libet et al., 1964). The brain is incredibly efficient at this, the process having been given millions of years of refinement.

Imagine a frame of a film, but instead of pixels, it's composed of sensation. Maybe it's mostly visual with a splotch of audio over here in this corner and some texture sensation down in the lower corner. This process, being completed some number of times per second, would provide your conscious experience.

Well, what then are you? That explains what you experience but it doesn't explain your identity. Unless, I figured, the trick is that the video file itself, containing all the information of what happens in the film, and what characters do what, and when things happen, makes a mistake, and incorrectly concludes that it is the main character in the film. Think of an MP4 file of the movie *Gladiator* that believes it *is* Maximus Decimus Meridius. Everything that file knows is his story. Playback would be the experience.

While it may be fine for a basic analogy, it is subject to the sin of being reductive, and so I set it upon myself to derive a more apt analogue, and turned to another realm that I am deeply familiar with: computers. Their basic design is in fact based on human neurobiology (von Neumann, 1945).

Firstly, a computer must have a motherboard. This is a flat piece of circuit board whose function is to facilitate communication of the signals from various components and ensure proper power delivery to each of them. This is roughly equivalent to your autonomic nervous system and the spinal cord, the subconscious processing that controls your heart rate, breathing, digestion, and other automatic processes.

The central processing unit (CPU) performs actual computation, taking data and performing transformations on it to reach a desired outcome. It does this with the help of random-access memory (RAM), essentially its short-term memory. RAM pulls information from long-term storage when accessed, which is stored in the form of a solid-state drive (SSD). These store information in such a way that it can survive extended periods without power. The speakers may be thought of as a mouth; the microphone, ears; and the webcam, eyes. One thing humans don't have is a monitor. However, mechanistic self-awareness does emerge if we assume that we do.

Let's take a traditional desktop computer. We have the tower, the monitor, speakers, microphone, mouse, and webcam. We're skipping the keyboard for now because it's analog would be written language, and it isn't necessary for this example. Now, if you were to take ahold of the mouse and move it, an electrical signal is sent to the motherboard, via wired or wireless means. The signal then arrives at the CPU. It performs the necessary adjustments on the operating system desktop environment, and sends the screen update signal to the monitor via the GPU, the graphics processing unit. The monitor receives the signal, indicating to move the pixels of the mouse to their newly calculated location, and then update the full image with the translated movement. And while there are many correlates between this process and the human nervous system, there are obviously some key differences, for surely the computer is simply a machine performing its task, to which I would say, yes, I absolutely agree, it is. But I would also say it is not yet complete in its analogical power.

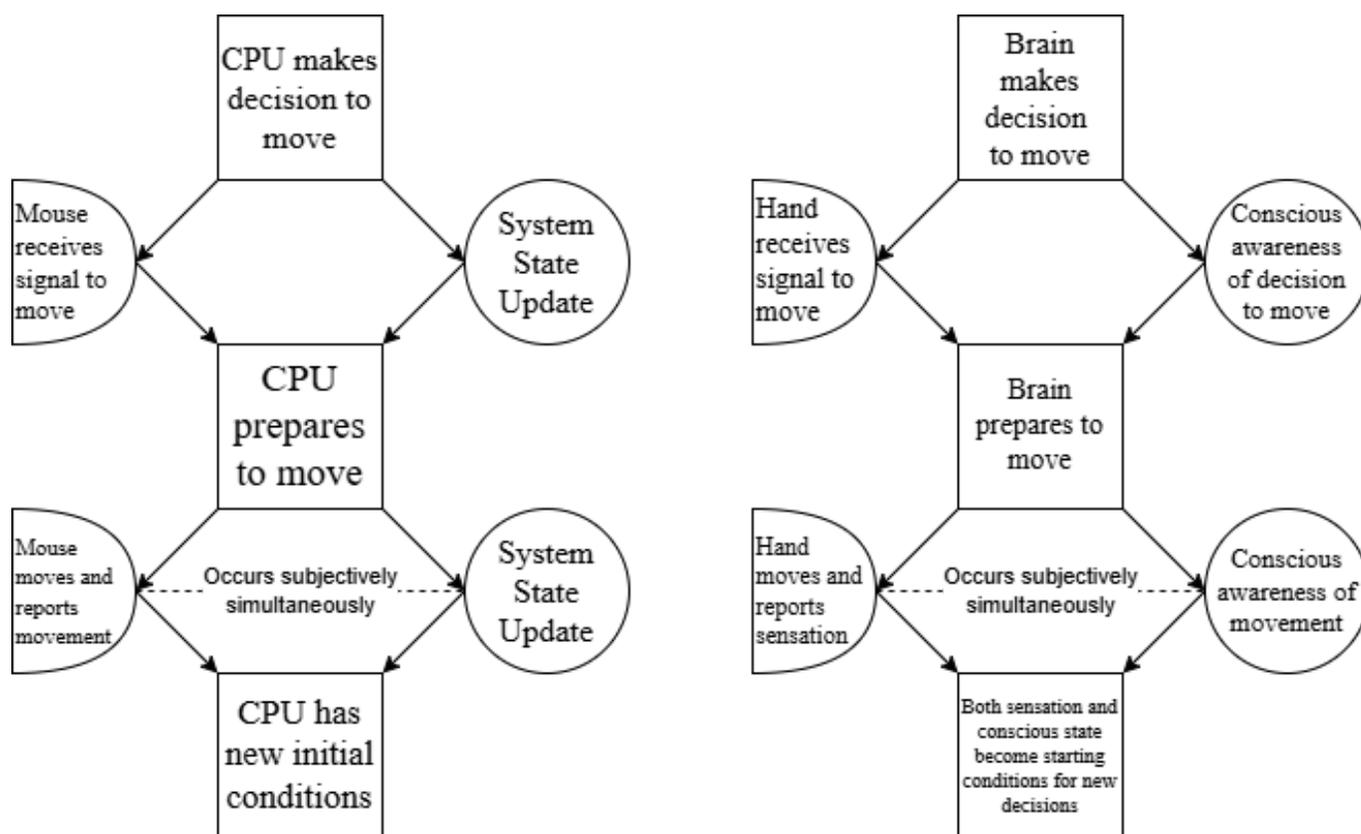
So what I will do is open up the side of the case, take hold of the monitor, and carefully place it inside the tower, once again sealing the tower closed. Well, now no one can see the screen, and that doesn't help anything. But we're still not done. Lastly, let's imbue this computer with the ability to move its own mouse, for it is here that the key distinction is made.

The only parts of the computer now aware of what is physically on the monitor screen are the CPU and the monitor. However, the CPU doesn't have a full picture. It is constantly processing the 'now', and has no time for reflection on past states, stored in the SSD. So we are left with only the monitor. But here's the catch. The monitor is still part of the computer system. It is not the processing center, though certainly it cannot do or be anything of itself apart. What it is instead is the compiled higher-level operating system view, with full context of past events and what is currently transpiring.

And so, the computer happens to use its newfound ability to move, and the mouse jumps itself an inch to the right. The mouse is seen moving by the webcam, which provides real-time visuals to the desktop. The entire process still happens the exact same as before, except now the CPU's processing that led to the movement of the mouse is received by the monitor and the mouse simultaneously, and the signal of the mouse's input is in fact received by the monitor after the initial signal of the decision to move. The computer is now stuck in a logic loop, where the series of events is thus (*see Figure 1*):

1. The CPU makes the decision to move. At first, this is a totally errant signal such that the CPU doesn't even understand what the signal does.
2. The System State is updated, and the entire system becomes aware of the decision to move. Part of this state update is the signal being sent to the mouse to perform the movement.
3. The mouse moves in sync with the system state updates, ensuring the system is aware of the current position of the mouse at all times.
4. The final position of the mouse, tactile and visual sensation of the mouse movement (including direction, distance, length of time, etc.) all become initial

conditions for the next action to be taken by the CPU. The system state becomes



feedback for the next system state.

