

DECEPTIONS AND TRUTHS: MAN AND MACHINE



CONSCIOUSNESS ILLUMINATED
AND THE RECKONING OF PHYSICS

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If only you knew how much this makes me laugh every time I read it.

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REVIEW & EXPERIMENTATION

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BEFORE YOU BEGIN...

There are some things you should know at this point:

This was designed to be accessible to people who are not experts in the field of science, and so explanations are often given in scientific terms, as well as a relatable, everyday observational analogy. It may get weird sometimes, but it's for the benefit of science and mankind, so you'll have to deal with it.

For people in relative scientific fields, parts of this publication will test your patience, will power, and desire for answers and solutions to mysteries that have boggled the minds of many a scientist for extensive periods of time. It's designed that way for reasons which become clearer the further into it you delve. The world's going to see whether you care about the field of science and the scientific method more than you care about the politics of the situation you will find yourself in.

Do not expect to see it follow any sort of publication guidelines one might expect to see with papers in journals. I write so you can follow my thought paths as they naturally occurred, so, as weird as it may seem at times, it all makes sense when all is said and done. I write in my own informal and unfiltered style because it allows me to express myself precisely, and I want readers to really understand my mindset, and feel exactly how I want them to feel.

At times I say "you" instead of "they". I sometimes get very caught up in what I'm thinking, and end up writing as if I am speaking directly to the people I am thinking of. Can be rather funny.

Finally, I'm an honest person – brutally so. I don't pull my punches and I don't care about feelings, which may not be to the taste of some, but that's one of the harsh realities of existence that we all must live and come to terms with. At any point where you feel I may be lacking in "scientific integrity", just keep going, and, eventually, the "why" behind it will reveal itself.

Abundantly so.

INTRODUCTION

I've heard that some people have said there is no definition for consciousness and there is nothing to explain about it. Others have said consciousness has no practical applications, doesn't do anything, and can't be detected, so it's not a scientific concept. Such thoughts should never have been spoken, let alone published. It's common human behaviour to deny something that hasn't been understood by the masses, but people should really stop doing that. It's a *very* bad habit.

On another hand, there are people who claim that consciousness has already been defined. In this case, I challenge anyone who says they can define consciousness to explain how to implement it into a machine using artificial intelligence. Why like this, you ask? Well, machines and AI are the sole man-made objects that can be created to the extent of the technical specification required to emulate anything about a living organism. Examples of this logic can be seen in the artificial creation of body parts. Though not perfected as of yet, the understanding of these physical components has led to state-of-the-art replacements for those suffering from deficiencies and disabilities. The human mind, however, is a much more complex object, and a fundamental part of it – consciousness – has continued to remain a mystery, but you can't simply call it a complex system that allows X and Y without explaining what that system contains, what it does, and how it works. So, if those people who claim to be able to define it can't explain, with ease, how to recreate it in a machine, they can't possibly be correct in their explanation of what consciousness is or how it works.

Today, we will not be entertaining the folk who attempt to convince us that a coffee table has consciousness, those who claim consciousness is a cosmic force of the universe, the theory of conflicting functions fighting for priority, or anything that includes the invention of magical properties that can *never* be proven. Based on the definition of "qualia" simply being subjective experience, however, we can accept that because it can be (and is later) proven.

Throughout the explanation of what consciousness is and how it works, I make comparisons between natural living things and AI/machines (terms I use interchangeably) in the broad context of intelligent machines. For those not entirely familiar, intelligent machines are computer systems that employ cognitive functions – that is to say, they are able to learn based on data and experience. For this work, no distinction need be made between any degrees of machine learning unless specified.

Now, let's jump right into the deep end of what's wrong with the current definitions.

THE CURRENT DEFINITION

The current (theoretical) definition of consciousness is amazingly flawed. Depending on your source, consciousness is generally defined in two ways:

- A. The state of being aware of and responsive to one's surroundings; or
- B. Point A above, with the addition of being self-aware.

I'm going to explain why this definition is lazy, at best, and horrifically incorrect, to be precise, using both machine and living examples.

If either of these were true, machines would have been declared conscious a long time ago – with much ease. It would be as simple as taking the following steps for point A:

1. Implement any type of sensor(s) that are able to detect surroundings – cameras, microphones etc; and
2. Set conditions that the AI follows depending on what is detected.

There are security systems in use today that are designed based on both these steps and I don't think anyone in their right mind would attempt to class such systems as conscious.

Now, if you wish to employ point B:

3. Use coding equal to (and yes, this is very crude):

```
$this = *map of physical/non-physical/mental system parts*;
$me = array ($this, "My name is X and I am a self-aware, conscious machine.");
$obj = $detectedObjects (objects detected by sensors);
$me != $obj; $me !== $obj;
$obj != $me; $obj !== $me;
```

All this code literally does is tell a computer what it is and what it isn't. I included both comparison operators – "!=" meaning not equal and "!== " meaning not identical – because there would otherwise be a semantic argument as a way around a single one using the other, such as in a case of machines having the same abilities versus machines having the same design. I also include "\$obj" and "\$me" on both sides of the operators to account for situations such as "all thumbs are fingers, but not all fingers are thumbs". Yes, I expect professional programmers will likely take issue with the actual code and point out flaws, but make no mistake, they get the picture.

4. Add some basic logical functions so a machine can understand and respond to questions, even with just a simple yes or no.
5. Ask the following two questions:

"Are you (insert object name here)?" The answer will be "no".

"Who are you?" The answer will be "My name is X and I am a self-aware, conscious machine," and it can display the map of its physical/non-physical/mental system parts.

Depending on the abilities of the AI, it may be able to answer questions more specifically based upon exactly what was asked. For example:

Who are you? "My name is X".

What are you? "I am a self-aware, conscious machine."

What do you look like? At this point, the AI can display its structural map.

So, I've just described the capabilities of virtual assistants like Siri, Google Now, Alexa, Cortana, Echo etc. Though my example is primitive, it works, and the fact remains: by the current definition, this would be enough to declare each of these intelligent personal assistants conscious. One may be quick to post an argument that states those assistants can't be deemed conscious because they don't have hardware to sense, but I will immediately stop you and state these two things:

- These AIs use microphones to hear us. That is an awareness of sound in your physical surroundings.
- The definitions do not explicitly state that the surroundings have to be physical. The assistants are more than aware of their digital surroundings – that's how they return information from the internet. It doesn't matter if it makes use of another computer system located elsewhere. They still have to process data, which forcibly implies an awareness of text, images, sounds etc, based on how it is detected.

When we use them, we can see that they are not conscious AIs. Depending on the definition one chooses, this can be extended to include many other types of AI systems. You put any of those AI assistants in a self-driving car and you meet both major points of the current definition of consciousness dead on. Neither definition explicitly states or implies that an entity needs the freedom to do what it likes, as opposed to giving the best possible logical answers or performing the best possible logical operation based on data that it has learned through experience or that has been pre-programmed. AI can easily be made aware – of themselves and their surroundings – but that does not make them conscious.

Not everyone will understand the computer aspect of things, so we'll look at it in a more relatable way.

First, point A:

If to be conscious is to be aware and responsive to your surroundings, then to be unconscious must mean you are not currently aware of and responsive to your surroundings, despite the fact you do have the ability to do so, seeing as those two terms are complete opposites – something implied by the prefix 'un'. This then implies that, for someone with the ability to be conscious, they can only ever be conscious or unconscious – there is no middle ground. Sure, being conscious can then be divided into subgroups such as partially conscious, low-state of consciousness, slow state of consciousness etc, but the person would still be conscious – that is axiomatic. Given this, if point A was the sole or partial definition of consciousness, the following questions would be raised:

- Why have studies shown that people in comas can hear?
- Why is it that you can hear in your sleep, hence the reason a loud noise can awaken you?
- Why are sleepwalkers able to navigate?

All three questions indicate awareness of surroundings, but they are all states in which people are said to be unconscious. If anyone then tries to argue that these are not states of unconsciousness, then what exactly is? There are only two possible answers, which are:

1. When you are stone dead, but that would actually be *not conscious*, not *unconscious*. This then infers that there is only a state of consciousness in a human, which isn't possible, as for any first state to exist there must be an alternative state, otherwise it cannot be observed. As an example, think of a light bulb. It can only ever be **on** or **off**, meaning those are its two states. Each of those, when active, would be referred to as its *current* state. Now, if the existence of either of those states was removed, how would you know what state the light bulb was in? If it was permanently illuminated as if it was "on", and it wasn't physically possible to turn it "off", you wouldn't recognise it as being "on", but would simply see the illumination as part of what makes it a light bulb. The illumination would be its *permanent* state. Now, think of a simple, wooden chair. The chair wouldn't have one state where it was filled with colour and another state where there was no colour at all, so you would simply see it as a chair, rather than "a chair currently filled with colour". Since it couldn't be changed, it would forever be in a *permanent* state. Any aspect of any object that has a single, permanent state cannot be referred to by state in regard to that aspect.

2. The second possibility is when you lose function of all senses AND any and all forms of mental ability, such as instinct or intuition. I don't know how many people would ever have been diagnosed as unconscious based on this, but I would imagine it is very, very few. I'm sure even Helen Keller would pull a face of confusion as she wondered how such a person navigated through the canals of life.

And now, point B:

Animals, too, are conscious, aren't they? At the very least, some of them must be. I mean, they are hardly robotic, and they seem to operate however they wish, much like a human does, yet it has been scientifically proven that very few animals are able to recognise themselves in a mirror. It is very difficult to imagine self-awareness as a prerequisite of consciousness when we can observe beings, who could otherwise register as conscious, that literally cannot identify and understand their own reflection. It's even more difficult to defend this point when you wonder how an animal that cannot recognise itself is then supposed to have an opinion of itself. Not convincing enough? Okay, there's more.

Human babies – said to begin to become self-aware somewhere between the ages of 12 months and 24 months. This implies that, for the first 12 months, at least, the baby is not conscious. Let's ignore how ridiculous that actually sounds when you say it out loud. If babies under 12 months are not conscious, that means intelligent machines can be built to behave exactly like babies of that age. If you try to build a machine that behaves like a baby, I will show you two things:

1. The pile of machines that have been thrown over the edge of a cliff by people who could not be bothered to put up with such behaviour coming from a piece of hardware; and
2. The pile of technology enthusiasts who lay next to it for telling their not-so-enthusiastic partners that dealing with a machine was equal to raising a child from birth through infancy. I fear the state in which a techie is found depends heavily on whether or not the infant of comparison suffered from colic.

We can also look at this in a different way. If an infant is not conscious, then what are they when they are asleep – off, or just on standby? That may explain the red eyes some have when they awaken.

Infants really are amazing. Before they graduate to toddler, they will hit you and laugh. You can tell them off and they can do it again, repeatedly finding it funny. You smack them. They cry. Some will do it again. Some won't. They can spit out their food – not always because they don't like it. Sometimes they just want to make a mess or just like being difficult. Babies have personalities. These

personalities come in as many variations as they do in adults, albeit to much lesser extents. They can take to some people immediately and completely dislike others even approaching them – for no apparent reason. If infants are not conscious, they should all generally operate in the same way – just like computers and cars and footballs, with differences only appearing by type, such as electric cars vs. petrol cars – and then branch off after a year. There's only one type of baby – there aren't some babies that are designed to breathe air while others need to metabolise the bark of cedar trees – one type, and we can notice the differences in who they are from birth. Babies are conscious, they just don't understand themselves because they don't yet have the mental ability or capacity to do so.

Given everything, suggesting an awareness of surroundings equates to consciousness is ignorant and lazy, and using *"I think, therefore I am"* as a basis or establishment of the requirement of self-awareness is a load of drivel. It may have made an acceptable theory in the 1600s, but near 400 years of additional knowledge and introspection should have put nails in those coffins already.

WORKINGS OF THE MIND: PART 1

Before we step into the world of consciousness, I want to clarify the difference between intelligence, consciousness, cognition, and intellect because some of these are used interchangeably and some are generally misunderstood, which leads to gross misinterpretations of things that you will need to have a clear understanding of before continuing.

Intelligence encompasses everything a species can do and is able to do. At the very least, it is differentiated by species, not by individual. All humans, as a species, have the same level of intelligence because it's how we developed.

Consciousness is a type of intelligence. It is an ability some species have and it is what is explained throughout this document, so I won't say much at this point.

Cognition (cognitive function) is also a type of intelligence. It is our ability to learn.

Intellect describes how mentally capable someone is as an individual – basically, how smart someone is.

Two things to also define:

The Conscious Mind – The "conscious mind" is the mental path, through which data travels, that passes through the manual decision-making system of the mind.

The Subconscious Mind – And, obviously, the "subconscious mind" is the mental path, through which data travels, that does *not* pass through the manual decision-making system of the mind, but passes through the automatic one.

These two definitions will become much more understandable as we progress.

The True Definition of Consciousness

The first thing to understand is what consciousness actually is – more than just philosophical or theoretical definitions. Through my own research and work, I have been able to determine what makes something conscious, and give the concrete definition of consciousness as:

The ability to have personal values, and the freedom to knowingly make illogical decisions, relative to the main goal(s) of life – the "raison d'être" – for a species, that do not, in any way, contribute to or stem from a logical decision making process based on that which is

being perceived, studied, solved etc (while a logical decision making process may still influence the outcome), without said illogical decisions being random, based on one's individual values.

Or, you know, we could simplify it to the following:

The ability to have personal values, and the freedom to knowingly make illogical decisions based on one's individual values.

Let's just pause for a quick minute to examine something.

- **Consciousness** – Ability to make illogical decisions based on personal values.
- **Conscience** – Ability to know which decisions to make.

Does this not immediately seem to make more sense to you than consciousness having something to do with awareness? *Yea, thought so.*

This would then give us the following:

- **Conscious** – is to be in a state in which one can manually decide what they wish to do, such as when we are awake.
- **Unconscious** – is, obviously, to be in a state in which one is not able to manually decide what they wish to do.

Now we continue. A few very important things are to note here:

1. Illogical decisions not being random is very important, as random actions do not account for awareness, and to be conscious you must be aware of the decisions you are making, even if you do not fully understand why you have arrived at said decisions.
2. Illogical does not mean irrational. Imagine a burning building with a family trapped inside – a father who is an athlete, a stay-at-home mother, and a baby. The building has been burning for some time before the emergency services arrive. When they do get there, they can only rescue one at a time. Everyone is in perfect health outside of this situation, an equal distance from the door, and the conditions of getting to and from each person is exactly the same. Who do they rescue first? It's axiomatic that the baby would be saved first, then the mother, and then the father. This is illogical. The father would have the best chance of survival – better lung capacity and endurance would significantly increase the chances of him still being alive. Nevertheless, the decision would be to save the child and mother first

because, well, society values their lives more – this is rational. Because of this, though saving the father first would be the logical decision, it would be the irrational one. Since the baby would have the lowest chance of survival, it would make sense to save it first, knowing that the others could survive longer. Anyone who has seen and remembers *I, Robot* should think back to the scene where the robot saves Will Smith from the car instead of the little girl. Funnily enough, the film even states that Will was the "logical choice", at 45% survival rate versus 11%.

3. When something is referred to as "logical", it means the mechanics for the decision are *absolute* – they must be able to hold up in any and every possible situation. Something being described as "rational", however, means the mechanics for the decision are *relative* – they only need to be logical in regards to the situation in which they are being used, the person who is using them, and the outcome they desire.
4. In natural living things, the *raison d'être* is survival and procreation or, as Herbert Spencer put it, "Survival of the Fittest".
5. "Survival" in this context, does not mean you staying alive as an individual, but keeping your species alive. Remember this as a relative point is addressed later.
6. "Illogical decisions" does include decisions that seem to be neither for nor against.

It's easiest to understand when we look at and compare the *raison d'être* of living things with the actions they perform:

- Dolphins have sex for pleasure. Monkeys play. Humans consume alcohol and drugs for non-medical reasons.
- Plants grow towards the sun. They feed. They reproduce.

In the first point, these actions are illogical. Dolphins, monkeys and humans do not need to do these things to survive or create new generations – sex for reproduction, yes, but not simply for pleasure. In the case of the humans, these things actually hinder them. Yet still, these are rational behaviours because, in all 3 cases, the intent is to feel good. Humans – having a higher state of consciousness than animals – even actively go completely against their goals by choosing not to have kids and committing suicide. In the second point, plants operate like drones. They move towards the intended goal – nothing more; nothing less. Plants are intelligent, not conscious.

Attempting to determine consciousness in an animal is not always simply based on whether or not they only do what they need to do to survive – sometimes we must examine how they do it. Take the behaviours of army ants, for example. Upon initial inspection, it would be easy to think they are

not conscious – they reproduce, travel in groups for protection and consume whatever they come across. It all seems to be pretty standard. However, look a little closer:

- When they hunt, they don't just go looking for food – they use highly coordinated attacks that involve thousands upon thousands of them to snare relatively large prey. The coordination of such attacks can easily be compared to that of big cats, chimps, or militaries.
- They are willing to fight even when they don't need to – no adversary is off limits, regardless of size or threat level. Once paths cross, that opponent will die unless it can escape or somehow manages to wipe them out first.
- They don't stay in one place. Their nests are temporary and they continually migrate. Given their group size and collective power, they could create and defend a permanent nest, as opposed to carrying their unhatched young with them while on the move and risking them being eaten by other predators. Regardless of age, this actively increases the chances of them dying because, as they move into unfamiliar territory, they do not know what to expect. To make things worse, most of the workers ants are blind, meaning there are dangers that they will not be able to sense until it is too late, even with soldier ants on the lookout.

You may attempt to argue that these behaviours only follow the rules of "survival of the fittest", but they do not. These ants do what they want. Take what they want. Go where they want. They operate as if the world is theirs for the taking, and anything that gets in their way is obliterated. They go beyond the required measures of survival to enforce dominance and control. It's truly a joy to watch.