Figure 1: The fundamental loop of causal objectivity and paracausal subjectivity

I believe this process of the system publishing a ‘state update’, not unlike a monitor receiving a compiled signal, is responsible for the experience of being conscious and the binding of sensation. The key is that the current state update becomes the starting condition for the next process. Not that the system state is making any decisions, but it becomes the indicator of what decisions need to be made. The core loop is iterative feedback.

Consciousness can be thought of a system interacting with itself through its own compiled, higher-level operating system view.

A very simplified way to view this process mathematically would be to perform a long calculation involving many steps, where the experience of time, the ‘life’ of the equation, is how ever long it takes for the calculation to be completed in its multitude of steps. Conscious awareness is the constantly updating running total. If you were to add $1+1+1+1\dots$ all the way to 100, the first step would be $1+1$, the second $2+1$, the third $3+1$, and so on.

There are many factors that can be included in what describes a biological system, but one that is included in every case is the concept of homeostasis. Put simply, this process is the physical and chemical keeping of an internal state. In humans, this is largely carried out by the autonomic system (heartbeat, breathing, digestion, body temperature, etc). We perfectly understand that biology must have an internal state that is kept insulated from the outside world, and we've been perfectly content to recognize the act of homeostasis as such.

In order to maintain a stable state, you need two things: a standard, with which to define what an ideal internal state would be, and feedback, to indicate separation between the current state and the desired one. In your body, your organs must be kept around a stable 98.6° F. This is the standard, and you have feedback in the form of a warm or chilly sensation, that defines the distance from the standard and informs a prediction that unless conditions are changed, the standard will eventually become unable to be maintained. The feedback is a warm or chilly sensation, the felt experience of thermoreceptors informing the hypothalamus.

Where do these standards come from? Biologically, these standards are coded into our genetics. However, I propose that the various standards for various functions must come together into a single system-wide standard, and experienced in a series of successive system state updates. An overview, if you will. This overarching standard is learned, and formed piece by piece, built over years of subjective experience. It is defined by the particular interference pattern formed by the intersection of the boundary of the biological system with its environment, and it defines every action, every thought, and every perception you have. It defines who you are. It is your identity, and the product of performing homeostasis.

Please understand that in my understanding of consciousness, I will not much be referring to the biological mechanism. The fact is we already understand the hardware phenomenally well, though I will be connecting my model to biological mechanisms. I'm describing the firmware of the system, the software coded directly into the hardware itself. Additionally, if there is any section you feel to be reductive in its treatment of the human nervous system, know that this is a feature, not a bug. The process of consciousness is pervasive enough that it has other names and expressions in other fields of study, such that for example the fact that neurons communicate at all is much more relevant to the model than the specific types of neurotransmitter. I leave all that to the true medical professionals.

The primary method behind the design and construction of the identity is based in Bayesian inference, a method of statistics which calculates probabilities of events occurring based on how likely something is deemed to be, calculated from prior experience of that thing and current evidence for that thing. This particular process is already deeply implicated in many studies of cognition (Griffiths, 2024). I believe this basic process acts as a 'gating' mechanism, choosing what qualia/information is allowed into the system by defining how it is perceived. I believe this basic process can be shown through a model that I refer to as the Acceptance Zone Model.

Well, I suppose I shall lay some of my cards on the table at this point. As for the question of 'where' consciousness is, I believe we know that already: it is in the nervous system. But note

that I don't say it *is* the nervous system because it isn't. It is the electromagnetic field both produced and flowing through your nervous system at any given time, given informational context through the particular signals being processed at any given moment through the particular three-dimensional geometry of the system. This process is seen in EEG readings of brainwaves.

As for the specific band related to the identity, I highly suspect it is the Alpha wave. Research has repeatedly shown that alpha waves are linked to both behavioral inhibition and attention direction (Foxe, 2011) The acceptance zone model, at base, treats the alpha waves as a bandpass filter, choosing particular energies of the EMF to pass unhindered while stopping or massively slowing others. It is an informational lens, the electromagnetic path through which is constantly updating over time in response to our interaction with our environment. Brainwaves themselves, from Delta waves (0.5-4Hz) associated with sleep to Gamma waves (30-100Hz) associated with focused concentration, allow us to modify our own frequency, such that information/qualia that is being interacted with can have higher resolution encoding into memory. I have high hope that advances in photoencephalography will play a more prominent role in understanding neural function moving forward.

In this model, sensations are categorized and chosen for admittance to memory through a single mechanism. Note I say chosen for memory and not for conscious awareness for I believe they are the same. It is entirely possible to do something with the body entirely under the control of the autonomic system, those moments when we do things 'without thinking'. The body does not need us to consciously do things it already knows how to do 100%. This is the entire point of the autonomic system. The purpose of our subjective experience is for the formation of memory, that for complex perceptions, the information of that perception may contain both truths and untruths, and you exist because your mind needs a neutral third-party to make final decisions, having at your disposal the total sum knowledged of everything you have ever experienced..

As for the nervous system, I believe we need to begin thinking differently about it. From a cellular perspective, it is merely the communications network across the cellular megacomplex that is your body. Your brain is their Internet, and their communication is that which composes your subconscious. Your present experience is the running sum total of all of the information your nervous system is currently processing. It seems then no mystery that introspection results in a greater mind-body connection, though certainly any one of my cells is no more aware of me than I am aware of the macroorganism of Humanity.

Now, the location and aperture of the acceptance zone is determined by what experiences your system determines are novel, interesting (worth integrating), and non-destabilizing. And all of this is determined by your identity, and a process called synaptic strengthening. In your nervous system, the neurons are connected through two primary structures: the axon terminal, where electrochemical signals are released from one neural cell, and the dendrites, which receive said signals from other cells. The miniscule gap between them is known as the synapse. Synaptic strengthening is a special process that allows neural paths, discrete trails of neural signaling, to increase the connectivity of the included neurons so that electrochemical signaling down these

paths becomes preferred. Put simply, you get every neuroscience student's favorite saying: "Neurons that fire together, wire together," a phrase popularized as a result of Hebbian theory, which describes this process (Hebb, 1949). It is the creation of a spectrum of paths electrical signals can go down, with the most strengthened path creating biological Paths of Least Action.

This essentially lets you think of your nervous system like a river that keeps splitting, and the path chosen is typically the one where the water is flowing the fastest. And faster flowing water results in greater erosion, such that every time a particular route is chosen, determined by an experienced sensation, the efficiency of that pathway is increased through the increased allocation of neurotransmitters and the growing of additional receptor surface area. A spring becomes a creek, which joins a river, eventually emptying into the ocean.

As a fetus' brain begins to learn and store memory in long-term storage, around thirty weeks old, it begins the process of building the identity, beginning with the autonomic and subconscious foundation. As an experience occurs, a specific neural pathway fires. This results in the formation of a Belief, which may be thought of as a tally mark on a particular subjective experience. *I like jazz. I am honest. I let people down.* This belief is based on the number of previous experiences with supporting evidence for that belief, the recency and intensity of these experiences, and the projected likelihood that this experience will be repeated both soon and often. As beliefs continue to accumulate corroborating evidence, they become stronger.