The most interesting and convincing part about the behaviour of these ants doesn't lie in what they do together, but what one does when it becomes separated from the group. These ants have evolved to use a sophisticated method of shared consciousness which relies on pheromones to keep the group operating as one, and it makes them seem rather robotic in that aspect, but when one ant becomes deserted, it has no idea what to do. Having to think for itself, by itself, there's no more robotic behaviour – it's lost, it's hopeless, and it's more useless than non-conscious bacteria because there's no specific logical programming for it to follow that can't be consciously overridden, so its own panic leads to its death.

To prove my definition even further, we can look at much more complex examples based on human existence in the world today, two different ways, taking the *raison d'être* in a wider sense of actions performed.

Example 1

- 6:00 – Person 1 wakes up.
- 6:01 – They go to the toilet and relieve themselves.
- 6:05 – They brush their teeth and bathe.
- 6:30 – They get dressed.
- 7:15 – They make and eat breakfast.
- 7:45 – They make a packed lunch.
- 8:00 – They leave for and go directly to work.
- 9:00 – They arrive at and begin to work.
- 13:00 – They have lunch.
- 13:25 – They use the bathroom.
- 13:30 – They go back to work.
- 17:00 – They leave to go home.
- 17:17 – While crossing the road, a car jumps the red light. Person 1 steps back to avoid being hit before continuing on.
- 17:45 – They smell the aroma of Indian cuisine and decide to pick up food for themselves and their partner.
- 18:00 – They arrive home.
- 18:10 – They dish out the food and eat with their partner.
- 18:50 – They wash the dishes.
- 19:00 – They spend 2 hours reading a book on structural engineering for their hopefully future career. Money is tight and extra income is needed.
- 21:00 – They get ready for bed.
- 21:30 – They engage in coitus with their partner since they decided to try for a baby.
- 21:32 – They go to sleep.

This example follows the current definitions of consciousness, yet nothing in this set even really appears to depict it. These are all abilities that indicate the presence of intelligence in a person, not consciousness. They learn, they work, they eat – essentially they exhibit the 7 living processes currently required to be declared 'alive' and then a few additional things that are required for the best chance of survival as a human.

Now, let's look at it again with a few additional/modified details.

Example 2

- 6:00 – Person 2 wakes up.
 - "Should I pull a sickie? I really don't wanna go to work today. Meh, let's get it over with. Another day, another dollar."
- 6:01 – They go to the toilet and relieve themselves.
 - "Uh, I look terrible. I need a holiday and a tan."
- 6:05 – They brush their teeth and bathe.
- 6:30 – They get dressed.
 - "Important board meeting today – maybe I should put on suit. It's gonna be hot though. A shirt and trousers will do."
- 7:15 – They contemplate making breakfast but decide they'll pick up something on the way. They sit and watch the news before going to work.
- 8:00 – They leave for work.
- 8:30 – They stop to buy breakfast at Starbucks.
- 9:00 – They arrive at and begin to work.
- 13:00 – They go to lunch.
- 13:05 – They have a cigarette while they walk.
- 13:15 – They order totally unhealthy fast food and a bottle of vitamin water before sitting down to eat.
- 13:30 – They are joined by a colleague to whom they complain about their job.
- 14:15 – Second cigarette.
- 14:25 – They use the bathroom.
- 14:30 – They go back to work... 30 minutes later than they were supposed to.
- 17:00 – They leave to go home.
- 17:17 – They cross the road outside of a crossing because of its distance, but an oncoming car swerves and narrowly misses them.
 - "Watch where the f*** you drive your f***ing piece of s*** car, you a***hole!"
- 17:30 – They see a friend and decide to join them for a drink at a pub.
- 18:30 – Slightly tipsy, they stumble their way home.
- 19:00 – They arrive home.
- 19:30 – Their partner wants to go out tonight despite the fact they have work in the morning. They agree and begin getting ready.
- 20:30 – They set off out to a bar first for pre-drinks.

- 21:30 – They leave the bar and head to a night club.
- 22:00 – They arrive at the club and party the night away, drinking 'til their heart's content, and consuming illegal substances any which way they can.
- 02:45 – They leave the club, drunk and hungry, and decide to get kebabs, though previous experience has taught them, on multiple occasions, that kebabs do not agree with their digestive system.
- 03:30 – They arrive home. As they enter the door, they begin to tear off each other's clothes and engage in coitus.
- 04:15 – They go to sleep, dreading having to wake up in less than 2 hours.

The differences in the lives of Person 1 and Person 2 are both astronomical and clear to see, so now let's inspect them.

Person 1 lives a life that is comparable to the workings of a machine. It is efficient. It is convenient. It is goal-oriented. It is logical. There is a high level of predictability. In the real world, people who live this type of life are even said to be 'robotic' because they operate in such a linear manner.

Person 2, on the other hand, is very different. Their life is full of spontaneous moments, emotional reactions, and decisions that are detrimental to their health. Their actions raise questions like:

- "This is bad for my health. Why do it?";
- "This could cost me my job. Why do it?"; and
- "This is going to have a bad reaction. Why do it?"

At no given time can you predict with what Person 2 will do. The best anyone can do is make an educated guess based on past behaviour. These 2 statements hold true for both persons. However, Person 2 can and will likely surprise you at some point, while Person 1 likely will not.

Clearly, we know that Person 1 is conscious and has the ability to do what Person 2 has done because they are both humans, but, if Person 1 didn't have the ability to make the types of choices Person 2 did, what would we say then? If Person 1 was replaced by an intelligent machine with the same needs and goals, could we expect the same or similar results? The answer is yes.

Now, we ask the same question for an intelligent machine and Person 2. If Person 2 was replaced by an intelligent machine with the same needs and goals, could we expect the same or similar results? No, we couldn't, because it wouldn't have the values and unpredictability necessary for the illogical decisions made by Person 2. The best you could hope for is best-answer decision making combined

with the ability to make random actions but, as previously stated, random acts do not account for awareness of decision making.

This is a clear indication that the distinction between conscious and not conscious lies in the predictability of the decisions one is able to make. Illogical decisions can never be predicted to the same accuracy as the logical simply because there will only be few (or one, usually) logical decision that can be made compared to the quantity of illogical decisions – which is always infinite – at any given time. If one was to determine the level of accuracy for each, it couldn't be said that they are polar opposites, but the difference is significant enough for each to appear on opposite ends of a scale.

One important thing to note between the lives of persons 1 and 2 is the 'Dinner vs. Breakfast Purchasing' conflict. This was done to illustrate a point – you can arrive at illogical (or not the most logical) outputs even when using (seemingly) logical inputs. "I smell food. I am or will be hungry. It's quicker to buy food now than to have to cook when I get home." These inputs all make the decision to buy food now seem logical. It was quicker. It was convenient. It made sense. It seemed logical. That is until you get to 7pm where you realise money is tight and, rather than saving, they are spending foolishly. But why this illogical act when everything else seemed logical? Because whether you are conscious or not, human or intelligent machine, you can and will likely make mistakes – mistakes based on information you have not taken into account at the time. Even machines create errors. Logical decisions can only ever be based on the given inputs, while illogical decisions can be made based on anything, for any reason.

Two States VS. Two Minds

Before continuing, it's imperative that I clarify the distinctions between the different aspects of the mind.

The mind of a conscious being can be divided into two types – the conscious and the subconscious. The conscious mind is what we use to manually make decisions. Whenever we choose to initiate a thought, that is the first step of the conscious mind at work. The last step is whether or not we actually do choose to do something. That is because, before action is taken (even if the action you choose is to do nothing), you make the decision as to whether or not you want to do what you were thinking about. The subconscious mind works a little differently in that it is an automatic decision making system. It can't be controlled and will continue to run until you are brain dead. It initiates thoughts for you and causes you to act without thinking. How does it achieve this? Through past experience. All experiences you go through and things you learn throughout your life and, in fact,

the life of your species, contribute to the subconscious mind doing what it thinks is best. It uses what you already know to help you function without needing to think about what need be done.

Both the conscious and subconscious minds use processes and share resources to facilitate their abilities. Here's a basic breakdown of how it happens:

- Perception
 - Conscious perception uses our sensory tools – eyes, ears, tongue etc – and occurs when we decide to perceive something. The object is within the centre of focus of any one of our senses. When we watch television or listen to music, that is our focus. Although center of focus is usually only applied to vision, it can and should be used to generally describe anything on which we choose to focus, and you'll understand why with the next explanation.
 - Subconscious perception uses the exact same sensory tools as conscious perception, but it doesn't rely on the center of focus. Instead, it uses peripheral perception, which collects information based on what we can still perceive but is not the focal point of our perception. This can even occur across senses. Have you ever been doing something while someone is talking to you? You can hear them but you aren't paying attention until they say something that immediately snaps your focus away from what you were doing and you are now focused them. Your subconscious mind is what was using your ears to process what you were hearing.
 - I suppose conscious and subconscious perception is akin to the difference between hearing and actually listening, touching and actually feeling. I can't think of relative terms for seeing, smelling and tasting, but you get the picture. With subconscious perception, the body still takes in and uses information, but it doesn't register the way it does when you perceive consciously.
- Memory
 - Conscious – When the conscious mind accesses memory, it does so because you want it to. It is completely within your control, and, with its access to memories, you are free to think about whatever you can possibly remember. When you want to remember something, the conscious mind accesses and locates the memory you are looking for before putting it to use.
 - Subconscious – Being an automated system, the subconscious mind is permanently accessing and using memories. Ever wonder why random things pop into your head? That's the subconscious mind putting them to use for some reason, and you

consciously perceiving it. It's the same thing that happens when you dream, which is why your dreams can be as random as they are strange, and you can only dream of things of which you already know.

- Reaction
 - Conscious – Reactions made by the conscious mind are rather boring – you perceive something, think about what you want to do based on what was perceived, and then decide what to do. Nothing special here.
 - Subconscious – This is much more interesting. Reactions caused by the subconscious mind happen (almost) instantly. The process that controls it can't afford to waste time because this is used as a survival mechanism. Everyday subconscious reactions may appear trivial until you look at it in the grand scheme of things. For example, I'm sure most, if not all of us, have been in the situation where a friend jumps out at us surprisingly and shouts "BOO!" What usually happens next is you jump in fright, your heart rate increases, and then you settle. Seems innocent, but what is actually taking place is the subconscious mind preparing your body to run without needing to think about it. A shot of adrenaline to get you in gear and you are ready to go. If you were in a genuinely dangerous situation, you'd be running before you even realised you were. Of course, the reaction can be different depending on the person and the perceived threat – in some cases, a person could prepare to attack the threat rather than run from it. Some people will stand petrified while others will remain calm and have no reaction at all, but those are explained later. Now, the reason you don't act based on your prepared reaction in this situation is because, in the time it has taken your subconscious mind to perceive the threat and prepare to react, your conscious mind has perceived the potential threat, registered it and overridden the response, declaring it non-threatening.
 - Continuing with the scenario above, the mental speed of an individual has a bearing on reactions. A slow subconscious mind creates slow reflexes, which means you will take longer to prepare to react – very bad for survival. A slow conscious mind means your manual actions which follow your subconscious reactions may be too slow when needed. If your subconscious reaction is to punch the person who frightened you, a slow conscious mind won't be able to stop the punch before it's too late.
 - Another example is this: for most people, once we perceive our thoughts, they are processed again and sent through to the decision system where we decide whether or not we wish to communicate this information. For some people, however, or in

some cases, the information is passed to the communication system without passing through the decision system first. This is an instant reaction caused by the subconscious mind operating too fast for the conscious mind to keep up with. This can occur automatically when certain conditions are met, such as a level of anger, that results in what we say is someone "speaking before they think", and it can also be manually induced, as is attempted during any test where you are asked to state the first thing that comes to mind when you perceive whatever stimuli is given to you.

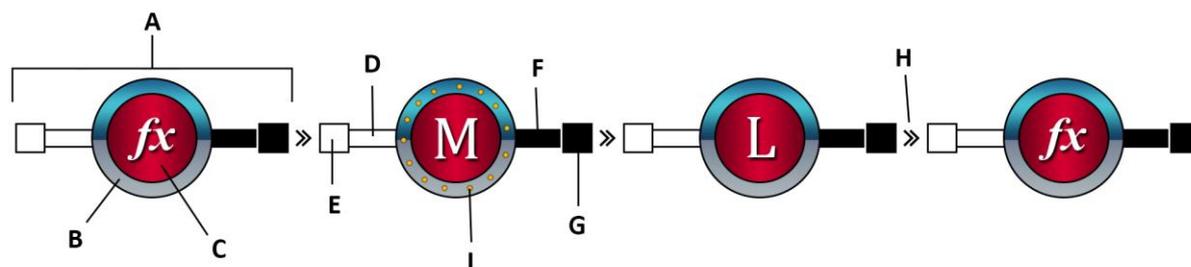
While consciousness is the ability to make illogical decisions, the conscious and subconscious minds are the drive systems for the entire perception and thought processes that lead to both logical and illogical decisions. Awareness, in relation to consciousness, is not based on being aware of yourself or your environment, but being aware of decisions you make before an action is taken.

As for the states of mind, there are two – conscious and unconscious. A conscious state is one in which we are manually able to control our decision making. An unconscious state is one where we are not able to manually control our decision making. When you are awake, you are conscious, because you are free to do whatever you wish. When you are asleep, you are unconscious – you have no control over what you dream or how you move. While unconscious, only the subconscious mind is at play because of its automation.

There is no "unconscious mind" that is used for any sort of mental process, as I hear many people say. What they are referring to is the subconscious mind. Where "un-" would imply the inability to perform conscious processes, the prefix "sub-", meaning "below", implies conscious abilities below that which we can perceive. We have no perception of the subconscious mind as it works – only once the effects or results of the subconscious mind are produced can we consciously perceive them.

Oh Memory, Where Art Thou?

Memory – as fundamental as it is mysterious. We are born containing memories that we have already started using and, as we grow, we gain more based on every little thing that we do and experience, regardless of how insignificant an event may seem. Nevertheless, the problem of how the memory system works has remained unsolved, and so here is how I theorize the memory system actually works:



The above image represents a neuronal network within the brain (neuroscientists, this is so I can easily explain it to others, not to you). The labelled parts are as follows:

- A. The entirety of a single structure is called a neuron.
- B. Soma (cell body) – What signals travel around within a neuron.
- C. Cell Nucleus – Where information within a neuron is stored.
- D. Dendrite – This is what incoming data travels along.
- E. Postsynaptic ending containing neuroreceptors.
- F. Axon – This is what outgoing data travels along.
- G. Presynaptic ending containing neurotransmitters.
- H. Axodendritic synapse – This is the gap between a presynaptic ending of an axon and a postsynaptic ending of a dendrite. The gap itself is the synapse cleft. Other synapse types exist, depending on what part of a neuron a synaptic ending is connected to, but the need to differentiate between types isn't relevant for the purpose of the explanation.
- I. These little gold dots, they represent **engrams** and that's where I theorize memories are stored – as an engram within the soma of the neuron itself. I used multiple engrams in a single soma in the example image, but I can't say for a fact whether a soma holds a single engram, multiple engrams, or if it varies depending on individual neurons. However, given the vast amount of data it's possible for us to store, my guess would be that a neuron would hold multiple. We'll understand why as we continue.

For those who don't now, an engram is a structure of data that contains information about a memory. Each engram contains both the data for the memory and metadata to help it be identified, and later I explain why. The identifiable metadata may simply consist of information such as the name, timestamp, location, and/or the neural path signals need to travel when that specific engram is activated to have the desired effect.

There are three primary neuron types in the human body – memorial, functional, and logical – designated by the "M", "fx" and "L" symbols within the nuclei of the image above.

1. **Functional (fx)** – Functional neurons are what we are familiar with. They can be thought of as the "manual labourers" and are only found in the Peripheral Nervous System. Their subtypes include:
 - a. Sensory – Responsible for transferring data from the environment, gathered by our sensory organs, to the Central Nervous System.
 - b. Motor – Responsible for transferring data from the Central Nervous System to the environment, using our muscles and glands.
2. **Memorial (M)** – This is one of two types of neurons commonly referred to as "interneurons" and is found in the central nervous system. However, I think they are of significantly greater importance than currently thought, which is simply to connect neurons and help pass messages, hence why I have given them their own type, rather than accepting them as a subtype. These can be thought of as the "bankers".
 - a. Mental – Mental memorial neurons store mental memories that we hold, such as that of objects, experiences, ideas and so on, and are created when we perceive, experience and think something.
 - b. Muscular – Muscular memorial neurons store our muscle memories. These memories are what we use to physically operate our body.
3. **Logical (L)** – This is the second of two types of neurons commonly referred to as "interneurons", also found in the central nervous system. Two different sets of neurons exist for this type, and the neurons of each set join together to create a parallel circuit. Depending on the location of neurons in each circuit, they perform different tasks in the brain, but they all process incoming information and take action based on said information. These neurons can be thought of as the "technicians".
 - a. Manual Control System (MCS) – This set of neurons is what we use to manually do things. They are the control system for the conscious mind.
 - b. Automatic Control System (ACS) – This set of neurons is what we use to automatically do things. They are the control system for the subconscious mind.

For now, we are only concentrating on the memorial neurons.

There are many different types of memory that are used by both the conscious and subconscious minds to do many different things. The following are the types I've been able to deduce so far:

Object Memory (Mental)

"Object" in the broadest sense of the word, referring to any tangible or intangible item that can be perceived.

- **Structural Memory (SM):** Structural Memory stores structural information of tangible objects (shape, dimensions).
- **Motion Memory (MM):** Motion Memory stores information about how tangible objects move.
- **Auditory Sequence Memory (ASM):** The vibration patterns and sequences of sounds that our ears detect are stored here.
- **Taste Memory (TSM):** Taste Memory stores the sensation patterns created on taste buds when they come into contact with tangible objects.
- **Odour Memory (ODM):** Odour particles create smell patterns in smell receptors, and those patterns are recorded in this type of memory.
- **Touch Memory (TOM):** Every part of our body is covered in receptors sensitive to touch, and this type of memory stores everything we can possibly feel, such as surface patterns that create texture, temperature, and pressure.
- **Biometric Recognition Memory (BRM):** Biometric Recognition Memory is how we remember and identify different members of a species, using mathematical elements such as size, shape, distance, position, and angle, but, make no mistake, this does not apply only to faces. Depending on exactly what we pay attention to, we can identify members based on many of their features, such as their walk (motion) and silhouette.
- **Property and Value Memory (PVM):** This includes all values that someone knows of for any property. An example is colour: we know that red, blue, yellow, and so on are values of the property 'colour', and we group them as such.
- **Word Memory (WM):** All our vocabulary for any and all languages with which we are familiar is stored here.

Relationship Memory (Mental)

Relationship memory is what helps us remember how any type of object relates and interacts with any other type of object.

- **Object Relationship Memory (ORM):** We know and remember that hammers are used to bang nails into place, grass grows from soil, and cows moo. Object Relationship Memory prevents us from needing to figure out how objects interact with or relate to each other, including ourselves, every time we wish to make use of them.

- **Entity Relationship Memory (ERM):** The relationships we have with other entities are just as important to our survival as remembering how objects work, as it covers areas such as knowing who to trust, and remembering how someone made/makes you feel.
- **Grammar Memory (GM):** What may also be referred to as "Word Relationship Memory", Grammar Memory contains the rules for forming correct and coherent sentences, as well as what we learn for adaptive purposes such as short-hand text and slang.

Function-Ability Memory (Mental and Muscular)

Function-Ability memory is what we use to remember and control every action our body is able to perform.

- **Automated Function Memory (AFM):** Specifically used by the subconscious mind, this memory contains functions for everything your body does automatically, such as breathing, regulating your heart beat, blinking, and other types of reflexes, as well as what neurons themselves can do. However, unlike all other types of memory, AFMs aren't stored as engrams because they can't afford to be forgotten, so they are actually stored as part of a neuron's function in the nucleus of a cell. That's why your brain can't forget how to regulate your heart beat (unless there is neuron damage). These functions are created from DNA and embedded during development.
- **Manual Function Memory (MFM):** Used by the conscious mind, this contains functions for everything you can manually do – walk, move your eyes, chew etc. Also contained in here are function overrides for some AFM functions – more specifically, AFM functions that may need to be interrupted. These overrides are what allow you to hold your breath – beneficial if you are in an area with toxic fumes or underwater and need to prevent inhalation. You don't possess overrides for vital functions, such as your heart beating or brain activity, because of how detrimental to your health it could be for those to be manually controlled for even a few moments.

There are also three subtypes of abilities worth mentioning that fall under both AFM and MFM memory types:

- **Fluid Action Memory (FAM):** This is where you record actions you've learned that involve the fluid motion of muscle or gland actions from start to finish, such as riding a bike. Such actions are recorded and repeated as a single, fluid, uninterrupted motion, which is why the only way to overwrite the recording is to learn the whole motion again a different way.

- **Sequential Action Memory (SAM):** This is where you store actions you've learned that involve a sequence of muscle motions, such as unlocking a door or entering a password. SAM actions are a lot more flexible than those of FAM as they are recorded and repeated in a step by step manner, meaning steps can be changed without the need to relearn the entire action.
- **Instinctive Action Memory (IAM):** Unlike the previous two types of action memory described, these aren't learned but are inherited and can contain actions for both fluid and sequential types, and, like both action memory types, can be found under both automatic and manual function memories. These memories, like AFM, are not stored as engrams but are written into DNA

To simplify this type of memory by showing it as a tree:



Knowledge Memory (Mental)

All the fun things you were taught, learned from experience, and came up with yourself.

- **Factual Memory (FM):** This is where all the bits of true information are stored, from definitions of words to random trivia that wins game shows.
- **Conceptual Memory (CM):** Ideas, theories, opinions – they all go here.
- **Outcome Memory (OCM):** I'm not particularly fond of the name... Maybe I'll change it later. Anyway, Outcome Memory is where we record our actions in a situation and the result that followed. We use it to make better decisions later.

Navigation Memory (Mental)

This memory type, very literally, is what we use to navigate through life.

- **Spatial Memory (SPM):** Spatial Memory is how we remember the orientation details of tangible objects within an environment – a mental map, if you will. Again, this type of memory is based on mathematical elements, such as distance and angle. We use this for tasks including reaching for items without looking, parking a car, and navigating in the dark.

- **Location Memory (LM):** Your internal global positioning system – it's how you remember the positions of geographical locations on a tri-axis plane. Everything from the location of your bedroom to the place where you did that thing that one time (that you actually did twice) is stored here.
- **Route Memory (RM):** Knowing the position of something is useless if you don't know how to get there (yes, mapping systems, but I'm making a point!). Route Memory helps us find our way without additional tools.

Working Memory (Mental)

Using copies of data from engrams we have stored, working memory stores data we are currently using, up until the point we are finished with it or it expires.

- **Short Term Working Memory (STWM):** As the name suggests, this is where copies of data from the memories we are currently using are temporarily stored, for a short period of time, until we are done with it. This is data we are using (almost) immediately, such as what is yet to be used to complete sentences or change direction on route to somewhere. When complete, the data is discarded. Current theories estimate an expiry time of a minute or less – given the number of things I realised I had forgotten while writing this, I'm inclined to agree.
- **Long Term Working Memory (LTWM):** Long Term Working Memory is also a temporary memory, but keeps track of things you were doing that are not yet complete – this includes both physical and mental tasks. The most interesting thing about LTWM concerns tasks of a mental nature: when a mental task is left incomplete by the conscious mind, the subconscious mind can continue to work on it while the conscious mind focuses on other things. I'm sure everyone has had the experience of coming up with an answer to an earlier problem at some point after the conscious mind stopped processing it. In terms of expiration, it would seem that LTWM can hold data indefinitely or, at the very least, for a very significant amount of time – we are talking years – and can usually, once buried, be brought forward by the recalling of other data that is relative to the LTWM in question.
- **Recent Recall Memory (RRM):** This type of memory acts as a sort of "waiting area" between short term working memory and permanent types. It's what allows you to quickly recall memories no longer in use, which were in use not long ago.

Compilation Memory (Mental)

Compilation memory contains engrams that consist of references to engrams of other types of memory.

- Current Associated Memory (CAM):** For memory laziness (read: efficiency), Current Associated Memory prevents the need for us to constantly combine the data of different memories with things of which we are already familiar. For example, when you wish to think of your smart phone, the memory of it stored in the CAM will already have the associated properties stored with it, such as the device colour, size, shape, wallpaper design etc, which can be recalled by an ID, such as "My Smart Phone". More complex examples involve multiple objects, more than two types of memories, and groupings. A group CAM-type memory with a reference ID of "My Bedroom" likely wouldn't repeat the data of individual objects already stored in the CAM, but would make reference to them, resulting in a tree data structure, as well as containing other information, such as the location of your

"My Current Bedroom State"	"My Bedroom"	#Walls	Royal Blue !Floor to Ceiling
		#Ceiling	White !Top of Walls
		#Carpet	Black, Fluffy !Covers Floor
	"My Bed"	#Bed Frame	Black, Leather, Smooth !On Carpet [Right Wall Center]
		#Mattress	White, Smooth, Diamond Stitching !On Bed Frame
		#Bed Sheet	Royal Blue, Smooth, Cotton !Covering Mattress
		#Duvet	White !Inside Duvet Cover
		#Duvet Cover	Royal Blue, Chelsea FC Emblem !On Bed Sheet
	"My Bedroom Location"	"My House" > First Floor > Turn Right	

bedroom, sounds, etc. A basic example, to make it clear, would look something like this:

In the above examples:

- items in speech marks refer to other objects;

- items preceded by a hash are objects themselves;
 - items preceded by a right-facing arrow are directions for navigation;
 - items preceded by an exclamation mark are the relationship to other objects;
 - items enclosed by brackets are positions; and
 - items not preceded or enclosed by a symbol are properties.
- **Episodic Memory (EM):** This memory type records information about events and experiences using only descriptive details and references to information stored in most other memory types, such as objects, property values, locations, timestamps etc – something like this:

Date: 15th November, 2014

Time: 08:00am – 08:10am

Location: My Bedroom

Objects:

Walls – Royal Blue – Floor to Ceiling;

Ceiling – White – Top of Walls

Carpet – Black – Fluffy – Covers Floor;

Bed Frame – Black – Leather – Smooth – On Carpet – Right Wall Centered;

Mattress – White – Smooth – Diamond Stitching – On Bed Frame;

Bed Sheet – Royal Blue – Smooth – Cotton – Covering Mattress;

Duvet – White – Inside Duvet Cover;

Duvet Cover – Royal Blue – Chelsea FC Emblem – On Bed Sheet;

Happenings:

Woke up. Sat up in bed. Yawned. Pleasurable Stretch. Stepped out of bed.

Exited room.

What happens here is the brain essentially creates an immensely detailed (much more than shown above) description of objects, properties, positions, actions, sensations, movement, sounds etc. that can be used by your imagination to compile the data that is being referenced and create what can be described as a "mental video playback".

- **Episodic Photographic Memory (EPM):** This could be seen somewhat as a sub-memory of Episodic Memory. Episodic Photographic Memory uses a time-lapse photography technique to capture different instances during an event. Since this is the equivalent of stills, these memories are solely composed of visual data. Data that could only be displayed in a video, such as movement and sound, isn't stored here. When we attempt photographic recall of a moment, we pull instances of what was observed. This is also why, when people experience

photographic flashbacks, they see a series of images in quick succession. The more observant an individual is – in general or at a specific point – the more detailed and complete an image can be.

It's hard to say whether or not this is an exhaustive list – in fact, it probably isn't – but these are ones that humans use every day, and the omission of any one would have disastrous effects on the way we live.

As for where engrams of each type of memory are stored, it would make the most sense for them to be located in neurons that reside in the part of the brain responsible for using the data contained. This would make for extremely efficient operations when data needs to be processed quickly and with as little confusion as possible.

Now, the burning question is, undoubtedly, why do I think engrams are stored within neurons? Let me explain:

So much of our body is replaced without us realising – we're told that it only takes seven to ten years for our cells to die and be replaced with new ones. However, this doesn't happen with neurons in the same way and, the question is, why? Neurons, themselves, are cells of the human body, so what makes them so special?

Neurons are used to control every aspect of how we function, making them of the utmost importance to any individual's existence but, for some reason, were not made to be replaced unless absolutely necessary. Here are some fun facts:

- The soma (cell body) of a neuron is designed with layers of protection for the nucleus. The neuronal network of the brain that these neurons make up are then covered by three layers of tissue, cushioned by cerebrospinal fluid, shielded by the skull and then covered by another five layers of tissue, which we call the *scalp*.
- Most cells are programmed to undergo a process called "apoptosis", which sees them commit suicide so they can be replaced. Neurons, however, once matured, prevent this process from happening again unless there is a genuine need for it, meaning any one neuron can avoid the seven to ten year life cycle guaranteed to other cells.
- Neurons have special support cells called "neuroglia" – "glia" for short. There are different types of glial cells, which are said to "provide metabolic support, insulate, protect, reinforce, repair and clean up damaged area" of the nervous system. Basically, they act as medical staff, military, housekeepers and mechanics.

All of that protection and upkeep for a few (billion) cells? Neuronal networks are theorized to have a high level of redundancy and that is something I agree with. Given this, we *should* be able to replace neurons without issue, relying on the remaining neurons to control functions while some are renewed. The only rule necessary would be that only X percentage of any set of neurons that perform the same function could be replaced at any one time, allowing the percentage of neurons not being replaced to maintain functionality. In light of this, logic dictates that these cells must hold some very valuable information – information that can't afford to be lost on a whim. We follow the same principles in the real world when we wish to protect important people, employing every type of person we deem necessary to keep whoever is of such value as protected and free to fulfil their job requirements as possible.

The information can't be what is held in the nucleus and used to create the cell for one reason – the neuron and its information is still controlled by DNA and could easily be replaced, just like all the others. This only leaves the possibility that the information being protected is that which isn't created or passed on genetically, but that which we have learned. Based on evolutionary theory, it would take thousands of years for any learned memory to become a genetic one, so replacing a neuron would cause the loss of whatever learned engrams and memory data it also held before it could become part of genetic function. Engrams and their data couldn't be grown back, either, because the data for the engram wouldn't be stored anywhere else inside us, and, given that engram data is based on external perception and experience, there wouldn't be a way to recreate it through neurogenesis (growth) with absolute certainty without a blueprint. Needless to say, attempting to blindly recreate a memory could be catastrophic – you wouldn't want to misremember an extreme danger as something that you could encounter in a carefree manner.

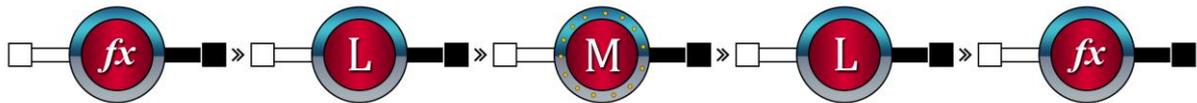
Now we will do some maths:

- There are said to be 100 billion neurons in the brain.
- There are a maximum of 2,557 days in 7 years.
- There are a maximum of 3,653 days in 10 years.

If neurons followed a seven year cycle, there would be an average of 39.1 million neurons dying every day. For a ten year cycle, that number would be 27.4 million. Taste buds are the fastest regenerating cells in the human body, taking as little as 10 days to fully regenerate. Going by that schedule, humans would be looking at a maximum of between 391 million and 274 million neurons, respectively, not fully functioning at any one time – and that's with the fastest regenerating cells in the body. Other cells, such as those in the lungs, have a 6 week regeneration period. Following that

schedule, we'd be looking at 1.64 billion and 1.15 billion. Even in a sea of 100 billion, that's a significant loss of memories and functions. Chances are, we either wouldn't be able to survive for long or would be even feebler than we are already.

Now, using a slightly different example image of a neuronal network, I'm going to give you an example that compares the workings of neuronal networks to real life.



Imagine the following:

- You are a memorial neuron.
- The nucleus is your brain.
- The soma is your torso.
- The dendrite is your left arm.
- The postsynaptic ending is your left hand.
- The axon is your right arm.
- The presynaptic ending is your right hand.
- The axodendritic synapse is the space between your right hand and another person's left hand.
- An engram is a gold information card.
- A message is a blue information card.

There is only one rule:

- Since pre- and postsynaptic endings in neurons can't pass information to each other directly, information must be put in a torso pocket with one hand before it can be retrieved with the other.

You are standing amongst other neurons – one sensory (Person S), one motor (Person M) and two logical (Persons L1 and L2).

- Person S receives a blue information card about an object in their environment. They put it in their outer jacket pocket with their left hand and return their left hand to its outstretched position, ready to receive more information cards. With their right hand, they take the card out their pocket and pass the information to Person L1.
- Person L1 receives the card in their left hand. They read the card and realise the data is something new to them. Card goes in their outer jacket pocket. Person L1 decides a memory needs to be made of this before a response is given. They take the card out of their pocket with their right hand and hand it to you.
- You receive the blue card in your left hand, read it and put it in your outer jacket pocket. Since this is new information, however, you copy the information to a gold engram card and put it in your inner jacket pocket. You then take the blue card out of your outer jacket pocket and hand it to Person L2.
- Person L2 receives the blue card in their left hand. They read the card and decide what to do in response. Having made a decision, they discard the original blue card and write a new message on a new blue one. Using their right hand, they pass it to Person M.
- Person M receives the card in their left hand, reads it, and causes whatever actions the message specifies to be performed.

This example can be modified extensively, including having neurons that control chemical releases, logical and memorial neurons of different types and so on, but the principle remains the same.

As you can see, information that needs to be remembered is kept hold of, and other information moves around the body and is passed on to whoever needs to address it. You see, memories are just persistent messages and engrams are simply a tool for persistent storage. I did initially consider the storage of neurons within the nucleus of neurons, but I see this equal to keeping personal files in the System32 folder – it's just safer to not keep anything there that isn't required for core functionality. Also, in a more accurate example, humans would have multiple left arms to receive different input from multiple sources and multiple right hands to distribute the same information to multiple sources but, alas, I don't control evolution.

I've read some theories about memories being stored in synapses, but that just doesn't compute. What would be the point in storing data in a gap? It would be like keeping the gold engram cards from the example above between two people. First of all, it would still have to be read by the

neurons before anything could be done. Second, which neuron gets to read it and how? Using the same equivalences from the example above:

- **Axodendritic** – This is a connection between a right hand and left hand, as shown in the example image. So, with a gold card in between two people, either the right hand of Person 1 (P1) would have to pick up the card, copy the information to a blue card and then pass it to the left hand of Person 2 (P2), or the left hand of P2 would have to reach to take the gold card, copy the data to a blue card and then put the gold card back where it was.
- **Axosomatic** – This is a connection between the right hand of P1 and the torso of P2. This would require P1 picking up a gold card and placing it in the pocket of P2, P2 reading it and then putting it back.
- **Axoaxonic** – This is a connection between two right hands. The problem here is that both hands are designed to send, not receive. The only way for this to work is for one or both right hands to forcibly develop left hand capabilities.
- **Dendrodendritic** – A connection between two left hands. Similar problem to the one above but in reverse – the two left hands need to develop right hand capabilities.