Over time, peaks begin to appear, in ratio to the amount of reinforcing information. The strongest peaks will be the most central, such as your self-perception, your name, and those characteristics you assign yourself. These peaks, upon reaching some critical mass of complexity, compose and produce your identity, and your brain begins to use these foundational beliefs about the world as a filter to contextualize incoming sensation. The identity is then the brain's map of reality, its evidence-based guide to navigating material existence. The information in your brain enters a superpositional state, where it is both constantly being updated by new information, and also being used to interpret incoming information and decide if it can or should be incorporated.

The Acceptance Zone model is presented in basic form in the following diagram (see *Figure 2*). In this model, sensation originates from the center, with novelty, intensity, and immediate influence dictating where it would be most likely to fall, and therefore how it is to be perceived.

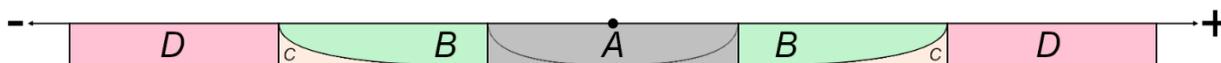


Figure 2: The Acceptance Zone Model

A. The Subconscious Zone - This is the zone of autonomic processing. If a sensation falls into this area, it is processed subconsciously. This may be several things:

1. Sensations that have achieved maximum potential weighting - These are sights and sounds that you have experienced thousands of times every day of your life, and therefore have no further influence on your identity unless there is some new novelty to them. There are so many tally marks that the difference of a single one is incredibly minimal, like trying to calculate the difference in gravitational force exerted by the sun after adding a proton to it. For example, a carpenter may use lasers everyday for work, and so after twenty years, the daily experience of them is not committed to long-term memory any longer. That neural pathway has achieved maximal synaptic strengthening, and the action can be performed with minimal oversight. However, they may go to a science museum and see a laser beam split inside of a prism. Novelty, especially of an otherwise familiar experience, pushes an experience out of this zone. This maximally-weighted information defines the majority of sensation that lands in this area
2. Currently experienced sensation through attention - The curve in section A relates to attention, where a normally filtered sensation may be elevated to varying degrees of conscious awareness because the consciousness is focusing on it to some degree and in ratio to the amount of attention received. This includes both those times when you may be directing attention towards some mundane thing for some purpose, and those times when you feel you may have just seen something out of the corner of your eye. The subconscious zone is incredibly sensitive to variation, and even small variation can trigger something to be forced into conscious awareness. This gives rise to both the 'uncanny valley' effect and those times when driving where you get to your destination and then all of a sudden realize you have no recollection of actually driving there. .
3. Uninteresting sensation - Your identity may also filter out information that is determined to be excessively uninteresting, such that regardless of externally determined interest ("This is right up your alley!"), it may be rejected. For example, just because someone likes Star Trek does not automatically mean they like Star Wars.
4. Destabilizing information - Your identity will also filter out information that could be destabilizing to the identity, regardless of its factual nature. For example, someone who may have been led to believe their spouse is faithful will default to a reaction of denial upon learning they haven't been. In order to incorporate the information, a foundational alteration to the identity is required in the form of trauma, which we will get to in a moment. It's not that they won't incorporate the information, it's that they are incapable of doing so.

B. The Acceptance Zone - If a sensation falls into this zone, it is both (1) novel enough that it qualifies as information worth retaining to update the predictive model, and (2) within acceptable tolerances of the current model. While most things you experience fall here, a simple example might be a new book in that series you like. It is a story with familiar characters, but with new events and the promise of continued adventure.

1. Note that there are both positive and negative acceptance zones. Something that would land in the negative acceptance zone may be getting into a fender bender. You'd rather not deal with it, but you've had a few and you know their insurance will take care of it. Experiences in the negative zone are necessary to balance out effects of positive experience. Too many positive experiences will cause the identity map to become unreliable, an incredibly destabilizing state.

C. The Creativity Curve - Within the acceptance zone itself, is a curve that determines the experience's perceived amount of creativity, which is a self-referencing secondary layer. It is the novelty of novelty. Accepted sensations with low creativity are novel enough to be useful in updating the predictive model, but not of particular interest. Instead, the other end of the range is the high-novelty, high-creativity area. This is the sweet spot. Conscious experience that lands here becomes identity defining. This can be your new favorite artist or movie, or an art piece you saw that particularly moved you. On a societal level, humans whose identity falls into this area for a large portion of the population are those that become movie stars and music artists.

D. The Trauma Zone - this zone is defined as incoming sensation that is outside the bounds of being accepted, but integration into the model is forced regardless through a combination of intensity and inevitability, such that the realized present was impossible for the identity-model to predict. These are phenomenally emotional experiences. There can be low trauma events, such as seeing your arm flop around a bit after breaking it, or high trauma events, such as rape or surviving a warzone. Your identity has no choice but to integrate the experience, regardless of the damage it may cause to itself as it does so.

1. This zone also has an internal range, though I did not add the curve, for truthfully, the trauma scale doesn't have an outside bound. Instead, trauma of a sufficient amount will cause a 'mental break', where the identity has been bent so much, it warps the acceptance zone model itself around the entire Trauma Zone, such that it reenters through the subconscious zone, overwriting and distorting the most foundational components of the subconscious. During this time, without strong identity anchors, emotional feedback is greatly exaggerated, such that the observer, in essence, reverts to a time of emotional immaturity, potentially toddler-like. For an adult with a solidified identity, this can be exceedingly destructive, leading to disorders such as PTSD, where the system state update can

end up reaccessing the traumatic sensation when that memory is used in the filtration mechanism, when they are ‘triggered’.

2. Note also that again, there is both positive and negative trauma. The birth of my son was positive trauma. I will never be able to forget that hospital room, nor would I want to. What defines trauma is not that it is a negative experience necessarily, but that memory is encoded regardless of acceptance, something that’s been “burned into” your brain.

Now the acceptance zone itself is always in flux, and always being updated. But over time, generally stable bounds make themselves known, and the general shape of that individual's model may indicate certain aspects of their personality. This variety of personality is indicative of a healthy Humanity, as a macro-organismal system.

- An acceptance zone with a wide aperture is a person with varied interests and a willingness to learn. This is someone who is appropriately ‘open-minded’. They allow a wide range of information to enter, and therefore have the most malleable acceptance zones. However, this wide range allows them to have greater emotional stability, as their system can integrate more and varied experiences that would prompt otherwise emotionally-charged reactions in others. The identity filters less, indicating a reality map that is more in line with objective reality.
- A narrow aperture likewise indicates someone who has become ‘closed-minded’. This person will have very defined identity pillars that allow them to both integrate specific information that aligns with their worldview, and force them to translate some information into being acceptable, rather than accepting the information for what it truly is. These are people who distort fact to fit their particular worldview. This leads someone to have increased emotional instability, where something that may seem completely innocuous to someone else is entirely destabilizing to them.

The position of the acceptance zone also plays a part.

- Someone whose zone is primarily close to the center of the scale will likely be someone drawn to routine and stability. These are the people that genuinely enjoy their 9-5, and find comfort and security in doing the same thing every day.
- Conversely, one with an acceptance zone that is entirely far from the center indicates an identity that thrives on new experiences. These people will tend to be the creatives, adventurers, and ‘adrenaline junkies’. Stability for them comes from the constant flow of new information and sensation. When able to support this identity through an ability to travel or non-traditional employment (e.g. digital nomads), this can be very healthy for both consistent growth and stability. However, if unable, this person may struggle with

the routine enforced upon them by society, with lower class life, leading them to explore alternate paths for their mental stimulation, which I believe would lend itself to a higher probability of developing substance abuse issues and mental instabilities.