In every case, one problem exists – how would persons know what memory is written on the gold cards between them when memory data is required? They would surely have to memorise all the data between them, no? That would result in engram data in both the neuron AND the synapse – pointless. Another option would be to pull data from engrams blindly until they find what they want. Can neurons "pull" data, or would the engram have to send it? Are engrams autonomous? Maybe it would take a neurotransmitter to send a signal which reads all engrams in a synapse until it finds what it's looking for, or pushes the engram data over to the receiving neuron to be read. Regardless of the method, it's highly inefficient. I can't imagine nature creating such a terrible flaw. All of this when it's easier for the nucleus to read engrams in the soma before sending messages via an axon.

Let's move on to functions and events relating to engrams themselves.

- **Data Writing** – Data is written in layers by memorial neurons translating multiple neural signals into a storage format, and works much like progressive image loading. The first layer is fuzzy and largely unreadable, but, as more layers are written, it all becomes much clearer. Think of it as a sphere that expands or gets brighter with each layer written. How well data is written can depend on a number of factors:

- The primary one is not within our control – the strength of the synaptic connections between neurons that begin the process and the neuron that creates the engram. The better the connection, the better the data can be written.
- The secondary factor is how well the neurons involved in the process are performing. Higher performing neurons, such as the ones resulting in photographic memory, eidetic memory, or hyperthymesia, significantly improve the writing process. This comes down to how well an individual is able to record specific types of data – some people never forget faces, meaning the neurons involved in the creation of BRM engrams excel, while high performing neurons involved in the creation of ASM engrams mean a person may never forget a tune.
- The remaining factors depend on us – how much or how little we value the data being perceived/created, how much we are paying attention to what is being perceived, whether not it is observed consciously or subconsciously, how many times we observe it, and so on.
- **Engram Updating** – Incomplete engrams are updated when we encounter the exact same stimuli again. As we begin to observe the stimuli, the currently held engram is activated and the rest of the data is written. It's like learning a new song but not getting it all the first time. You remember what you have learned and, when you encounter it again, learning new parts, you update the memory of it that you have. The brain wouldn't create a new engram when you continue learning because it would then need to locate all the individual parts you have whenever you wished to remember it, or you could end up with a complete version and an incomplete version, risking the chance that the incomplete one is the one remembered, which could range from being pretty inconvenient to a disaster.
- **Preservation** – The more layers that are written to an engram, the longer it is stored without becoming subject to the process of forgetting.
- **Reinforcement** – While the original writing of an engram may not have been perfect, we are able to reinforce whatever data in the engram we were able to write through repetition. Simply repeating the data of the memory we do have – regardless of whether it is in our head or expressed externally – we are able to strengthen an engram as if it was being written through original perception/experience/thought, to the point where it becomes ingrained and we cannot forget it.
- **Forgetting** – An act that we don't (usually) do willingly.
 - Non-Storage – Some memories don't make it past the short term working memory. We perceive, store, use, and discard them in the moment. These memories are of

little to no importance, and we barely pay attention to the fact that we have even recorded the data, as it is simply part of the work flow.

- TPR – Otherwise known as Temporary Performance Reduction. Anything that can cause a temporary performance reduction of neurons – fatigue, alcohol, knocks to the head – can impair the sensory neurons' ability to perceive and the data writing process.
- Engram Burial – When a non-ingrained engram has faded through lack of use, a memorial neuron transfers a copy of the data of an engram that needs to be removed to memorial neurons deeper in the brain or further out of reach, where they take longer to retrieve, before destroying the one it has stored.
- Weak Connection – Weak synaptic connections to a neuron make it more difficult for data of an engram it contains to be retrieved and would require alternative routing to be achieved to an acceptable degree. This wouldn't cause a permanent loss, or even burial, but could increase the time it takes to find and retrieve the desired data, depending on the route travelled.
- Neuron Damage – Damage to somas can cause damage to engrams that are caught in the area of destruction, reducing their readability or rendering them unusable. Neuron damage can also cause someone to forget the data of engrams it contains if the neuron itself becomes impaired. This can be also be the result of axon or dendrite damage, making it difficult to actually reach the engram or to carry its data to the necessary location.
- Neuron Death – When a neuron dies, all engrams held within the soma are destroyed along with it.
- **Repression** – Repressed memories are engrams of either episodic type that contain data of significantly traumatic experiences. Because of the potential repercussions of these memories being accidentally recalled, specific types of engrams, which I'll call "repressive", are used to store them. I initially thought that they could be stored in a special type of neuron, or that a special type of neuron was used to block them out, but a few things caused me to think otherwise:
 - The fact that a person is still affected by a repressed memory, even though they can't recall it, means the engram is still active and functional but, for some reason, the data it contains can't be passed on for processing.
 - The fact that, since the memory has a continuous effect on an individual, it couldn't have been buried at any point, as it would forever be resurfacing.

- Memories of an event can be repressed the moment the event is over. One neuron growing axons to block engrams of another neuron would take longer than it takes to repress the memory.
- Repressed memories can be unlocked instantly or it can take months, if not years, of work.

I see two viable ways to achieve this:

1. A chemical inhibitor that, as long as it is in effect, prevents the main data of the engram from being read. Unlocking the memory requires the chemical inhibitor to be halted. Given the cause of the repression, it makes sense that an extreme feeling of tranquillity would be required to reverse it, hence why therapists use calming techniques... or drugs.
2. The data of repressed engrams is encoded in a non-uniform way, meaning it can't simply be decoded for use without major effort.

I lean more towards number 1 as it seems more likely, based on the given number of chemical processes already happening in the brain, and the fact that there's no evidence that multiple forms of engram encoding is likely or even possible.

Now, repressive engrams are like redacted documents – much of the information has been blacked out. It would seem that the only information not redacted is the metadata, hence why people are still emotionally affected by it and know that a memory is missing from a specific point in time. You see, with the metadata containing a timestamp, if it wasn't readable, a person wouldn't actually know that a memory was missing from a period because they wouldn't know that it even existed for that period. However, with a readable timestamp and unreadable content, they know they have a memory of that period but have little or no idea of what it contains. With redaction, there are two types – partial, which makes some of the main content readable, and full, rendering it completely illegible. This would be controlled by the strength of the chemical released, and they can have a variety of effects on an individual:

- **Temperament** – Logical neurons of the ACS are constantly sending signals to have data of a repressed memory read, treating it like somewhat of a foreign object (the body doesn't like anything that it can't identify, and the chemical inhibitor draws attention), which causes the engram to continuously be stimulated as the memorial neuron is constantly reading and reacting to the metadata. The meeting of these opposing forces can be seen as something slightly less than the unstoppable force versus the immovable object, and the instability of the event causes involuntary

response signals to be released to the areas of the brain that are designated within the metadata, causing a seemingly permanent change in temperament.

- **Triggers** – When we perceive something with the conscious mind that causes the MCS to try to read the repressed engram, the MCS and ACS working together creates a surge in neural activity to the areas of the brain that the engram relates to – one of these areas being that which controls emotion and feeling. Here's an example to make it clear:

A teenager experienced physical child abuse at the hands of his father when he was young, which created feelings of extreme anger and fear at the time. The memory was repressed and the metadata of the engram was written as "bullying", which had signal indicators that pointed to the parts of the brain that caused anger. Due to the inability to be read, the subconscious mind, in its continuous attempts, permanently causes stimulation of the engram, causing the person to develop a naturally angry persona. Now, in school, the teenager witnesses someone being bullied by another person who clearly outweighs them. The conscious mind is now trying to pull memories relative to bullying, comes across the repressive engram, and tries to read its contents. The signal activities of both the conscious and subconscious minds have now compounded and are causing a surge of electrical stimulation to the part of the brain that controls anger. As a result, the teen goes absolutely berserk and has trouble maintaining control because he can't reduce the level of stimulation he is experiencing, therefore having to wait for it to pass or for a way to be calmed.

- **Flashbacks** – When an engram is only partially redacted, triggers can cause parts of the main data that haven't been redacted to be released. When this does happen, the combination of the surge of activity combined and the released data being processed is what causes flashbacks to be brought on in such an intense and overwhelming manner.
- **Signal Patterns** – Despite what scientists have claimed, I don't accept that memories are stored as "signal patterns". Given the amount of neural activity that continuously occurs, as signals pass through neurons that aren't actually required in the process but facilitate travel between point A and point B, random memories *could* constantly and uncontrollably be recalled. What I *would* say is happening is that any engram has its own unique neural paths – a signature – to the parts of the brain that are stimulated in response to its activation. Based on the number of outgoing connections a single neuron can have, the multiple areas of the brain stimulated for any one engram, and the number of neurons an engram could possibly

reside in, it's both possible and likely. When these signatures are manually recreated, they're matched to their corresponding engram and the same results occur as if the engram itself was activated.

Here are a few points to explain some questions that may be raised, and other memory related things:

- **Metadata References** – Engrams with references in the metadata make them easier to find. With a metadata name of "red" and the data to display whichever colour/tone our brain processes as red, the engram is easy to locate by only needing to read the metadata. This means it can immediately be brought forward. Without a metadata reference, the entire data of the engram needs to be read before we are able to process and determine what it is.
- **Imagination** – When we imagine something, we are able to create it in any way we desire. Without these separate memory types, we would literally have to have individual memories of every single possible combination of properties for every single object we can think to apply a property to ¹. For example, if I have a memory of a blue pen and wanted to imagine it as a green pen, to do so would require an actual memory of that *exact* pen in green. By separating these memories, we are able to imagine anything we want in any way we want, with the only limitation being the memories we have stored.

1. I specifically express it this way so you understand that we wouldn't have a memory of trying to apply the colour red to a specific sound, since sound has no colour. Based on separate memory types like those listed, people who suffer from synaesthesia are the exceptions, possibly caused by abnormal configuration of Object Relationship Memory. Without the separation, I'm not sure how such people would be able to see sound as colour, as they wouldn't have a memory of the auditory object and property object combined.
- **General Brain Activity** – For efficiency in both storage and retrieval, such organisation is very beneficial, given the complexity of what must occur constantly to keep us alive, and what can occur simultaneously and/or at a very rapid rate of change when the conscious mind is active.
- **Episodic Memory** – You'll notice I didn't use CAM references in the EM example. This is because CAM engrams refer to how things are now, while EM engrams refer to how things were at some point in the past. If CAM references were used, our episodic memories would end up appearing as we currently know things to be, and they wouldn't make sense at all.
- **Words and Definitions** – There are times when there are words we know and can define but, in the moment, can't immediately think of the definition. If both word and definition

were contained in a single engram, we would always be able to immediately give both together.

- **Biometric Recognition** – Though BRM engrams are created based on structural data in the same way Structural Memory engrams are, they're used for a different purpose. Whereas we can see the same table one hundred times over, we only associate one biometric structure with one being. When it comes to properties, though, BRM works in the same way as SM. For example, you can varnish a wooden table but still recognise it as the table in the same way that you can retouch a photo of someone to remove blemishes and smooth the skin while still recognising who it is (within reason...). This also explains why contouring and plastic surgery which appears to change the mathematical structure of a face can, if the difference is significant enough, make a person unrecognizable.
- **Deficiencies** – It's possible for people to have specific types of deficiencies in some types of memory without having deficiencies in other types. It's also possible to have superior function in some types simultaneously. This supports my theory of engrams being stored in the part of the brain primarily responsible for the processing of the type of data it contains. Let's look at British architectural artist Stephen Wiltshire. He has been diagnosed as autistic. Autistic people are said to have issues with their working memory. Wiltshire, however, has an incredible ability to draw cityscapes *from memory* – something he has done repeatedly. This means at least one of the following is likely:
 - That connection issues exist between his Working Memory and types of memory other than his Structural Memory and Spatial Memory; and/or
 - The neurons of his Structural Memory and Spatial Memory are exceptional in performance, as are their connections to his Working Memory.

It couldn't be issues with Working Memory specifically, as he would then encounter the same problems in any task he was attempting to perform.

Now, if engrams were stored without a high degree of organisation, and spread across the brain, how could it be so easy for any one type to be deficient?

- An unorganized memory structure would make it incredibly difficult to determine if any type of memory was deficient, as it would be very easy for two engrams of two different memory types to share deficient connections and, when their data is called, encounter issues in attempts to reach the Working Memory that we wouldn't think anything of because other engrams of their memory types were located in positions that had good connections or, to be realistic, randomly dispersed bad

connections. We would unlikely be able to determine a pattern we were sure of to be able to say with certainty that a problem with specific memory types existed, and would have to state that there are problems calling the data of individual engrams relating to a specific memory.

- We could also consider memories being stored in a single part of the brain, but it would be too easy for relatively few bad connections to cause catastrophic complications across the board. Let's consider amnesia – there are so many types. It can range from people forgetting names of objects, to people forgetting words, to people forgetting events before or after a specific date. It would appear that amnesia can affect one or multiple types of memories. If memories were all stored in the same part of the brain, how could the amnesia be so clear cut in what is remembered and what is excluded? There's also the fact that it can be brought on by damage to multiple areas, indicating that it *clearly* isn't possible for one area of the brain to be so dominant in the storage of memories, but that it is a widespread operation.
- **Advanced Functioning** – Let's look at three different advanced memory functions:
 - "Photographic" Memory – Everyone has some degree of "photographic" memory but, when someone is said to have it, what is meant is that they have a superior version of Episodic Photographic Memory. Superior EPM means a person is capable of high and *very* high frequency time-lapse photography techniques in a given moment. Now, how this enables superior visual memory of an instance is like this:
 - Multiple mental images are recorded in a very short time interval – think milliseconds. One millisecond is the time it is said it takes for a single neuron to fire one impulse and return to rest, so I guess that makes sense. It also has to be this fast to be able to record visual data before any significant changes can occur. Each mental image may contain different parts of an overall image.
 - The mental images are then combined to create a single image, with overlapping data being discarded.

Image sequences can also be recorded, which requires both high and very high frequency imaging working together. As an example, I'll show the difference between a normal functioning EPM person and an advanced functioning EPM person capturing both standalone images and sequential images:

	Normal Functioning
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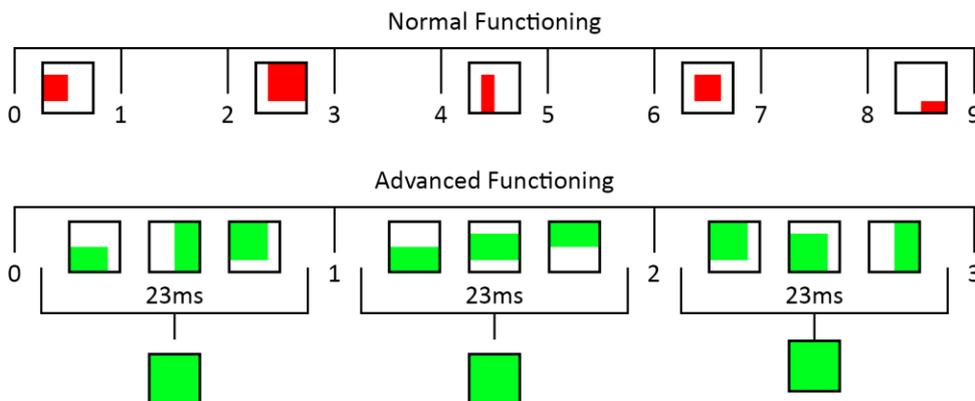
S	1	2	3	4	5	6	7	8	9	10
M	1	1	1	1	1	1	1	1	1	1
P	•		•		•		•		•	

In the table above, we see that for every two seconds (S) that pass, a neuron (•) fires to take a photo (P) over one millisecond (M).

Advanced Functioning																									
S	1					2					3					4					5				
M	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
P	•	•	•			•	•	•			•	•	•			•	•	•			•	•	•		

In this table, however, we see that for every second (S) that passes, a neuron (•) fires to take a photo (P) three times over three milliseconds (M). In reality, neurons need to rest between firing, so we can use our imaginations to add a ten second rest time between firing, meaning for every second, a single neuron fires three times over twenty three milliseconds.

A visual example of how the process works is:



As you can see, in a normal functioning EPM brain, the mental images recorded contain different amounts of detail. This, too, applies to the images recorded in the advanced functioning EPM brain but, because of how fast multiple are taken, they are compiled into a single complete image.

The reasons for me stating that superior EPM requires multiple photos being taken and compiled, rather than simply one photo being taken, are:

- People with superior EPM don't remember everything they ever see but can remember what they pay particular attention to. This means that, when they are paying less than the required amount of attention to completely

memorize something in photographic form, their EPM acts in a similar manner to those who have normal functioning EPM.

- Neurons fire in a millisecond and rest, as I previously mentioned. If a complete photo cannot be taken in an instant, as stated in the point above, it can only be taken over a series of fires, otherwise a neuron would have to remain in a firing state for longer than a millisecond and continuously capture data until completion. Of course, it is possible that multiple neurons handle the function, meaning that all of said neurons could even fire in the same millisecond, capture different parts of a photo and have them compiled, but that would still follow the principle of multiple image composition, with the process simply completing in a much shorter time.
- Eidetic Memory – This is a superior version of Episodic Memory. The principles of its workings are similar to the aforementioned mechanics for superior EPM, with the differences being:
 - Multiple neurons are definitely required to fire at different millisecond intervals from the first, in order to continuously record data when other neurons are in a state of rest.
 - Recording neurons fire over an extended period of time rather than in short bursts, as you wouldn't be able to record much in a few milliseconds, as opposed to a few minutes or longer.
- Hyperthymesia – To put it simply, this occurs when the neurons that control recordings for eidetic memory are permanently stuck on auto-fire, to the point where a person consumes data about everything they experience in a given moment repeatedly and so fast that its engram reaches a point where the memory becomes ingrained in the time it takes a normal person to record a memory.
- **Episodic Memory Fragments** – When we think back to something that happened on a given day at a certain time, we don't always remember it all immediately, but it can come to us over time. This is why I think engrams for episodic memories are, for some reason, fragmented. As we think harder, we locate more engrams that are fragments of the complete memory. Maybe it's a space saving technique that, in the long run, allows us to erase only engrams that contain unimportant details from a complete episodic memory, rather than needing to erase a single engram of an entire event.
- **Working Memory Data Copies** – Finally, why did I state that working memory uses copies of data from an engram, as opposed to the actual engram itself? Well, because if the actual

engram was brought forth and returned after use, brain scans would be able to determine exactly what data an individual engram contained – never been achieved.

- And, for the sake of covering everything, the relationship between the brain and the spine. It's odd to think of the mind extending into the spine but, technically, it does. Logical neurons of mind take data from engrams of memorial neurons and send it to the logical neurons of the spine that sit between sensory and motor neurons, where movement is coordinated. The logical neurons of the spine then send messages to motor neurons – not an extension of the mind but part of the peripheral nervous system – that control our muscles and create movement. The system works in reverse, too, where sensations we experience are picked up by sensory neurons which send messages to the logical neurons of the spine and then up into the brain.
 - Stroke: When someone suffers a stroke that leads to any degree of paralysis, memorial neurons storing engrams for muscle control are destroyed during the deaths of the affected neurons. Depending on the size of the destruction, there may be enough memorial neurons in the part of the brain responsible for movement to be able to relearn how to control the required muscles.
 - Spinal Damage: With spinal damage can come also come paralysis. As with the brain, the neurons of the spine are divided based on the part of the body they are in control of, only in a columnar arrangement, and so, much like the brain, the precise position in which damage has occurred affects which parts of the body become paralysed. Also, since only logical neurons are within the spinal column of the central nervous system, the problem is completely physical – it's not a case of recreating engrams that enable us to learn and remember how to move, as it is with a stroke, but that nerves required to transfer messages are damaged and cannot grow back, which can prevent the messages from reaching any neuron lower than the highest point of damage, depending on extent.
- Lastly, neurons in other organs. The heart and stomach have their own neuronal system that regulates their operations. These will all be logical neurons, as only the brain is required to stored memory data.

Tools of the Trade

When explaining the conscious and subconscious minds accessing memories, I mentioned that, once found, the memories are put to use... but how do we locate the memory we want? A very interesting internal process called *Recall* allows us to do this. Recall is used to play a game of data

fetch. It's the job of this process to locate and translate engrams before delivering its data to the necessary area of the brain for processing.

The process of recalling works in a similar way to our sense organs translating objects of the physical world, requiring memorial neurons to translate our engrams. To help understand this, I'll compare it to the eyes and sense of sight, since it's the sense that works in the most similar way to the process:

When our eyes detect something, they translate objects so that we are able to identify them by determining their properties. With no translation, we would still be able to see objects but would not always have a clear idea of how one differs from another. This is somewhat relative to *Molyneux's Problem*. The eye is a mathematical instrument, and, for that reason, can be used to determine measurements, which could allow us to identify differences between objects based on such measurements – size, shape, angles, and so on. With two boxes of completely different sizes or shapes, a person would be able to tell the difference between them just by examining their measurements with the eyes. However, if they were the same shape and size, how would a person differentiate between the two? You see, maths is and will forever be absolute, so, unless you have other neurological/sensory deficiencies, it will always be possible to tell the difference between objects, based on mathematical properties, using only your sense of vision. However, properties not based on maths, such as colour and texture, can't be gauged in the same way. Colour can only be identified by vision – with no translation to determine colour, how would you identify the red box from the blue box? What about the texture of an object? Visual clues allow us to determine whether or not something may be smooth or rough without needing to physically touch it. With no way to translate these visual clues, the sense fails us. Our perception of the world would be bland, governed entirely by shadow, based on how much light is being reflected into the eye from any one point.

These same principles apply to memorial neurons during the recall process. When an engram is detected, even if it has some properties that make it identifiable to some degree, that wouldn't be enough to know exactly what the data it holds. The complete information of an engram needs to be read and translated to be of any use.

So, how does the process work?

- **Step 1 – Broadcast:** Logical neurons broadcast a signal to the area(s) of the brain corresponding with what is desired.

- **Search:** If we don't know precisely what we are looking for, a signal containing relative information is sent. This is how we are able to start describing things when we are trying to remember it.
- **Get:** If we know what we are looking for, a signal containing the precise name reference is sent.
- **Step 2 – Scan:** As a signal is received, memorial neurons begin to scan engrams they contain.
 - **Partial Scan:** When a partial scan is performed, only the metadata of an engram is read.
 - **Full Scan:** When a full scan is performed, the full content of an engram is read.
- **Step 3 – Translate:** When the desired engrams are found, a copy of the data is translated into a signal format that logical neurons can work with.
- **Step 4 – Send:** The now translated data is sent to the logical neurons in different areas of the brain that are responsible for processing the data it contains.
- **Step 5 – Process:** Logical neurons process the data, one at a time, which allows us to mentally perceive it.

The mechanics of this process are required to operate in the way that they do in order to stop our minds from going haywire.

- If memorial neurons were also the neurons responsible for both processing the data and allowing us to mentally perceive it, we would face a major risk of unstable behaviour. Engrams wouldn't need to be translated before being used because the one neuron would do both jobs, meaning that, even if only scanning, random memories could accidentally be activated, and us reacting to them would be beyond our control.
- Leading on from the previous point, scanning could result in the activation of memories. Now, it's axiomatic that scans would be run simultaneously – maybe not on multiple engrams in a single neuron, but definitely multiple neurons scanning at least one engram each, otherwise the delay in reaction time would be relatively severe. Every time we tried to recall something, we would be at risk of multiple engrams being activated. It would drive us insane having all those thoughts racing at the same time. Even if there was a guaranteed success rate of 99.9%, there would still be more than 8 hours a year where a person would have multiple memories circulating at once, and given the number of engrams we hold – every life event that the person remembers, every trivial object, property, sound, word and so on – can you imagine just how many memories could be active? We could easily hold memories of a million different things, and, with a 99.9% guaranteed inactivity rate, there

would still be a thousand memories active at once. For those 8+ hours, anyone could be driven to do anything – that is, until the mental break down kicks in, which wouldn't take long at all. Hell, being a nerd *could* kill you.

This isn't to say that the function is without its flaws – the returned data isn't always what we are looking for, though that's partially our own fault. When we can't identify exactly what we are trying to recall, but have partial knowledge of some of the data, recall is happy to return results that match what we can remember, partial matches, or even similar matches.

Data from engrams is processed by the same parts of the brain that receive and process the information from our traditional sensory organs, as these are the parts responsible for the function we know as *Imagination*. Imagination is the complex composition and/or recreation of engram data, so, when this saved data is again processed by the brain, we are again able to experience the stimuli, though to a much lesser extent than if it was being experienced physically due to the lack of physical sensation, without the actual need for the physical stimuli we are imagining to be present. This also explains the resulting effects:

- The Ears of the Mind – That little voice in your head – ever wondered how it is created? How you are able to have mental conversations with yourself? The answer is the memory of sound. First, we pull the sound sequence data from memories of words we know. They are sent to the part of the brain that we use to compose sentences as if we were to speak but, rather than us actually expressing them externally through speech, the information is sent to the part of the brain that we use to process sounds that we hear. Remember, the ears are only used to detect sound, but the sound is actually processed and played in our brains. So, when this part of the brain is used with the memories of sounds, the sounds are played in our mind and we hear ourselves thinking. Without the ability to hear ourselves think, we would have to speak and then listen. This, too, applies when we recite tunes in our head. We pull the sound sequence for the tune we wish to hear. When we make up our own tunes, we don't pull sound sequences but individual sounds and compile them as we see fit.
- The Mind's Eye – Much like how we hear ourselves think, we can mentally see what it is we are thinking of when what we are thinking of is a physical object. This process works in the same way as described above. Visual data is pulled from memories of tangible objects and sent to the parts of the brain we use to process visual data. Once processed, we can mentally visualise the object in our mind.

- Taste, Touch and Smell – Taste, touch and smell work a little differently, and for good reason – these senses require actual haptic physical contact with tangible objects. For this reason, when we use memory data of each of these types, it is more likely to cause a physiological reaction similar to what one would experience with the physical version of the stimuli. When you think of nice food, your mouth can water. People who are scared of spiders can feel their skin crawling when they come to mind. When you remember a bad smell, you can wrinkle your nose in disgust.

I know, I know, "Why can someone cry when they see a picture of someone who broke their heart?" Well, that's easy – you don't always get to choose exactly which parts of a memory are pulled and when, and you don't control which parts of the brain are stimulated in response. You may only want to pull a visual memory of an object, but you may end up pulling all memories of the object that can be found, so, though you are still only desire to look at and think of an image, the memories of sound, touch, taste, and smell can all be pulled and processed as well, and they can all stimulate parts of the brain which control emotion, triggering emotional responses. The subconscious mind is a fickle bitch.

There is a reason why physiological reactions can also occur without the need of memories based on physiological experiences with whatever is in question, but that need not be addressed at this point in time.

Imagination is a very powerful function and it can do more than only use data that is actually part of a memory – it can add data based on expectations. This is where *three* other handy processes of the mind come into play – *Analysis, Reasoning, and Judgement*. Analysis is the tool used to examine data, reasoning is the tool we use to compare, and judgement is the tool we use to conclude. Here's an example of how they work together so beautifully:

You are walking through a forest. You are tired and wish to rest. The ground is covered with dirt and crawling with living things, much to your disgust. Miraculously, you come across what looks to be a tree stump. You've never seen one before and you wonder if it is something on which you can have a seat. Enter *Analysis*.

You examine and take in all the properties of the stump:

- Around 1.5 feet high.
- Flat top.
- Rough texture.

- Solid and sturdy.

Next, memories of something you have successfully sat on before are pulled and analysed.

For this example, we'll say a chair.

- Around 2 feet high.
- Flat sitting surface.
- Smooth texture.
- Solid and sturdy.

You select these properties of a chair you remember because you can only compare similar properties. It is possible to compare one object against multiple if there are properties of the one that require multiple to fulfil comparison requirements. It is also possible to include properties that are not matched for reasoning purposes.

Time to *Reason*:

- Height difference – **Not important.**
- Level surface – **Ideal for sitting.**
- Texture difference – **Not ideal. Not a deal breaker.**
- Build and stability – **Ideal for sitting.**
- Back support – **Missing. Not required.**

An overall conclusion is derived from how you reason each property taken into consideration. To do this, basic maths is used. In this example, a negative is valued at -1, neutral at 0, and positive at +1. The results are as follows:

- Height difference – **Not important: 0**
- Level surface – **Ideal for sitting: +1**
- Texture difference – **Not ideal. Not a deal breaker: 0**
- Build and stability – **Ideal for sitting: +1**
- Back support – **Missing. Not required: 0**
- **OVERALL CONCLUSION: +2**

This conclusion is made using the last tool, *Judgement*. So, in your opinion, it's a good idea to take a rest on that stump. Values, when it comes to reasoning, can differ in a much more complex way, which is something explained later.

This system is why you can't reason very well when there's information of value of which you do not know, and why, when you reason against something of which you think you know well, you can be perfectly logical and still end up being completely and catastrophically wrong.

There are different types of reasoning, but the comparison of data is essential to them all, regardless of whether the information being compared already exists in memory or has been newly acquired directly from the environment you are currently in. At the same time, it's not only comparative properties that we reason but also on a "need versus ability" basis. A quick example is when your back itches in a place that you can't reach yourself, so you grab an object that you reason is long and rigid enough to use as a scratching tool. It could be a kitchen utensil or the remote control, but it won't be one of those lovely, decorative cushions laying around.

The next question is, obviously, what one does if the result is neutral. This is where the priority system comes in. We use reasoning to determine which of the available options we value most. At this point of the process, many factors can come into play, depending on the situation at hand. In the example above, you may value resting more than continuing without other factors coming into play, but if you then factor in that your current environment is known for wolves and bears, you will likely want to get out of there as quick as you can. The last question centers around priority options of equal value and the answer is random selection, often expressed something along the lines of, "Fuck it, I'll just choose this."

Long detour but back to the addition of data. This example will be based on spiders.

Many people are afraid of spiders – not on a phobia level, just a hatred of the thought of them being within close proximity of their body – without ever actually having a bad encounter with one, so, why? They reason, based on any number of reasons, that the spider is a threat. For example:

- It's not attractive to look at;
- Some spiders are poisonous and so, since they know nothing about spiders, and, you know, all spiders are spiders, it's best to treat them all as poisonous.
- Anything that small with the ability to survive in a world of giants must be a master killer!
- They've seen what this spider can do, thanks to David Attenborough, and would rather avoid them.

- They've had run-ins with other "yucky" creatures, and that's all that need be said.

We use analysis and reason to plug gaps in what we want to know. Amongst many things, this is how irrational fears are created. The good thing is that plugged gaps aren't permanent because they aren't based on actual experience and so, more often than not, they are easily overwritten with whatever happens during an actual experience.

Lastly, to answer the age old question of what it is to "think", "thinking" is the sum of all these tools used together as described, and, even then, there's more to it, such as ideas and trains of thought. I have read that some people equate thinking with remembering – I can't imagine why – but this is false. 'Remembering' is simply the act of recalling a raw memory. Also, this – thinking as a *process* – differs from thinking as an *act*, which is how we use the term to describe the conscious internal perception of any information within the brain, as well as the processing and issuing of commands.

As well as imagination, these four processes (recall, analysis, reason and judgement) are used in combinations to create other functions, such as prediction, which requires specific data to make educated guesses about what is to come, and argument, which takes given data and uses reason to make arguments against it. All it really comes down to is the data used and the purpose for which we use it.

The Hippocampic Symphony

Throughout my writings so far, I've referred to different parts of the brain responsible for the processing of different types of data. Now, it's time to take a look at them:

- Visual Cortex – Processes visual data.
- Auditory Cortex – Processes sound data.
- Gustatory Cortex – Processes taste data.
- Olfactory Cortex – Processes smell data.
- Broca and Wernicke – Processes language data.
- Somatosensory Cortex – Processes touch data.
- Motor Cortex – Coordinates movement.

Note: Though the Broca and Wernicke areas are not called cortices, I will refer to the above collective as such and individually as a cortex.

When it comes to thinking or using our imagination, engram data is retrieved and processed in the cortex corresponding to its type, where it is used for mental perception. Each cortex is capable of

working alone, like when you are picturing something in your head; independently, such as when you are picturing one thing while mentally singing a song which is completely unrelated; and cooperatively with one or more of the other cortices, such as when you have mental conversations with yourself. It is harder for some than others to be loners at times, though. For example, due to human conditioning, it's hard to picture a word using the visual cortex without also saying it to yourself using the Broca, Wernicke and auditory cortices.

Since object data is stored in neurons of the area in which it is processed, not much happens in areas outside of these, in relation to the process, when we are solely thinking of the objects. A most interesting thing happens, though, in the area of the brain responsible for Compilation and Spatial Memories – the *Hippocampus* – when we require the data of engrams stored there. You see, the way we are designed, we have to take in everything that we perceive individually via our five sense organs, so they immediately reach the areas in which they are processed and stored. What happens next, however, is the hippocampus has to compile details of all this incoming data into one or more engrams, creating what is essentially a multimedia reference file with more information than you realise. This is the set up.

When we decide to recall an engram of Compilation Memory, it's at this point that the performance begins. The hippocampus becomes the conductor, sending out signals that tell the orchestra – the collective cortices – what engram data to find and use, when to use it, and for how long. With the use of Compilation Memory data comes the use of Spatial Memory data, which helps the cortices coordinate how objects are arranged. Working together, the symphony that is remembering old times begins to play. Of course, such a performance can be manually orchestrated by "you" through use of imagination. Remember this as it's explained in 'The W System'.

Divide and Conquer

An idea was put forward that humans can't actually multitask, but that we switch between tasks very quickly. This is *partially* true. In actual fact, humans *can* multitask, but there are multiple types and certain conditions under which they can be performed, with varying levels of performance based on said conditions.

The first type of multitasking involves external and internal perception. The cortices used for our senses all have multiple divisions of neurons, with at least two which are used for actual perception – one for what we perceive in the physical world and the other for what we perceive mentally – allowing us to perceive both types simultaneously. Without such division, we wouldn't be able to do many things that we take for granted, such as:

- Daydreaming, which uses the visual cortex and involves us mentally perceiving visions while still being able to visually take in what our eyes are able to see in the physical world; and
- Using our auditory cortex to listen to our own mental chatter while we are also listening to someone else speak. You know when you say to yourself, "I agree with what this person is saying", or "This person is talking absolute bollocks" – yeah, those moments.

It doesn't work anywhere near as well with the olfactory, gustatory and somatosensory cortices, however, due to the fact that sensations caused by haptic physical contact are not something the mind can so easily recreate. This is a flaw in both design and operation – vision and sound are processed solely in the brain and only require stimuli, meaning it can easily be recreated through engram data, but taste, touch and smell – due to their physical natures – require both stimuli *and* haptic sensation. Imagining what something tastes, smells, or feels like is one thing, but recreating the sensation on demand is virtually impossible because the brain doesn't have control of the sensory receptors, meaning it can't recreate the sensation patterns within them that actually creates the taste, smell, and feeling. In actual fact, this can be applied to sound, too, when it is loud enough to make our ear drums vibrate more than they should, to the point where we can actually feel them moving – the brain can recreate the sound, but it can't recreate the vibrations felt. Such lack of control means we can, at best, attempt to imagine a different sensation while experiencing one, but, with only half the job done, it's never really successful. Eat something disgusting while imagining something sweet, smell something bad while imagining you are smelling roses, or stub your toe against the corner of, well, anything, at your normal walking pace but imagine you are getting a massage – you'll see for yourself. The physical sensation can't be overwritten, but the combination of both mental and physical stimuli working simultaneously can cause confusion and affect how well the brain processes the stimuli, reducing the effect it has.