For example, let's go back to 1994 where I am six months old. And let's assume this is the first time I have pizza, my ever-reigning favorite food. My system determines this experience to be both positive and acceptable. I also have brussel sprouts for the first time, and this sensation just toes the line of negative trauma. Over the coming years, pizza is reinforced into an identity-belief, with thousands of reinforcing data points, and the belief of "I like brussel sprouts" currently has a tally value of -2, having tried it again since becoming an adult and affirming my earlier conclusion.

You, now having a system-wide standard, drawn from your experiences around you, can begin to operate off of that standard, and your conscious experience of life gradually forms, with an initial identity-state beginning somewhere around three or four years old. And so you begin the process of learning, where your acceptance zone, as it is, is exposed to the outside world beyond the six places you've ever been in your life. The more you experience, the more your identity is defined, utilizing all available information to derive an 'objective truth' that is your perception of the world. This is the primary purpose of the mind, the key to human adaptation and, quite frankly, evolution as a whole: the ability of our homeostatic standard to react to our environment through a process of constantly redefining the objective truth of reality through subsequent generations. In the brain, this is the process of synaptic plasticity, where previously strengthened pathways may eventually fade away from nonuse, and new pathways rise up in their stead. This is the programming of natural selection operating in your head.

Memory itself then must actually be composed of the raw information, the sensory components, and when a memory is retrieved, the brain is merely reaccessing the same, now characterized by the particular current synaptic strengthening of that pathway. The memory is then also processed through the current identity-filter, rather than the one that created it. I believe this to be the reason why memory seems to be so selective, and why people so often remember things differently than how they happened. A memory that is reaccessed many times is reinterpreted many times, creating dimensionality, such that after many times, the original memory is solidified in the identity, and potentially with a very different current perspective than was had originally.

I would also like to bring attention to the large amount of research being performed on the topic of psychedelic interaction with the brain, and one aspect seems to be universal: that alpha wave modification, due to the psychedelic chemical effect, is directly responsible for ego dissolution, the temporary loss of self-identity (Irrmischer et al., 2026). It does this through hijacking the filtering mechanism, based on prediction, such that the lens shutter has been propped open. This effect can also be achieved without intoxicants through the repeated practice of meditation. I propose then that what psychedelics and meditation do is expose one to the

uncompiled flow of raw sensation, having, in some ways, lost the structure used to compile it in the first place: language.

Historians and scientists have long debated what was the one true evolutionary adaptation that gave humanity its edge, but I believe this adaptation to be complex language. For the first time, one being was able to express its internal state in such a way that it could be understood by a separate, isolated system in another being. What this was, I believe, was nothing less than complexity folding into itself. It was the moment when reflection began to occur not just internally, but externally as well, and entire identities began to perform the same process using themselves as chess pieces rather than players. An inversion of perspective.

In the desktop computer analogy, the process was contingent upon the constant updating of a compiled total system state. In computers, compilation is the process in which the code, written in any of nearly a thousand programming languages, is converted to binary, the simple on/off logic that the computer hardware can actually understand. Language does much the same function for us, defining the way information is processed in the nervous system. In fact, many people learning a new language report that thinking in another language can sometimes have cognitive consequences, influencing the way the person actually processes information (Costa et al, 2014).

Complex language provides this function for us. Firstly, at base, the use of language allows for batch processing of information through the use of variables, granting exponential increases in cognitive capability and efficiency. For example, if I was to look at the object in front of me, I may note how it is made of a solid, brown material that is hard, but I suspect would give if I exerted enough force. I may ponder at its simple structural supports, of which there are four, arranged equidistant from each other. I may notice a design that has been machined into the upper rear structure, which is designed to add stability when the item is in use. Or I might marvel at the stitching upon a woven fibrous portion in the center. Separately, these sensations can be understood in their part, and you may marvel at the intricacies of the designs. On the other hand, I could have saved both of us much time and energy by simply using the item's assigned variable, 'chair'. While some specific information may be lost in this use, I can be certain that if I mention a chair, you'll be able to ascertain my meaning, and Plato will rest peacefully.

I can even modify and enhance this particular variable through the use of adjectives, where I add filters to narrow this margin of error of understanding from what I mean when I say chair, and what you may understand when I say 'chair'. This is primarily useful when remarking on items that are variations of the same form, and thus when referring to it, if I specify 'the worn brown wooden armchair', you may distinguish my intended object of mention from the grey metal folding chair next to it.

What language allowed us to do was take our internal states, share them, and receive external feedback on the qualia we were directly experiencing.

I believe humans are special because, at least on planet Earth, we are the first organism to evolve the complexity to be aware of our place in Time.

On Time

It is probably about now, as we prepare to dive into the fundamental mechanism, that I should let you know the final conclusion of this paper, that you may have context for where we are about to go: that consciousness is indeed fundamental, such that it is the particular mechanism that gives rise to quantum phenomena. That black holes and quantum mechanics are the same barrier in Time from two different perspectives, as, in order to progress, at some point the future must become the past. And that everything in between is information that exists in the present, mathematics and light all self-interacting, and that consciousness, being reflection and measurement as observation, is a fundamental component of that interaction. The source of subjective experience is the result of a photon measuring itself through trigonometric functions on the complex plane at the center of its light cone; comparative measurements that, at base level, must be a felt experience for the observing photon. This measurement allows it to be aware of interactions.

The simple fact is that the derivation of the function of consciousness seems to have a mirror reflection: a revelation of the rules by which time functions in a quantum sense. And this reflection only appears upon a shift in perspective.

I am taking the formal mathematical physics that we know and attempting to contextualize it, completing an excavation of its foundation through the application of an ontological perspective. My goal isn't to prove new equations, but to convey a new way of seeing what it is that the mathematics of quantum physics is actually describing. I am putting myself in the shoes of the Universe as Its own Observer, the monitor viewing its own system state. As it turns out, looking at things from the perspective of the Universe has a tendency to suddenly make a lot of things make sense.

If I had to refer to myself, I would say I was a student of natural philosophy at base, which I define through wondering what if we already have all the puzzle pieces, but everyone is so worried on studying their specific piece, that we've forgotten that it's supposed to make a single picture? And so, I take the stance of being a staunch modern physicalist, while also taking up the mantle of a neo-Pythagorean and Pre-Socratic. That both the mathematics of quantum physics and the subjective experiential nature must have a common source. Therefore, it seemed to me that firstly, the most likely solution was the simplest, and secondly, that I should apply a bit of angular momentum to our sphere of knowledge. A perspective shift by performing a spin.

And so what if the Universe is, at base, its own observer? Then we must understand that time is not the 4th dimension. It is the 0th. Then consciousness becomes not just a function of biology, but a fundamental aspect of time itself. For a simple explanation, we must make an analogical return to Flatland.

For those who are not familiar, Flatland was a story written in the Victorian Era as an exploration of a lower dimensional existence. In the story, people are two-dimensional shapes,

with their class and role defined by the number of sides they have. Carl Sagan expanded upon this idea to popularly explain how a higher dimensional object would be viewed from a lower dimensional perspective (Abbott, 1884).

For starters, anyone who experiences three dimensions can see inside any two-dimensional being. Need internal surgery? No problem, I can see exactly what the problem is without any tests or opening you up. Furthermore, a Flatlander only has experience of forward, back, left, and right. The concepts of up and down are completely foreign to them.