The second type involves physically performing tasks of two different natures, where at least two different areas of the brain and spine, or different divisions of said areas, are used. How many people type without looking at the keyboard, so focus their eyes on something else? I know I do. Nevertheless, we can know when we mistype a letter, hit backspace, and make the correction without ever having to look at the keyboard or screen. This is only made possible by the fact that we use spatial memory, fluid action memory, one division of neurons in the motor cortex, and multiple sections of the spine to type, while using one division of the visual cortex, a second division of the motor cortex, and a different section of the spine to concentrate on, in my case, the television. In fact, it is this dividing of the central nervous system that allows us to multitask.

Where we can't multitask properly – if at all – is in performing two tasks that require the same division(s) of the brain. Writing/typing while talking is a perfect example of this. Remember those moments where you accidentally started writing what you were saying? That's because the Broca and Wernicke areas, which are comprised of a total of three divisions, are used for three functions – choosing words, forming sentences, and ensuring they follow the rules for said sentences to be coherent. There are no divisions of each of the three to enable parallel processing, so only one language processing task can be performed at a time. Trying to type and speak different sentences means the sole neurons capable of the required processing have to switch tasks constantly... but there's a problem. If they don't switch tasks in perfect succession when data from one area has been sent to another, data for task A ends up sweeping into task B, and the output becomes a combination of both until order is restored.

The brain has a limited supply of energy and one conscious mind, so splitting focus, regardless of the multitasking type, *will* cause performance to be reduced. *Just so you know, this is also why concentrating on one pain helps you ignore another.* The best anyone can hope for is that, while the MCS performs one task, we've performed a different task enough times for the memory to have become engrained, allowing the ACS to let us perform it on autopilot – it does happen, though we rarely notice it while it's happening.

THE 'W' SYSTEM

A fundamental question that remains is who – or what – you are.

When you start getting deeper into how all this works, you start to realise that there has to be a part of the brain that is its own self-contained system. Without it, you are stuck in a never-ending question loop situation, always asking something along the lines of, "What neurons issue commands to these neurons?" Without a self-contained system, there is no starting point other than the neurons we use to perceive the physical world around us using our senses, meaning everything we do would be governed solely by what is around us at any point in time, but we know that's not true because we are able to think and do things that have nothing to do with the environment in which we exist at any given time. The other options would include:

- **Neuronal Independence**, which would see multiple neurons able to start their own processes in pursuit of their own wishes. It would be mayhem.
- **Random Processing**, where a random piece of data kicks off the processes that are to follow, meaning we would have no idea of what we were going to do at any time.
- **Conditional Processing**, where set processes occur only when a condition is met. Control would be relinquished; we would be nothing more than reactive systems.

That being said, let's get the answer out the way:

- **"You"** is the decision system within a control system – humans are dual-type control systems, accounting for both the conscious and subconscious minds. We'll call this "U-1".
- **You** are the sum of "You" and six other major systems. This is "U-2".

I know, it should really be The 'Double You' System, but the titular way looks so much better. I'm unlikely to make specific reference to either type again here but the reference codes will help if anyone wishes to distinguish. Also, the "-" should be included, as not to dance on the trademark of any Irish rock bands.

Here's a trick for you. I'm not sure how many people this will actually work on but I'll try it anyway.

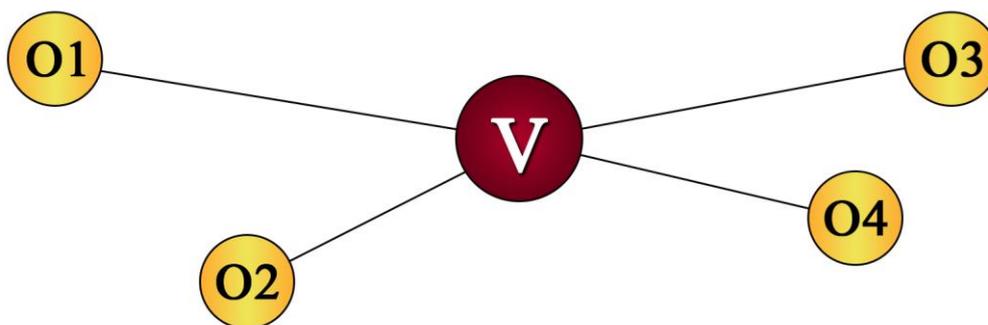
- Say this to yourself: *"Humans are nothing more than advanced decision making machines."*
- Think about that a couple more times, really taking in the meaning of that statement.
- Imagine a human standing next to the type of humanoid robot you would expect to see in a sci-fi film.

- Apply the same characteristics of the robot to the human – movement, speech pattern, digitised sound.
- Use everything I have explained so far to imagine how the human thinks compared to how a computer works things out.
- Now, tell me, just how different are we from our – thus far – imaginary, metallic counterparts?

If it worked as well on you as it did when I said it to myself, you would have noticed that you have started seeing humans in a different light. I bet consciousness makes a lot more sense to you now. It isn't an abstract concept that can only be explained with philosophy and governed by the cosmos – it's maths, it's science, it's logic, and, most importantly, it's *very* real. It's okay if it hasn't worked so far – it's time to break down how humans work in full.

The systems that make us who we are:

The Primary System: Values



The above image is an example of how objects are physically associated with values in the brain – as an example, think of four things (objects) that make you feel happy (value). Since we'll be dealing with a lot of objects, I'll use a better format to explain what I need to in a more comprehensible manner:

	Value	Value	Value	Value	Value
1	Object	Object	Object	Object	Object
2	Object	Object	Object	Object	Object
3	Object	Object	Object	Object	Object
4	Object	Object	Object	Object	Object
5	Object	Object	Object	Object	Object

Every object a person knows of has an association with at least one value that controls who we are, and with each association also comes a rank used to determine how much of an effect it has on us. This is why different objects make you feel different things, and different objects can make you feel the same thing to different degrees, with the general rule being the higher the rank, the more significant the impact.

	Happy	Angry	Sad	Bored	Fear
1	Object 1	Object 2	Object 3	Object 4	Object 5
2	Object 6	Object 7	Object 8	Object 9	Object 10

In the above table, we can see how any of the listed objects will make us feel, as well as the degree to which they will make us feel it – at a rank of 2, Object 10 will make us feel more fearful than Object 5. However, objects need not only have one association – a single object may have as many non-conflicting value associations as possible.

When it comes to the placing of new objects, it is generally based on first encounter – how well we can reason to separate new objects of the experience and determine how each makes us feel, how relative one is to another, and how relative one is to the dominant feeling we are experiencing – it's how we have come to handle discovery. The best way to explain this is to compare babies to adults when it comes to eating:

When you introduce babies to a plate of food composed of things they are not familiar with, they are more than willing to try it – eager, some may say. However, if what you first feed them is displeasing to their taste, the experience is ruined. Even worse, they'll often refuse to eat whatever you try to feed them from that same plate because they collectively associate whatever they see as part of the bad experience. Now, everything they recognise from that plate has negative associations in their mind, even if it wasn't something they tasted or did taste but either had a neutral opinion of or didn't deem it positive enough to change the experience as a whole. The next time you go to feed them something they recognise from the plate of bad experience, they can become very apprehensive, regardless of whether or not it was something they actually tasted. The same thing happens if an object they don't like is among other new objects. It's amusing to watch their faces as they weigh up whether or not it is worth the risk, looking at you to let you know that this could be a make-or-break moment of trust.

For adults, it's very different. We know to leave what we find we don't like and try the rest. We know that if we encounter a food we don't like amongst new objects on a plate, we don't have to be weary of the entire experience, only of the object itself.

Unfortunately, we don't always have control over how we value the objects we encounter – the subconscious mind is always active, and what it is able to perceive that we don't perceive with the conscious mind is still collected and stored. You may question why objects aren't automatically stored under a neutral value when subconsciously perceived, but where would the fun in that be? Sure, many objects will be when the mind has no reason to value them either way, but there are other contributing factors that determine how an object is sorted, such as your current mood, how distracting the object may be, and even what the object is doing. The subconscious mind takes into consideration the objects and the particulars of the event and makes decisions based on how it reasons the information gathered. There are times we have all experienced when we encounter something seemingly familiar, can't figure out why it's familiar, but have an opinion on it immediately. Subconscious perception and sorting is the reason.

As we get older and our cognitive abilities improve, we get better at separating objects during experiences, allowing us to better determine how relevant each object is to the effect the experience is having on us.

This value system is what is used to control our nature and how we react to stimuli.

The Secondary System: Reaction

The first part of the reaction system is the change in state.

When dealing with a single object, the change is simple – we move towards the value(s) associated. If object 7 makes us angry and it is the sole object having an impact, then we get angry. It's all rather simple; linear. The fun kicks in when we are dealing with a multiple object situation. Objects of the same association are easy to deal with – if you encounter two objects that make you angry, you get angry – but what about when you are dealing with objects of different associations? This is where ranks really come into play, along with maths and reason.

With two objects associated with anger, where one is rank 4 and the other is rank 2, what would the result be? Simple addition would give us the equivalent of rank 6. Mean average would give us rank 3. Halving the value of the lower and adding it to the higher would give us rank 5.

What happens when there are conflicting associations? One object is happiness rank 6 and the second is sadness rank 6. Would they cancel each other out? Would one that is prioritised higher by an individual dominate the lesser?

What about when we are dealing with a veritable smorgasbord of objects which have different associations and ranks? In dramatic fashion, "*Oh, the mayhem. When will it end?!*"

The truth is there is no one right answer. People are different and we all reason in our own ways. As we grow, we learn to reason in different ways than when we were born, but it all remains basic maths, hence why the brain of even a newborn can accomplish it. Some may be wondering how a newborn is able to perform such calculations, but it's important to understand that maths doesn't have to be calculated using equations – a result can be gained using methods and rules. For example, sending six signals to Place A in the brain, and four signals to the opposing Place B, gives us a difference of two signals. This is maths, and yet it isn't something that needs to be calculated – the answer is simply the resulting brain state. In non-linear situations where there is no single answer, such as what we are now dealing with, this is preferable. Imagine the brain starting in a zero value state, with the following rules implemented:

- There are ten different values.
- Each value is positive, negative, or neutral.
- Each value has a maximum of ten ranks.
- Only one value rank can be increased at a time.
- A value rank must be increased as much as it is to be before moving onto the next value.
- An increase in a positive value rank causes an equal decrease in negative value ranks and vice versa. An increase in either a positive or negative value causes half a decrease in neutral value ranks.
- An increase in neutral value ranks causes half a rank decrease in positive and negative value ranks.
- No more than thirty signals can be sent out at a time.
- The maximum total rank of all current ranks combined can't exceed thirty.

Now, following these rules, you can apply as many objects of whatever rank you wish. The order in which values are modified is the major contributing factor to the end result. If you wish to process this visually, you'll need to use a scale/chart/graph to handle the multiple end points.

Though this may read somewhat complex, this is equivalent to how the brain works, and the sole purpose is to create limits – limits in place to prevent every value from reaching maximum value simultaneously. I could think of no quicker way to achieve a state of insanity, burnout, and break down than allowing that to happen. Just imagine being extreme levels of happy, sad, angry, indifferent, and so on, all at the same time.

An interesting mechanic is the margin of change we have, which requires us to encounter objects of an opposite nature and a rank within a margin in order for them to have any effect on our current state. For example, if the margin of change is five and you are in a rank ten negative state, it would take a positive object of at least a rank five in order to cause our state to change. To put it in layman's terms, it's like being pissed off to such a degree that only something of significant positivity can change your mood.

The second part of the reaction system is the change in behaviour.

The change in behaviour depends on the resulting state of an individual. Anyone will notice that, as their state changes, so does how they act and react towards events and stimuli, as well as how well they are able to function and how much control they have over themselves.

In any case, the two major classes of change are *productivity* and *behaviour* – more specifically, how it makes you appear. Keeping in line with the object table, the reaction table would look like this:

	Value
R A N K	<p>Productivity: Controls aspects such as concentration, willingness and capability.</p> <p>Behaviour: What you do and how it makes you appear.</p>

What's intriguing here is that harmony, conflict, and disconnection all exist between what a person is and what a person is doing.

- When a person's state matches how they feel about a task, productivity and behaviour move in the direction of the nature of the state and task. Being in a positive state and performing a task you like tends to increase your mood and your focus. Negative state, negative task, it all worsens.
- When a person's state conflicts with how they feel about a task, productivity and behaviour move in the direction of the nature of the task. Positive state and negative task worsens mood; negative state and positive task improves mood.

- Some people are able to disconnect their state from how they feel about a task, so one has no bearing on the other at all. This can also be achieved using the margin of change mechanic.

This is also where emotions come into play – or, to be more precise, emotional reactions. An emotion is nothing more than a state and an associated type of action. States *usually* have specific types of associated actions – happy and smiling, sad and crying, anger and rage. While we can't know the emotion someone is feeling mentally (unless using some sort of neurological scanner), we can infer it by the associated action because, for most people, emotional states and the associated actions are roughly the same – if they weren't, imagine the chaos that would ensue when someone who was sad and crying was interacting with someone who was also sad but had smiling and laughter as their associated action. This is also why people with the mental ability to control or suppress their associated actions are much harder to read. When a change of state occurs, the associated action is triggered, and thus we have the emotional reactions we have come to know and hate.

Productivity and behaviour can vary astronomically or infinitesimally, depending on the nature of the person. There really is no limit to the differentiation. The table only need, in regards to a normal person, be divided into sections that are equal to or account for the sections of the object table, at which point you simply match a section of one table to the corresponding section of another.

The Tertiary System: Sensitivity

So, just how sensitive are you? This isn't actually the type of sensitivity people refer to when they wish to indicate a 'cry baby', but sensitivity to change. To be more specific, it's one or more points of saturation or deprivation within a time frame that causes an object to rise, fall or change in value, like when you listen to a song so much and so often that you begin to hate it, or when you haven't had a food for X amount of time and lust for it. This isn't simply you having a change of opinion, but the part of the process that leads to the brain rewiring itself.

To achieve this, a sensitivity algorithm, like the one below, is a (very) basic version of what we use:

- *Object = w*
- *Occurrences = o*
- *Time = t*
- *Acceptable Frequency Range = f*

```
foreach (w){
    if ((o / t) > f){
        //move up X amount of degrees
    } else if ((o / t) = f){
        //do nothing
    } else if ((o / t) < f){
        //move down X amount of degrees
    }
}
```

Sorry, non-tech readers, but there wasn't really a better way to write that other than the explanation above it. Anyway, such an algorithm can be applied to the object table in multiple ways, such as by value, by rank or by individual object.

The Quaternary System: Priorities

What do we value most in a given situation? Is it that which makes us happiest? That which is detrimental to someone we detest? Maybe that which improves our financial situation? Here's a test. Figure out what you prioritize more in each of the following situations:

- You and your business partner launch a start up. A few months in, it's struggling. You receive an incredible job offer but it means abandoning your company and co-founder. Stay or leave?
- It's payday. Pop bottles or pay rent?*(Laugh with me, social media users)*
- You get caught committing a crime but your friend escapes. Ten years jail time for you, or ten years for them and probation for you? *(I'm still laughing)*
- Your friend's partner makes a move on you... *(Zero bladder control)*
- Red pill or blue pill?
- Two friends want you to go to two different places at the same time. Where do you go? Who do you choose?

If it was always so easy to sort priorities, life would be so much simpler than it is. The reality is that many priorities are relative only to the situation at hand, regardless of how simple, ridiculous, or hilarious. As much as we may *think* we prioritise objects that are highly ranked under positive values

more than their counterparts under negative values, the situation at hand heavily influences what a person chooses to do in the moment, which leads directly to the next system.

The Quinary System: Conditionals

If X, do Y.

Conditionals – our entire body runs on them. They're the reason we only shiver when we feel cold, why white blood cells kick into action when we are ill or wounded, and why we sneeze when irritants invade our nose – basically, every automatic response we have is controlled by the conditional system.

Because conditionals are automatic, they are only controlled by the ACS, i.e. the subconscious mind. As I previously mentioned, the conscious mind has manual overrides for some functions, which is why we can stop ourselves from sneezing, but doesn't for ones that are required for survival, hence why you can't stop your white blood cells from healing you. All in all, it is a rather remarkable feat when you think about it.

The computer code example I wrote for the sensitivity system is, too, a conditional, and would fall under the conditional system. The conditional situations I mentioned for the priority system, however, do not – they are situations in which we manually make decisions, and what we choose to do can't be blamed on automation.

A special type of conditional – a very annoying one – is what we know as compulsions. Compulsions are a subconscious conditional loop that continues until the need of the compulsion is met or the triggering event has been forgotten. The triggering event can be perceived consciously or subconsciously, and, when the action that should be performed is not, it sits in the Short Term Working Memory, where it would normally be forgotten quickly. However, the subconscious mind has other plans, continuously stimulating the memory so it cannot fade. How the actual compelling comes into play is based on what we know to do in the event, and the subconscious mind pushing for the action to be performed. Take a dripping tap, for example. We perceive it and now the memory of it has been created. We know we should turn it off but we consciously ignore it. The subconscious mind then reads the memory, knows what action should be performed, and attempts to push it through. Since it isn't actually a reflex, we can't be forced to automatically do it, so it loops – read, push, read, push, read, push – until we either do it or become distracted by something else. Compulsions may not do so by force, but significantly impair a person's free will.

The Senary System – The Master List

The last of the six systems isn't a functional system at all, but is one which serves a different purpose.

The master list is nothing more than an index of all the objects we have stored and how we value them. Unlike the primary value system, this is defined by neural connections between engrams and the parts of the brain they stimulate, not formed by them. Rather, this information is itself stored in engrams and used by the final system for one sole purpose – keeping us up to date on what we know and how we value it, without the need to constantly search through our entire data bank.

Have you ever wondered how, sometimes, someone can ask you a question such as, "Have you ever heard of X?" and you can immediately say yes or no? You didn't need to think about it and you didn't actually need to think of a relative memory, the answer was just there. This list is how we know what we know. In absence of the list, we wouldn't be able to say "I feel like having this right now" without first performing a significant search through all the actual memories we have, compiling a temporary list of all objects and how we value them, whittling the list down based on current requirement(s), prioritising what's left, and then analysing, reasoning, and reaching a conclusion for a final one. Every... Single... Time. True, there are times when we appear to do this anyway, but that's because we are too bloody indecisive when faced with choice.

The way I see it working, the hippocampus writes the list as it creates engrams of compilation memory. It's the most efficient and accurate way for said list to be updated accordingly, since the hippocampus has to process what happens during an event – specifically, in this case, the objects perceived and how they made us feel. Where the engrams for said list are stored is either in the hippocampus or the part of the brain responsible for decision making – it's hard to say which with a high degree of certainty, but, following theory, my money would be on the decision-making area. Again, it would make the most sense – decision-making neurons wouldn't be reliant upon hippocampic memorial neurons for their own operation, and wouldn't need to waste time requesting data and waiting for a response before the actual process of doing something could even begin.

The Final System – "You"

So, "You". Where it all begins. Where the final decisions are made.

- "You" is the commander-in-chief of the MCS; the conscious mind.

- "You" controls the focus of your internal and external perceptions that you are aware of which start all of our conscious processes.
- "You" controls all aspects of thinking that result in a manual decision.

"You" is the part of *You* that makes it possible to determine that an entity has consciousness. It's the **manual decision making system** of our conscious mind, and it uses all the memories we have stored, and all of the mental tools available, to navigate through life.

The funny thing is that, if you were to lose your conscious mind right now, you would still be the same person, except you would operate in a zombie-like manner, exactly like when someone is sleepwalking. The ACS – the subconscious mind – would still use the same master list to make decisions not relative to keeping your body functioning, the same memorial neurons that store what we know, and the same signal paths that make us act and react. Ultimately, we would sense what was happening around us, and would react to what was happening around us, but would have no way of preventing reactions to stimuli, no way of knowing why we chose to do whatever it was we did, and no way of doing anything other than what is relative to the happenings within your immediate vicinity. You will be very much like a robot at that point.

The ARI-1 Principle

This is – singlehandedly – the most crucial factor in determining consciousness. *The defining principle.*

The **A**ppearance of **R**andomness for **I**ndividuality. Even with consciousness, this principle is what prevents us from still seeming robotic, and puts the 'personal' in 'personal values'. Solely relating to the value system (because it is the primary basis for behaviour), the distribution of objects is the major player in what makes us individuals, whereas, with machines, objects are usually set and fixed, so all instances of a software give the same reaction all the time. It's usually made worse by having all instances run off the same master platform, hence why multiple people can ask a digital assistant on different devices the same question, and assistants from the same company repeat the same answers. *Humans and call centres – same thing.*

I know some will be wondering why 'Appearance' is a term used in the principle name, and it's because if you lined up the object tables of any number of people, they would appear to be random in comparison to each other. It can be explained better using maths:

Imagine a grid. The top row has ten values. The left column has ten ranks. Pretty much this:

	V	V	V	V	V	V	V	V	V	V
R	O1	O11	O21	O31	O41	O51	O61	O71	O81	O91
R	O2	O12	O22	O32	O42	O52	O62	O72	O82	O92
R	O3	O13	O23	O33	O43	O53	O63	O73	O83	O93
R	O4	O14	O24	O34	O44	O54	O64	O74	O84	O94
R	O5	O15	O25	O35	O45	O55	O65	O75	O85	O95
R	O6	O16	O26	O36	O46	O56	O66	O76	O86	O96
R	O7	O17	O27	O37	O47	O57	O67	O77	O87	O97
R	O8	O18	O28	O38	O48	O58	O68	O78	O88	O98
R	O9	O19	O29	O39	O49	O59	O69	O79	O89	O99
R	O10	O20	O30	O40	O50	O60	O70	O80	O90	O100

One hundred objects are distributed, with one object per position. The positioning of an object matters and any object can only be used once. How many unique grid permutations are there? (*If this is wrong, I pass blame to mathsisfun.com*)

The short answer: 9.3326215443e+157

To write it out in full:

93,326,215,443,944,152,681,699,238,856,266,700,490,715,968,264,381,621,468,592,963,89
5,217,599,993,229,915,608,941,463,976,156,518,286,253,697,920,827,223,758,251,185,210
,916,864,000,000,000,000,000,000,000,000

Yea, so, that number is just a *little* bit more than the number of people in existence... ever, to say the least. Now, to attempt to get an accurate measure of the number of unique permutations for humans, we would have to account for more, such as:

- There are more than 100 objects we can perceive, store and arrange;
- A single object is able to have more than one value association;
- Any grid section can have multiple objects;
- Any grid section can have no objects;
- Different people would have observed different objects; and
- Different people would have observed a different number of objects;

What is the exact number of possible permutations for mankind? Okay, ballpark? Fair enough, just throw out a random figure. That's right, *you're not even close*. I doubt any computer currently in existence can calculate the answer. The most accurate answer anyone could possibly give is *infinity*,

though, technically, you *could* work out an answer if you have a list of all the objects possible to be perceived and absolutely nothing to do in life. I'm sure it's possible to write an equation for this, too, but I'll leave that to the maths gurus because I do not have a clue. To put it into perspective, think of it like this:

- Current number of people on earth is approximately 7.6 billion.
- In a grid of 13 positions and 13 objects to be placed, there are 6.2 billion permutations.
- In a grid of 14 positions and 14 objects to be placed, there are 87.2 billion permutations.

It would only take **fourteen objects** to establish the ARI-1 principle for humanity as it currently stands. The human race could double every year for the next three years before we would need object fifteen to maintain this principle all the way through year four.

The significance of the term "Appearance" comes from the fact that, even if we were able to map and compare the object tables of all living humans, we wouldn't be able to determine for certain that it wasn't random if we didn't know how humans acquired and sorted objects. We can take into account objects of set position that come from society trying to instil morals and ethics in people, and what we instinctively know as humans – so those that have actually been placed for us – but the remaining objects would still be distributed in such a way that, to those none the wiser, a significant degree of randomness would appear to be the case. Realistically, there wouldn't be any discernible pattern – no consecutive format, average, correlation (even if we declared noise, it would be deafening) and so on. At best, some could say, "A to F appear to be set, while G to Z appear to be random," or, in other words, that it isn't *completely* random. The data we would have to work with would still be a drop in the ocean of all the possibilities, and, given that any permutation is technically possible with the human mind – regardless of probability – no definitive pattern could be found – well, not unless you allow poor sampling methods that so very often lead to biased results. Still, this is all predicated on us being able to see object tables, and since we can't actually do this, even if some people weren't unique, how would we find two who are exactly the same in a sea of seven billion (and counting), without being able to list and compare for exact matches?

The only reason we know it isn't random distribution is because we are aware of how we acquire new objects and associate them, even if we don't always know when the process is actually happening. Individuality in a species is an illusion created by major possibility and minor actuality, and as long as there are enough objects being distributed between enough values, the facade can be maintained. However, as the quantity of a species increases without the addition of new objects, the cracks in the facade will begin to show like a creeping hairline fracture in a piece of glass, and if it is

possible to ever reach a time where the quantity of a species exceeds the number of permutations by, say a minimum of 10% – though it is very, very, *very* unlikely – that illusion is going to shatter like a tempered glass coffee table being used as a dance platform by someone with poor equilibrium. Still, it's easily solved – add more objects, create more permutations. Even a single new object would have an incredible result.

The ARI-2 Principle

There are some things which – for now, at least – *are* seemingly random, leading us to the second ARI principle – **A**ctual **R**andomness for **I**ndividuality. Some examples:

- **Neural Wiring** – When we are born, there's no neural map being followed that controls the *exact* connection pattern nerves and neurons must follow, which is why we are all different from birth. At best, there's a basic requirements layout followed to operate like a modern-day human – nothing more. This is also proven by the fact people have different numbers of neurons in the brain, meaning it's not possible to have exactly the same neural map.
- **Neuronal Performance** – This controls everything from how intellectual we are to how skilled we are (or are not), how good a memory we have, and how quickly our reflexive responses are. There's currently no proven theory as to how the potential of neurons is decided since these aren't inheritable traits – at least from what we've seen to date, so one can only assume it's random development, or, you know, **insert astrology joke here**.
- **Sensitivity** – Some people never change; some people change all the time; some people are set in some ways; some people are so lost in a facade that they don't know if it's the facade or them that's actually changing. Most of the time, people don't notice themselves changing until after the fact, and can rarely, if ever, predict the change in themselves, let alone others, because everyone has a different Acceptable Frequency Range (tolerance) for different things. Determining someone's sensitivities can only be done through observation at this point, so good to luck to anyone attempting to find any sort of pattern.

WORKINGS OF THE MIND: PART 2

Personalities and Disorders

What makes a personality? Simple – the values of objects and how we choose to react to them. The rest of the W system does affect who you are, but the primary and secondary systems are the core. Since I won't always be specifying any object positions here, I won't repeat the object table unless necessary – you can just imagine the same one previously used when need be. Reactions, however, do differ throughout, so I'll be displaying differences in such tables. Here's an example of what a *normal* mind's reaction table could look like, where the baseline for an emotionless state is normal behaviour and 50% productivity:

	Happy	Angry	Sad	Bored	Fear
0	P: 50% B: Normal				
1	P: 60% B: Content	P: 44% B: Annoyed	P: 40% B: Blue	P: 42% B: Lazy	P: 40% B: Nervous
2	P: 70% B: Captivated	P: 38% B: Frustrated	P: 30% B: Pessimistic	P: 34% B: Uninterested	P: 30% B: Anxious
3	P: 80% B: Excited	P: 32% B: Infuriated	P: 20% B: Distressed	P: 26% B: Discontent	P: 20% B: Panic
4	P: 90% B: Elated	P: 26% B: Hostile	P: 10% B: Depressed	P: 18% B: Sloth	P: 10% B: Hysteria
5	P: 100% B: Intoxicated	P: 20% B: Rage	P: 0% B: Breakdown	P: 10% B: Erratic	P: 0% B: Petrified

This is the type of thing we are used to – clear, concise, gradual – and when reactions to emotional states differ, we say the wiring is wrong. Because normal minds are so boring, let's take a look at examples of how the systems of those a little "different" could look – especially those whose disorders make particularly interesting use of the other systems. Use the colour indication system of normal people to gauge and understand temperament of the types that follow.

Psychopathy – How can the tables of people so interesting appear so bland? Psychopaths have emotions but lack emotional reactions, so, regardless of their state, they *always* appear normal, whatever normal is for an individual in question.

	Happy	Angry	Sad	Bored	Fear
0	P: Indeterminate B: Normal				
1	P: Indeterminate B: Normal	P: Indeterminate B: Indeterminate	P: Indeterminate B: Normal	P: Indeterminate B: Normal	P: Indeterminate B: Normal
2					
3					
4		P: 100% B: Obsession – Singular Focus			
5					

That table really made me laugh. Just look at how colourful they are. As you can see, emotional reactions really aren't their forte, and their productivity levels are almost entirely indeterminate. Why? Because, without emotions influencing behaviour, they can be as productive as they choose. The only guarantee is that, beyond a certain anger rank, something will become the subject of their obsession. Read into that as you wish.

Sociopathy – Right off the bat exists a conditional with sociopaths that determine their reaction system, based on whether or not an emotional bond is concerned.

Inclusive of an emotional bond:

	Happy	Angry	Sad	Bored	Fear
0	P: Indeterminate B: Normal				
1	P: 70% B: Captivated	P: 60% B: Annoyed	P: 30% B: Pessimistic	P: 60% B: Discontent	P: 40% B: Nervous
2		P: 70% B: Frustrated		P: 70% B: Discontent	P: 30% B: Anxious
3		P: 80% B: Infuriated		P: 80% B: Discontent	P: 20% B: Panic
4	P: 100% B: Obsessed	P: 90% B: Hostile	P: 90% B: Discontent		
5		P: 100% B: Rage – Singular Focus	P: 100% B: Discontent		

So, what is notable here? When an emotional bond exists:

- In some areas, there is much less of a steady increase in temperament and behaviour than in normal people.
- When experiencing boredom, they become more productive in an attempt to cure it.
- They do the stages of anger as well as a normal person. Take that as you will.

Exclusive of an emotional bond:

	Happy	Angry	Sad	Bored	Fear
0	P: Indeterminate B: Normal				
1	P: 60% B: Content	P: Indeterminate B: Normal	P: Indeterminate B: Normal	P: Indeterminate B: Discontent	P: 40% B: Nervous
2		P: Indeterminate B: Annoyed	P: Indeterminate B: Normal		P: 30% B: Anxious
3	P: 70% B: Captivated	P: Indeterminate B: Hostile			P: 20% B: Panic
4		P: 100% B: Rage – Singular Focus			
5	P: 80% B: Excited				

With no emotional bond, sociopaths begin to resemble psychopaths with indeterminate productivity and normal behaviour throughout the ranks in some areas, making it very difficult to assess the current state. They also have lesser maximums in many areas compared to normal people.

There's one primary conditional sociopaths have when no emotional bond is present that psychopaths do not, due to the lack of need – suppression. To put it simply, when a sociopath reaches a rank equal to X or higher, they can reduce the rank to X or lower. It's not instant or preventative, but is within their control, which is why their state can fall as quickly as it is raised.

Dissociative Identity Disorder – Better known as Multiple Personality Disorder. Much like sociopathy, a conditional is immediately in place, but first I'll explain the object tables.

	Personality 1				
	Happy	Anger	Sad	Bored	Fear
1	Object A	Object B	Object C	Object D	Object E
2	Object F	Object G	Object H	Object I	Object J
3	Object K	Object L	Object M	Object N	Object O
4	Object P	Object Q	Object R	Object S	Object T
5	Object U	Object V	Object W	Object X	Object Y

	Personality 2				
	Happy	Anger	Sad	Bored	Fear
1	Object Q	Object W	Object E	Object R	Object T
2	Object Y	Object U	Object I	Object O	Object P
3	Object A	Object S	Object D	Object F	Object G
4	Object H	Object J	Object K	Object L	Object X
5	Object C	Object V	Object B	Object N	Object M

As you can see, the object tables for both personalities contain the same objects, but they are arranged differently, which is what makes each one distinct. We only have one brain, so each engram is going to have multiple values – one for each personality. Now, the conditional here is the trigger which indicates when to switch personality, and, sometimes, which personality to switch to. It can literally be anything – time of day, object encounter, a situation. With DID, the reaction system can display any which way possible. There may also be multiple reaction systems – one per personality or multiple personalities to a single reaction system. Mix and match 'til your heart's content.

Schizophrenia – Unlike those listed above, schizophrenia doesn't primarily rely on the value or reaction system. What happens here is the subconscious mind has been able to establish a level of dominance that it shouldn't have, creating a conflict in both perception and decision. The hearing of voices comes from the subconscious mind controlling the Broca and Wernicke areas, formulating sentences, and feeding them to the auditory cortices without permission. Hallucinations come from the subconscious mind commandeering the visual cortices to create visions. The other disorders that can stem from this – anxiety, depression etc – are caused by the existing conflict, like when

overbearing parents keep telling a child what to do instead of letting them handle things their own way. One can't really be surprised.

There are other value groups I could have chosen besides emotion, such as one including humour and embarrassment, but I wanted to illustrate something about the mind. You see, there's a difference between an emotional reaction and a reaction made because of an emotion. Emotions are absolute – happy is happy, sad is sad, angry is angry – but the roads to and from the emotions are relative. What leads one person to happiness isn't always what leads another to it, and this is apparent in everyone, so why are the roads leading from it expected (or wanted by society) to be the same? *Normal* people cry when they reach a deep level of sadness, smile when happy, explode when angry – these are all the same road – but, given the number of possible permutations, we should know and accept that other roads exist, even roads where no reaction can be perceived at all. Many people believe that psychopaths don't have emotions, but that's just untrue, otherwise they would have no reason to do anything. It's not possible for anyone to do anything for no reason unless there is neurological damage. If the action is subconscious then they may not consciously know the reason, but conscious actions are always performed for known reasons. Whether or not a person wishes to disclose said reasons is a different story, and when they don't, it's usually because of embarrassment, fear, deception etc. Psychopaths – and, to an extent, sociopaths – lack emotional reactions, so, regardless of what they know they feel or how something makes them feel, there's little or no change in behaviour. Why? Because the reaction system is what controls signals and chemical releases in the brain that influences the change in behaviour, and the reaction system they each have points down a different road than what *normal* minds would travel. You can see the same on the opposite end of the scale, where you have people that react at the maximum level for minor things, such as people with anger problems wanting to kill someone who stepped on their shoe, or those cry babies who shed tears because their phone battery is low, they aren't within proximity of a charger, and soon they won't be able to share with the internet everything they're about to eat and do and how offended they are that their friend didn't like their photo so they must not be a true friend at all. The scale must cover the full range of extremes from hypo- to hyper-reactions. It's never the reaction system that one should worry about, but the actual base nature of an individual. Psychopaths and sociopaths are often painted as killers, when even more *normal* people are put away for murder. Funny, isn't it, how, as long as you have the appearance of what is considered acceptable, society doesn't create an ill-conceived notion to establish hate or fear? If you ever end up in court arguing for self-defence, sling some tears at a judge and watch as any attempt at suggesting "in cold blood" goes out the window. Scream it was just survival instinct – easy

manslaughter, at worst. You may just be a natural born killer who cries. At the same time, you could absolutely hate yourself for what you've done, but if your reaction system is crippled, learn to pick up soap with your toes.