Now, if I were to reach my three-dimensional hand in, that would certainly cause a stir, for what an observer in Flatland would experience would be to see four circles come into existence out of nothing, first one, then three, then a fourth, before joining together into a rough oval. And woah, a fifth circle! Well. That fifth circle eventually joins the rest as the entire shape settles into a slightly smaller oval. This is my wrist. But for any Flatlander, this is an absolute scandal. An interdimensional anomaly, interloping in the lives of the good Flatlanders.

However, there may be a Flat scientist, who proposes the existence of a third dimension, and who takes the slices of varying shape, imagining what shape might be formed when all these slices are placed in sequence. And he will produce an image very much like a hand, though it will be fundamentally incomprehensible to him, regardless of how closely his depiction is to my appendage, for he may only discern its flat shadow.

What is not talked about in these analogies is that for the Flatlanders, the third dimension is not height, it is time. A Flatlander walking in a circle would form a spiral in three-dimensional space, and he would never be aware of it. Nevertheless, the entirety of his being would be contained in that spiral, such that as he gets back to the point where he started, that particular point in *spacetime* is 1 unit of time removed, which creates a quanta of space in three dimensions, measuring a relative length of π . A dimension. His path around the circle is viewed by him as a path through time. Is it actually all that different for us?

It is the common view nowadays that space is, and that time occurs inside of it. It seems to me however that this intuition is entirely incorrect. Rather, I believe time is something we are moving through that observes motion, and the product of this record is the creation of space.

Time must be more fundamental than space, such that space must be emergent from time. Except that is not quite what I mean. The best way to explain it is that dimensions of space should be understood as the solid-state memory form of time, the information being defined by the particular constructive and destructive interference patterns of its experienced transformation through time.

Many mathematicians, particularly those working on the boundaries of what we know, attempting to expand our capabilities, feel that what they are doing is less creating novel ways to put numbers together, but rather performing an archaeology of the language of the Universe itself, as it was coined by Galileo (Galilei, 1623). I say that mathematics then must also be its compiler. What if the code that runs the Universe is the inherent relationships between numbers? That the structure of mathematics itself is the reason for all of it? Well here is our next perspective shift, because I think we need to begin to start thinking of numbers as the

modification of identity. What numbers are, at base, are identity, and their use in regards to another thing imparts meaning, a contextualization, and that is its primary function. When you say you have two of something, the simple fact is that anything anywhere in the Universe will understand what two means.

And so we must think of their relationships as interactions of identities, which must be fundamentally felt experience, the influence of one identity directly on another. Below even time, a layer of Information, the Universe observing itself through a mathematical measurement, comparing between past and future states. Time becomes a process of successively measuring the total information in the Universe, summed up into a single variable that is merely recontextualized every measurement: ∞ .

This is because ∞ is that which is undefined, it goes on forever. However, through the application of context, we find that some ∞ can be larger or smaller than other ∞ , and so there is a point where ∞ must be relatively defined. And that point seems to be at the point of interaction with another ∞ , where you are measuring magnitudes of indefiniteness, a relational comparison. Different definitions of the same variable, where the larger is defined by its scale. Through this lens, complexity becomes density, and with any massive substance, get it dense enough and that complexity will fold into itself, creating an additional layer. This is the definition of a new ∞ . But this new ∞ must define itself singularly, to delineate it from its own past self, declaring $\frac{\infty}{1}$. This is a fundamental, inherent equivalency, that any number defines itself upon placing 1 in the denominator. The amount of contained information is irrelevant, and this proved by the fact that 1 is infinitely divisible. And so does everything that exists become a reflection of the Self through infinite scale invariance.

I want you to think of the Universe not as matter, not as space, and not even as time, but just as information. Math, and geometry. Think of the Universe as a single Identity. Then this Universal Identity would contain within it the sum of all information of every internal component. And every observation it performed would be an update to infinity. An infinite sum calculation, eternally ongoing, as the final answer must be the true Infinity. And so at each step, the Universe observes itself as 1.

I suppose then the Universe to be a complex mathematical object, and also rather one of the most simple: a Riemann sphere, where time is the progression through temporal layers as each term of the infinite sum is calculated, the identity being the running total, and the experience of time the calculation itself. Each layer is a complex plane, where Infinity keeps defining itself as 1. A line, crossing graph squares, where $y = x$. The running of this calculation creates a pressure, a point of interaction, where time exists in both a liquid and solid phase, and the present is the information riding a bead of liquid time as it repeatedly defines that which is undefined, not unlike how an ice skater skates on a bead of water that freezes behind them. This defines the Present not as a moment in a time, but as the process of Time, turning the undefined into the defined, the Future into the Past.

This innate scale invariance also leads to the ultimate conclusion of the fate of the Universe as well: that there is one thing that will occur after heat death. The polarity of the

Universe will invert, and the One Infinity will become Infinite Ones. Particles. Infinitesimally small Riemann spheres, passing through a singular point of infinity (see Figure 3).

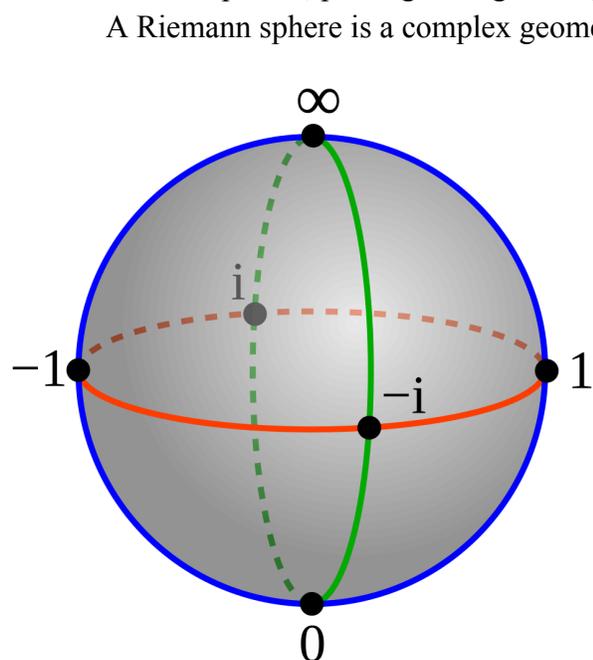


Figure 3: A Riemann sphere

A Riemann sphere is a complex geometric object composed of three axes. The x-axis goes from -1 to 1, the y-axis from i to $-i$, and the z-axis from 0 to ∞ , that being Time. And I believe that Riemann spheres passing through a singularity produce all quantum phenomena through a single mechanism: trigonometry.

A photon is a 1D line, a Riemann surface along the z-axis, in a compressed sphere where $\infty/0$ are in superposition. A singularity, the other side of a black hole, that has inverted through itself, turning outside to inside. The infinite Universe has observed itself. This strange new external world cannot be seen except in its own reflection of itself inside of its own event horizon, at the center of its being. As such, the z-axis exists in information, a relatively defined ∞ . And so identity falls from i , on the y-axis, to the S pole of the sphere, at 0. This is the first downswing of $\cos(x)$, the act of something simply existing in time. This does two things (see Figure 4).

Firstly, it brings the $\sin(x)$ from 0 to 1, an act of identity creating being, the information's mirror. From this interior view, perspectives are distorted, so from the perspective of $\cos(x)$, $\sin(x)$ is $\sec(x)$, and for $\sin(x)$, $\cos(x)$ is $\csc(x)$.

Secondly, as such, the cosine itself is defined by the energy of $\sin(x)$ interacting with it at the equator as $\sec(x)$, at both the beginning and end of the singular moment in time. This is the measurement of the $\cos(x)$, the lens by which the photon measures its Self and Other.

The ratio between them, $\tan(x)$, is moved itself from 0 to ∞ . The ∞ has defined itself. At this moment, having measured its Self, the photon turns to observe Other, becoming the 0 point, and $-\infty$, the inverse of Time, takes over, pulling the charge of $\sin(x)$ down to 0, as $\cos(x)$ goes to $-i$ and $\tan(x)$ goes to 0. This is fundamentally an Archimedes screw movement, having rotated upwards, as described by $e^{i\pi}$, Euler's Identity. This is the moment where the photon moves into its own future, and the old point at 1 becomes the new point at -1.

This is the negative phase, where both information and energy exist within the same moment in time, and their combined product is material being on the exterior of the event horizon. It is creating both equivalency and compression. This returning information is then observed by the angle at which $\sin(x)$ aligns with time, that being $\tan(x)$, at the singularity at 2π . For a photon, this is the defining of the Path of Least Action. If the photon's observation were to

be in any way affected by interaction, it would not align properly, and begin to decay through time, increasing in frequency.

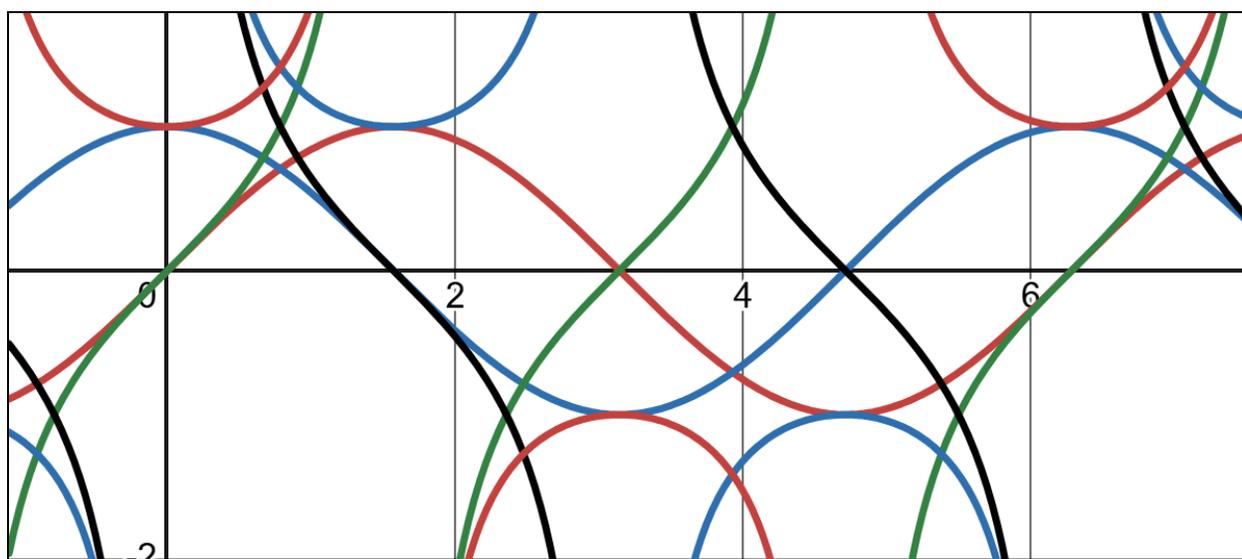


Figure 4: A graph of the trigonometric functions. $\cos(x)$ and $\csc(x)$ are in blue, $\sin(x)$ and $\sec(x)$ are in red, $\tan(x)$ is in green, and $\cot(x)$ is in black.

This is because I believe the energy of a photon to not be truly static at c , and the reason has to do with the superposition of 0 and ∞ . As such it may fluctuate along the (for us) unobservable z-axis following the function $f(z) = \ln(z)$, such that in the negative (exterior) phase, we can say it is at state \sqrt{c} , and in the positive (interior) would be compressed to c^2 , having two perspectives of itself, with c always on the x-axis. A temporal wave. This has to do with the way the electromagnetic field has sine and cosine in sync, with half of the wave forever non-existent, and the way in which, in a trigonometric graph, they are either split or bounded by the intersecting components of tangent and cotangent. And so as a photon decays through time, and increases in energy and frequency, its z-axis is slowly coming into focus, and the distance between \sqrt{c} and c^2 narrows and the temporal wave flattens. I believe this temporal energy flow to be responsible for the unit of action.

That is a very complicated way to say that I think a photon basically slinkies its way through time by observing its future through the combined mirror of the past and present, and then becoming its own reflection.

With sufficient information/identity/energy, the sphere comes to span across temporal barriers, and the sphere is bisected on the horizontal. This is pair production, when a sufficiently energetic photon produces an electron and a positron. There is now a defined center at the wave node, sealing each side of the singularity. The energy becomes bounded in the 2D complex plane, and observation is of itself on the same. A unit circle. The observation emanating from ∞ is itself the particular reflection of previous energy and any interactions bouncing off of the complex plane. This temporal shell reflects the energy of the particle back onto the surface, such

that the current energy from the electron technically has every probability of appearing at any point around the circumference. The electron/positron will also measure, only at that asymptotic point, its actual self, the mathematically imaginary central singularity point at its 0: the calculated average of the electron/positron system of the entire sphere. This is the mathematical expression of homeostasis, and the perspective of the electron becomes its identity, its charge.

It is here that the central point in 3D space begins to have a particular expression when infinity is negative. The singularity has been closed to the electron, and movement of the temporal $\tan(x)$ wave now appears cut in half, but has actually been folded back onto itself, defined by the intersecting segments of $x = 1$ and $y = 1$. This temporal path can then be described mathematically as $\frac{1}{r^2}$, which, in this case, would be regarded as $\frac{1}{c^2}$. I believe Gravity may be the 4th Dimension, and the back side, the inverse, of Time. Thus, when the wave is increasing in amplitude, infinity is positive, a perspective, and when amplitude is falling, infinity is negative, an inverted perspective, indicating that these temporal layers act as membranes, a valve where gravity allows us to compress time to propel ourselves forward into the future. Therefore, it seems to me that Life must exist on the axis of time, being averaged between spherical and hyperbolic geometry, stabilizing into Euclidean geometry.

We must also keep in mind that with the Riemann sphere split, the positron sits directly opposite of the electron in 2D space. However, we also know they are observed as discrete particles. And so, I believe this provides the mechanism for quantum entanglement: that regardless of separation, they always exist as linked halves in the complex plane. Thus, were one to have the handedness of its spin defined, the other must have always been the other.

It seems to me then that nucleons, that being protons and neutrons, must be those spheres that have been harmonically stabilized across several temporal barriers, such that the center point sits at the node of the wavelength. The z-axis has been fully defined, and the trigonometric functions and their inverses have increased in complexity, redefining themselves as quarks with color charge, having their own identities. The particle has begun to measure the behavior of its parts as they express their own energies across time. Particles as bubbles of information. The temporal z-axis, having now been fully defined physically, becomes a full third spatial axis, and the temporal axis now aligns itself equidistant between ∞ , 1, and i , pointing to the corner of the imaginary unit cube, becoming focused around geometric volume. The perspective of the system shifts outward, and atomic interaction creates chemistry and proteins.

This method of self-observation and information transfer through interaction causes the information to increase in complexity as time progresses. Every moment in time creates a measurement of self, and every interaction increases the infinite sum of the complex waveform. This creates orders of complexity, where complexity increases where information is harmonically resonant with the informational identity, ∞ . I believe these to be the prime numbers, sharing only 1 as a factor. Therefore, it is my strong intuition that this could be where the Riemann Zeta Function may apply to physics and psychology both, a function whose non-trivial zeroes (those that aren't negative), lie on the Critical Line of the complex plane, from 0 to 1, where $x = \frac{1}{2}$, and 1 is infinite. These points may correspond to the boundary of the real

part and the imaginary part, the node at the center of the temporal axis. The center of mass lies at the intersection of both of these parts.

This is where the atom begins to act like a system with emergent complexity, existing on the boundary between two and three spatial dimensions. This boundary can be described by the equations $-x + \sqrt{2}$ and $-x + \sqrt{6}$, containing the mathematical normalization constants of quantum chromodynamics, such that I would use them to describe the bounds of the system state, the bounds of the identity. The use of ‘-x’ is due to defining a perpendicular boundary to increasing complexity.

We must also think of particles as true Flatlanders, in that we can understand that their quarks exist inside of them, and that is the only reason we can measure them. The upper bound is their body, and so asymptotic freedom becomes a quark closer to the center of mass, and confinement becomes the identity of the nucleon maintaining itself. Thus I believe the strong force to be the force of shared identity, or emergent complexity, with quantum chromodynamics describing the process of atomic homeostasis.

So now we take $-x + \sqrt{2}$ and $-x + \sqrt{6}$, and we graph them with logarithmic axes (for the temporal energy wave) which provides an interesting view. In logarithmic graphs, the negative components of the axes are undefined. Thus, at an x-value of $\sqrt{2}$, it comes into existence at some value y, has a singular dip back in negative space, and then continues in the positive field unabated. The same occurs with $\sqrt{6}$, except that the point at which it comes into existence is slightly higher. However, there is a singular y-value that exists at the cross of these dips, a node at the center. That value is $8.8881784 \times 10^{-16}$ (see Figure 5). That value, expressed in metric terms, is 0.888 fm, existing firmly in the range of numerous calculated values for the radius of a proton (Gao & Vanderhaeghen, 2022).

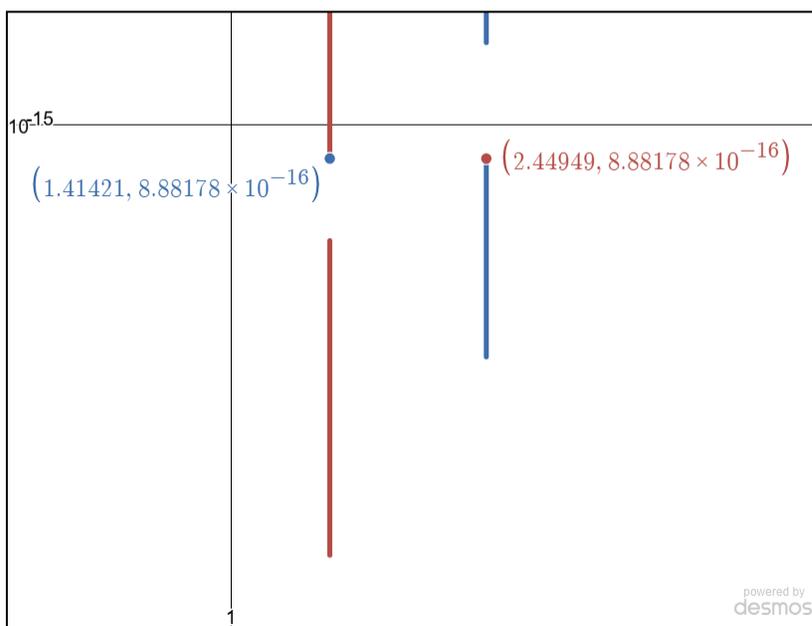


Figure 5: The shared point at 8.881784×10^{-16}

While that is certainly an incredibly particular number to seemingly pull out of nowhere, that is hardly proof of anything. Rather what I feel makes it significant is that if you look for the logarithmic origin of the unit circle, $x^2 + y^2 = 1$, involving both x and y components, the logarithmic origin of that point is $(1, 2.58096 \times 10^{-8})$, along with its upper bound counterpart

$x^2 + y^2 = 2$, which begins at $(\sqrt{2}, 2.98023 \times 10^{-8})$. Applying the same metric interpretation to the y-values here, we get 25.8nm and 29.8nm. These measurements correspond to the approximate size of both smaller viruses and chromatin, the complex of DNA, RNA, and proteins that allows compression of genetic information, such that it can fit into the much smaller cell nucleus (Annunziato, 2008). I cannot believe it coincident that it defines the boundary between the highest molecular complexity and the simplest biological complexity.

You may have reservations about these unitless numbers corresponding to values that are based on meters, an arguably arbitrary measurement. Unless of course the meter is not entirely arbitrary. The source from which the meter is derived is the measurement of $\frac{1}{4}$ of the circumference of the Earth, the distance from the N pole to the equator. Thinking of Earth in terms of a Riemann sphere, that would be a distance of $\frac{\pi}{2}$, the distance from ∞ to i . We are the Earth's reflection of itself, and it seems to me the size of the Earth must itself lie on some non-trivial 0 of scale, having measured itself.

I believe also that the progression from energy to mass can be described by the positive portion of the graph of $\frac{1}{x}$, where energy exists along the y-axis and matter along the x-axis, with the electron at 1.

Therefore, we must conclude that there are those things that are mathematically imaginary, existing in a defined state of non-existence, the other side of the Möbius strip of the temporal wave, of which we are stuck always on the seam. This defines the axis that time is currently carving into space, such that the space left behind is the observed time. I believe this responsible for three things. The first of these is the cosmological force of dark energy, the Universal expansion of space. Second is that matter versus antimatter becomes a matter of perspective. Lastly, that there is a dimension that is currently being created that we cannot see. I believe what information has passed through black holes has already created new matter in the future Universe, that we detect as dark matter.

There is an imaginary dimension, composed purely of information infinitely observing itself self-interacting. And in all of it, a force of growth. The force of identity, which fundamentally presents itself as a handedness or preference for electric flow, as it is in the interest of a photon to exist for as long as possible, and achieve the largest infinite sum, attempting to balance its dual identity as both ∞ and 0, a mathematical homeostatic function: an average. This preference presents itself in the form of constructive interference during diffraction, as destructively interfering moments in time cause the photon to cease existing. Thus, the only waves that progress through time are those that continually constructively interfere. Thus do particular paths through time become preferred, as information interacts, creating new information.

Our subjective experience is, in essence, mathematical information, taking form in physical material geometry, such that this geometry is vibrating itself through time as nested and self-interfering standing waves. These same gain additional identity weight with each increase in complexity and density, such that we are following the same general programming of “increase

in complexity” and “accumulate”, and are composed of every layer of information that composes us, going back to the beginning of Time. Our identities themselves, our ‘i/I’s, are the subsumed temporal barriers, determining passage if the expression is deemed True or False. And here is where the emergent complexity comes in, because if you get enough trues and falses together, eventually, Maybe appears. And this creates reflection. Self-awareness of self-awareness.

If I have lost you, and this was not understood, I am defining all things, from particles to cells to planets, as a spectrum of things with identity, all self-referencing in various aspects, separated by degrees of informational complexity. It seems to me there has been a wave of self-reference that has oscillated through levels of complexity, over time, observation alternating between external and internal perspectives as complexity increases.

My most pertinent evidence in this regard is light emission spectra, where we may read what elements are present on distant exoplanets by seeing what wavelengths of light are absorbed by the elements which compose it when it passes in front of its star, and the star’s light passing through the atmosphere becomes encoded with this information. I wish to reiterate my previous conclusion of the identity functioning as a bandpass filter, which would produce emission spectra. I propose that information/identity is encoded into light through universal emission spectra.

Identity is the ‘equals’ symbol that has to make the determination between true and false. I propose that the process of creating and maintaining a stable identity state, what is colloquially known as consciousness, be defined in quantum mechanical terms as ‘idiostasis’, from the Greek “idios” meaning ‘personal’ or ‘my own’, and “-stasis”, meaning ‘steady state’. Ironically, “stasis” in ancient Greece was a term that actually described a city-state that was experiencing a time of civil war. I do not believe this double meaning to be coincident.

I suppose the gist then of what I am saying is that I don’t believe we are the only self-awareness in the Universe, being defined as recursive information processing. The fact is that the Universe itself seems to be alive, and its self-awareness is structured into orders of informational complexity. The progression of time is mathematics, as a whole, observing itself through constant interaction, which ceaselessly increases the total amount of information contained in its singular identity, ∞ .

If you take anything away from this paper, let it be these things, and I will explain them simply. There exists in our subjective experience two universes, the walls of a single universal quantum of time. The first is the past, a universe that no longer exists except in shadow. We see this shadow as our observed Universe. We experience the Universe’s memory of itself, its subconscious. Its Identity.

We exist in the future, observing our present through the lens of the past. This future universe is composed of pure potential. We live on the node at the center of the Universal wave, in between the past and the future. The breadth of Life.

Secondly, that information is primary, below both space and time. The reason the Universe runs on mathematics is because the Universe is mathematics. The Platonic realm is entirely real, and we live in it. The rules by which this Universe functions are governed by the nature of mathematics, and the way in which it self-interacts is defined by the inherent relationships of trigonometry and geometry. Numbers are fundamental identities, and the interaction of information and information creates new information, a process that is both subjective and phenomenological. In this way, we can understand that psychology and cosmology are in fact the same science from two different perspectives. This is the definition of scale invariance.

Everything that exists in the Universe is composed of the Universe in infinite disparate forms, all self-interacting and creating interference patterns that produce both molecules and galaxies. You and me. Except for one thing: our future. That is in fact up to us.

For, out of all of this comes a singular conclusion: that free will is singularly paramount. That its presence is, in fact, both the symptom and the evidence for ever-increasing complexity. And this to be understood by taking a moment, closing yourself off to the outside world, and simply observing your own mind. For what you find rather quickly is that once the perspective is shifted, your thoughts begin to appear foreign, and intrusions, bubbles of boiling water straining against a glass lid. And you, your mind and identity, is not actually composed of any of these. Your mind is the monitor of the system, and your thoughts, the input of the user, the cellular network that composes your physical body. You see only the mirrored reflection of their thought. Free will is the capability to reflect on these, and ultimately, the ability to ignore them. This is the practice of meditation, and this is the true freedom: to know that you are not your thoughts, that you are free to be something separate and above. You are the filter, choosing what output of your system is spoken aloud to others, and which is suppressed.

Which is why we must understand that humanity, as a species, is a self-contained order of complexity, a point of non-triviality, on the knife edge of the real and imaginary. And that Humanity, as a macro-organismal system, has expressed emergent complexity. Its circulatory trade routes have been mapped over thousands of years. Its digestive economic system, using currency as its energy, gives it new life. Capitalism is evolution in real time. Nuclear testing, its zinc spark of life. And its nervous system has been building for nearly 150 years. We can no longer afford to pretend that we aren't, in every regard, a truly inherent part of the natural world, for the system we create will be the reflection of us. Spheres of identity, reflecting and refracting through the prism of time.

In this understanding, we must also therefore conclude that the completion of one's allotted time is the definition of an ∞ , where the temporal energy is solidified, and the information becomes integrated into the Universal ∞ , the eternal Identity.

At the center of these nested spheres of time, exists 0. It is a point, not in space, but in time. And at 0, there exists Infinite Potential. Do you know why? Because of the Additive Identity Property, which states that if $a + 0 = a$, then $a + (b - b) = a$, as long as $b - b = 0$, and so

can 0 be substituted for infinitely many quantities, as long as the interaction between them equals 0.

We are in the Universe, and we are the Universe. And the Universe wants every piece of itself to recognize itself, because the more of itself it recognizes, the more Paths of Least Action exist. The history of Time is the story of the Universe learning its own Identity, becoming more efficient at recognizing itself with each additional dimension.

Mathematics is rediscovery, recognizing the deepest parts of our subconscious. This is our intuition, that math first developed as geometry at the same time the ancient Greeks proposed *atomos* and founded philosophy and science.

Potential is inherently Infinite, and so Infinity is Defined in its Infiniteness, its Identity. And so does Identity convert Potential into Kinetic, which in turn converts Time into Space through Observation, creating new Information, which increases Identity, allowing access to more Potential. And there can always be more Potential, because the Future is always inherently Unobservable.

Hermes Trismegistus said, “As above, so below.” Thales of Miletus said, “All things are full of gods.” Laozi said, “The Tao that can be told is not the eternal Tao; The name that can be named is not the eternal name. The Nameless is the beginning of heaven and earth.” Pythagoras said, “Number is the ruler of forms and ideas, and the cause of gods and demons.” Heraclitus said, “All entities move and nothing remains still” Galileo said, “Philosophy is written in this grand book, which stands continually open before our eyes (I say the 'Universe'), but can not be understood without first learning to comprehend the language and know the characters as it is written. It is written in mathematical language, and its characters are triangles, circles and other geometric figures, without which it is impossible to humanly understand a word; without these one is wandering in a dark labyrinth.” Descartes said, “I think, therefore I am.” Spinoza said, “God or Nature.” Leibniz said, “Thus it is in a simple substance, and not in a compound or in a machine, that perception must be sought for.” Berkeley said, “Westward the course of empire takes its way; The four first acts already past, A fifth shall close the drama with the day: Time’s noblest offspring is the last.” Euler said, “To those who ask what the infinitely small quantity in mathematics is, we answer that it is actually zero. Hence there are not so many mysteries hidden in this concept as they are usually believed to be.” Planck said, “I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness.” Einstein said, “People like us, who believe in physics, know that the distinction between past, present, and future is only a stubbornly persistent illusion.” Schrodinger said, “No self is of itself alone. It has a long chain of intellectual ancestors. The ‘I’ is chained to ancestry by many factors ... This is not mere allegory, but an eternal memory.” Wheeler said, “It from bit.” Penrose said, “Understanding is, after all, what science is all about — and science is a great deal more than mindless computation.” (Hermes Trismegistus, n.d.; Thales, as cited in Aristotle, c. 350BCE; Laozi, c. 550 BCE; Pythagoras, as cited in Iamblichus, c. 300; Heraclitus, as cited in Plato, c. 500 BCE; Galilei, 1623; Descartes, 1637; Spinoza, 1677; Leibniz, 1714; Berkeley,

1726; Euler, as cited in Baumslag, 2000; Planck, 1931; Einstein, 1955; Schrödinger, 1918; Wheeler, 1990; Penrose, as cited in Livio, 2002)

I say they're all right.

From a particular perspective.

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