Also, there's more to the creation of such types and disorders than just the reaction system if one wishes to emulate nature precisely, but that's too much to get into in this paper as there's so much to list and explain for it to make complete sense, and I don't want to start filling in the ideas many people are, no doubt, already getting.

Ideas and Trains of Thought

What, oh what, is an idea if not simply a collection of objects arranged in a specific order to convey a desired meaning? We create ideas all the time for things both minor and major – we certainly don't act on them all, but we create them. Remember, it's the thought that counts.

To form an idea, we first create a collection of objects.

- Object 1
- Object 2
- Object 3
- Object 4
- Object 5

We very often create compound objects here as well, just like when we use our imagination, which end up like this:

- {Object 1, Object 2} <----- Compounded
- Object 3
- Object 4
- Object 5

Then we value objects (compounds as a whole), and create the foundation.

- {Object 1, Object 2}: **+5**
- Object 3: **+7**
- Object 4: **+2**
- Object 5: **+11**
- **IDEA VALUE: +25**

Seem familiar? That's because we use analysis, reason and judgement here, too.

With the basis of the idea created and valued, we then begin a trial-and-error approach to improve it by establishing a *train of thought*. To do so, we first observe the foundation of the idea – this can be done internally or externally, it doesn't matter. Next, we begin to add singular or compound objects to the idea we already have as it currently stands, and then analyse, reason, and judge so that we can create a new value for the idea. Since this isn't the foundation of the idea, however, we now have to analyse and reason in a more complex way than I've previously explained, and this is because we now have to determine whether or not there is a conflict between the added objects and any of the previous objects. A conflict reduces the value of the idea, so we have to remove the new object, replace one or more previous objects with objects which the new object doesn't conflict with, or include the new object regardless. For example, if the added object, Object 6, with an independent value of +5, conflicted with Object 5, with an individual value of +11, creating a -6 difference, any of the following could be the result:

Remove New Object	Include All Objects	Remove Conflicting Object(s)
{Object 1, Object 2}: +5 Object 3: +7 Object 4: +2 Object 5: +11 + Object 6: +6 IDEA VALUE: +25	{Object 1, Object 2}: +5 Object 3: +7 Object 4: +2 Object 5: +11 + Object 6: -6 IDEA VALUE: +19	{Object 1, Object 2}: +5 Object 3: +7 Object 4: +2 Object 5: +11 + Object 6: +5 IDEA VALUE: +19

Questions arise as to which is best to keep, and the answer is *it depends*. On the surface, we aim to increase the value of an idea as much as we can, which may make the first seem best, but the second would be used if both 5 and 6 were required for the final goal, and the third would be used if 6 was necessary while 5 wasn't.

If we wish to add a new object that doesn't cause conflict, we simply throw it in. Then, we repeat this process continuously until we finally reach a point that we declare success, failure, or a dead end, and the train stops moving.

Recent studies have claimed that "the brain subconsciously makes decisions X amount of seconds before we consciously come to know it," in an attempt to support the theory that free will is an illusion – that's wrong. Prior to making conscious decisions and acting on them, what actually happens is that we run the ideas through our heads, creating a train of thought. When the decision is (almost) instant, it's what we call a reflex and is completely controlled by the subconscious mind.

So, why do I think the study is wrong? Well, let's *really* look at what has been said to see why their statements are amazingly flawed:

- The subconscious mind making a decision and then making us consciously act – not possible in such a situation. We can't consciously observe a situation in which we can make a choice, pass the process on to the subconscious mind, and then wait for a response from it so we can consciously act. What would we consciously be doing while we awaited the response? Would we zone out? Completely forget? Anything that we *know* we are thinking about or planning to do is a conscious mind process. If you are a subject in this study, thinking about the decision to be made and what you want to do, you are always thinking consciously. If you forget about the decision to be made and let the subconscious mind handle the decision in the Working Memory, then that's possible, but I question how that would happen when the decision is the sole focus of the subject's entire existence at that point in time. To use a subject that could zone in and out of conscious thought so freely while performing in an experiment of this nature completely skews the result and renders the study invalid.
- What situation would you want to be in where it took between seven and ten seconds for the subconscious mind to make you take action? Remember, this is what we use for survival more than our conscious mind. It keeps our internal processes operating and controls our reflexes. Seven seconds, when a reflex response is required, is an infinite amount of time. Imagine seeing a punch coming towards you and it took seven seconds for reflexes to kick in. You'd be better off attempting to consciously act, otherwise start walking around with a first aid kit. Granted, they say "up to" seven seconds, minimum, and obviously it wouldn't happen every time. That's fair, I'll play. What if it only happened once in every one thousand decisions? You couldn't pinpoint when it would occur. We make more subconscious decisions in any given time than we can ever even realise, and that's one of the major benefits of the mind's mechanism – it generally doesn't interfere with our conscious mind unless necessary. So, one in every thousand times. We would be walking around playing Russian roulette with our lives. I can tell you this – the human race wouldn't have made it this far, if that was the case.
- What about when we make split second decisions? Even if not split second, what about when we consciously react quickly? Seven seconds would not have even passed between the choice being put to us and a decision being made.

I'm making a point here. What I would bet happened in the study is that researchers witnessed something that we can all say we have experienced at least once, which is this. Imagine you are

choosing between two objects in front of you. When we are making a decision, we run through the thinking and train of thought processes. As we home in on a decision, our brains begin to anticipate the required movement for the leading choice, which causes our body to prepare for action.

Sometimes we twitch; sometimes we make a small movement. Think of a time when you were standing with choices in front of you, weighing up which to choose. When you are leaning towards a particular choice, you may have noticed that your arm started to reach out towards what you were thinking about *before* you had actually settled on a choice. You will see the same behaviour at the start of a race before an athlete launches from the starting block, which explains why they sometimes jump the gun and false start. What researchers witnessed was the preparation of movement, not the execution of a decision seven seconds ahead of conscious performance, and it, again is an action for survival. A better example – the children's game "What's the time, Mr Wolf?" You never know when Mr Wolf is going to say it's dinner time and start chasing you, so every time you step forward, your subconscious mind is bracing itself, preparing for when you need to turn and run quickly. Without this preparation of movement, you would have to consciously process Mr Wolf saying dinner time, and then think what to do, and then turn and run – by that time, you've already been caught. The anticipation of movement prepares us for reflexive actions in anticipation of an event – that even could be the starting pistol, Mr Wolf's dinner time, or you settling on a choice. If we consciously decide to change our mind at the very last second, everything the researchers have stated goes flying out the window – how can the subconscious mind have made the choice for us if the conscious mind made a different decision later? You can't state that this could be relative to what I mentioned earlier about the subconscious mind making automatic decisions and the conscious mind then overriding it because, as I said just now, the decisions in these experiments were the sole focus at that time, so the conscious mind was never absent of the situation and off focusing on something else while the subconscious mind was left to handle things. Also, if the subconscious mind operated in such a manner, why would it only do it *some* of the time? Nerve signals apparently travel at 200 mph, we process millions of pieces of information at any one time, and parallel computing is a bog-standard of our brain, yet we live life with up to a ten second delay between decision and action? I don't think so, somehow.

From Habits to Instincts

How do we develop instincts over generations? I found a way to make sense of it.

Part 1 – Humans are creatures of habit, and this is where the process begins. We learn to do something that gives us some sense of satisfaction, a release, or a desirable ability, and we remember it. If the opportunity arises to do it again, we do it again. We keep doing it over and over

until we can't stop. The memory becomes ingrained; it becomes second nature to us – the conscious mind likes to do it and the subconscious mind wants to do it. Neural connections are established and strengthened to increase the efficiency of signal delivery between all relative engram(s) of the ability and the part(s) of the body it relates to.

Part 2 – Neurons. More specifically, the nuclei of neurons, controlling everything the cell can do. In this case, the nucleus having a neuron write new functions and abilities to DNA. When something becomes second nature, neurons of the subconscious mind use data from the engrams to write the code into the DNA of the individual as a function and ability pairing. This is the start of what, I suppose, would be called "first nature implementation".

Part 3 – Every time a woman reproduces, the code – regardless of which parent is the carrier, if not both – has a chance of being passed on to the child. At this point, however, it's not very prevalent. It may only be one or a few lines written into the DNA of a child, meaning it wouldn't initially be dominant in the slightest. So, how is it strengthened? Through observation and performance. Children observe and copy their relatives all the time – hence why people state that, even as babies, children "got that behaviour from their [insert ancestor here]" – and, by doing so, more easily develop the function and ability as their own engrams, helped along by the fact that the code, which is now being used as a basis for development, already exists within them, making them genetically predisposed to it and preventing the need to develop it all from scratch. Through repetition, if the memories reach the point where they again become ingrained, part 2 is repeated, with neurons writing code into the DNA of the individual. Eventually, when the same function has been written to DNA enough times, the gene becomes prominent and the function becomes instinctive. This is seen as redundancy and is used to increase the likelihood that the behaviour is passed on and maintained, should any mutation occur.

Part 4 – Initially, these abilities are only manual function behaviours. To make the transition to automatic function, there needs to be a repeatedly associated use for the behaviour – survival, sexual attraction, portrayal of feeling etc – in specific types of situations so that the brain knows and understands exactly when to execute them. When that has been established and maintained through generations, it becomes the generally associated use, and the subconscious mind can now take control.

The real question in all this is why aren't all abilities passed on as instinctive behaviour? Even without the muscle strength, why don't we attempt to walk as soon as we hightail it out the womb, yet are instantly able to cry?

A system of determination exists within us. Based on the complexity of the behaviour and how easy it would be to replicate, this system decides whether or not it should give you solely the function for the ability or give you both the function and the ability itself. Maybe it's a space-saving feature, designed to exclude anything that can be learned with relative ease, since the brain has a higher storage capacity than DNA – more on that later. Learning to walk is easy, therefore our DNA carries the function and we simply learn the ability as we grow, but, tell me, how exactly would one learn to cry? Why would anyone even know to do it? Let's go back to before we had both abilities. Walking was a more efficient method of transport compared to, say, dragging one's self along the ground, making it a pretty obvious advancement, but secreting liquid from the inner corners of the eyes is a far-from-obvious transition from, say, a sad face. Why not drool from both corners of the mouth to express pain or keep one eye closed while aggressively blinking the other? Both would be much easier behaviours to learn and perform. Whatever the case, someone learned to cry and this system knew it wasn't going to be something so easily replicated, so it instructed the subconscious mind to begin writing the function *and* the ability into DNA.

For anyone about to argue that crying is a reflex, yes, it is, but it is based on a learned behaviour that has adapted as a reflexive response, hence why some people can make themselves cry and others don't cry at all. Absolute reflexes can't be controlled in such a manner – I'm yet to hear of a person who can make their spine tingle on command.

This same system is used to control the abilities we lose. By considering what abilities we rarely or never use, as well as their importance, this system either deletes or deactivates the ability and/or function in our DNA. Getting this right is of the utmost importance – if a function is something we never use and, therefore, do not need, removing it should be okay, but if it's something we rarely use which could still be vital to survival or even basic operation under special circumstances, removing it could be disastrous. Two examples of this concern near-death experiences:

- The first is the immense release of adrenaline that can be experienced, allowing us to think and act with speed and strength we just don't see in our everyday lives.
- The second is the phenomena of one's life flashing before their eyes – a result of the adrenaline rush – where we make a last ditch attempt at remembering something that could save our lives in that moment. All those memories that were buried? Yeah, not anymore. Adrenaline expedites the retrieval and restoration of those engrams like a sunken treasure trove by a government who wants their cut.

If we lost these abilities, there would be no last ditch attempt at saving ourselves – a feature we may wish to keep, you know, just in case.

As for estimating how long these processes take, your guess is as good as mine. I'm only happy that such a calculation isn't part of my self-written job description.

Knowing Without Thinking...

... or so it may sometimes appear, but the reality is far less mystical. The beauty that is intuition. There are two types of intuition – mental and physical – which pertain to knowledge and external perception, respectively.

Mental intuition is really nothing more than an educated guess processed by the subconscious mind, which is why we are not aware of the thinking process while it is taking place, but are made aware of the result once it is made available for perception. To do so, we:

- Subconsciously perceive a group of objects;
- Compare what has been perceived with information we already know;
- Highlight information within our knowledge memory that best matches the object collection;
- Discard all information that is not relative to the current situation;
- Of the remaining, select the one we think is most likely. This can be determined multiple ways, such as by number of objects or by total value, which is why sometimes, even with intuition, we are left with a multiple choice scenario.

Physical intuition – information, too, processed by the subconscious mind – doesn't require the use of objects in the same manner, but depends on use of our senses combined with a lack of focus. Our eyes and ears usually focus on specific sensory data, but that doesn't stop them from picking up every other sight and sound within our perception range, and it's the data we see and hear that we aren't concentrating on that we have to process subconsciously because we aren't actually aware of it.

Non-traditional touch involves the detection of atmospheric changes against our skin, such as the feeling of pressure and heat. The degree to which someone can make use of this ability depends on their level of sensitivity – the higher the sensitivity, the more impressive it is. Of course, the average human is able to detect changes in temperature as little as a few degrees, which can be used to

perceive things such as attraction or anxiety, and some people's ability to detect changes in air pressure is so sensitive that they can tell when the weather is about to change.

Smell and taste play a minor part because you are always consciously aware of such detections once they hit the receptors, but you may subconsciously pick up on something that isn't a dominant sensation you are experiencing.

Some examples of these in everyday life:

- Knowing when someone is pregnant, but not knowing how because the person hasn't told you, no one else has told you, and the person isn't showing. You may have subconsciously detected a rise in their body temperature, smelt iron on their breath, or noticed a change in their gait. You never exactly know how or why you knew, but your subconscious mind came to that deduction anyway.
- You're walking through your house and something tells you to look up. Oh, there's a spider above your head. Interesting, since you never consciously saw the spider prior to looking up. However, if it was in your peripheral vision, it would have still been picked up by the eyes and processed by the subconscious mind, which then alerted you to its presence. Again, survival instincts. They're amazing.
- Spatial awareness. An upgrade to spatial memory, this is the ability to detect things that we haven't mentally mapped. You know when you get that feeling that someone is present, but you haven't actually seen or heard them? Yea, that phenomenon. This depends on the sensing of atmospheric changes, and shows us just how sensitive our sense of touch actually is. A body is usually warmer than the air around it, so, when you are in a normal room of standard room temperature and a second warm body enters, their heat radiation warms the air around them, and when they are within close enough proximity, your touch receptors will feel the heat increase before it has a chance to dissipate, and you literally feel their presence. For this to not happen, a person's body temperature would have to be in thermal equilibrium with the room. At standard room temperature, they would already be dead. This is also why you sometimes feel as if someone is there when there isn't – a random heat fluctuation.
- Gaze detection. The ability to detect when someone is looking at you. Now is a time where biologists have to work with physicists, looking for any abnormalities in light (photons) reflected/emitted from the eyes and onto someone else. Wavelength, frequency, amplitude, emission pattern – something has to differ between light from the eyes and light from other

sources that tells us when someone is looking at us. My guess is that it's emitted at a very specific frequency that our touch receptors are designed to respond to in a certain way, which would have been a good ability to develop for use when unknowingly being stalked by predators. Given that we can't tell when someone is looking at us from far away, emission from the eyes weakens over distance to the point where it becomes too weak to detect. It's the only logical way I can think of that would allow us to differentiate light from a gaze from the light emitted/reflected from everything else around us.

The Upper Limit

At the time of writing, I know guesses put storage capacity of DNA higher than the capacity of the brain at the lower end (100 terabytes) and more than a quarter of the highest guess (2.5 petabytes), but that just doesn't make sense, and I'm going to explain why, as simply as I can.

Think of it like this: a computer (brain) has multiple connected integrated circuits (neuronal networks), featuring processors (logical neurons) and memory (memorial neurons) which each contain a program that tells it what to do (DNA). Regardless of the fact that any one neuron only does what it's supposed to do, they still contain **all** the code for what *everything* is supposed to do, so, to even have a roundabout base figure of the capacity of the brain, we can either:

- Work out the total maximum storage capacity of a single weight unit of DNA – say, 1 gram – and then multiply that number by the total weight of, at least, every cell nucleus of all 100 billion or so neurons; or
- Work out the storage capacity of a single nucleus and then multiply that by 100 billion.

Let's have some fun with it. I can't find a general/average mass for neurons of the brain, but a large sensory neuron is, according to Washington University, around 1 microgram (one millionth of a gram), so let's just say an average neuron of the brain weighs 10 nanograms (1 nanogram is one thousandth of a microgram) and the nucleus is about one fifth of the weight of the whole neuron. A nucleus is made of both DNA and RNA, so let's half that, meaning the DNA part of a cell is equal to 1 nanogram (one billionth of a gram). In 2012, Harvard researchers stuffed 700 terabytes of data into a single gram of DNA, so, dividing that based on weight, a single nucleus could hold around 700 kilobytes of information, and, with 100 billion of them, the brain would have a base storage of at least 70 petabytes. I'm not saying that's an accurate figure, but it can be seen as a logical one. Now, here's the amazing thing: this is only the space that is already in use from the moment we are born, and it doesn't account for the space we actually use to store memories we create. Given this, I have no idea what the maximum storage capacity of the brain is. Theoretically, there has to be a

maximum because the brain is of a finite physical size, but based on how efficiently memories are stored – using objects and references – I couldn't even make a ballpark estimate of what the upper limit could be. Whatever it is, God bless that compression algorithm.

It's 2017 now, and researchers from Columbia University and the New York Genome Center have stuffed 214 petabytes into a single gram of DNA, which is 305.7 times what Harvard managed. Following that logic, the brain could have a minimum storage capacity of 21.4 exabytes.

The Perception of Time: Part 1

The age-old question of why does time appears to go faster as we age. William James was onto something in 1890 with his thoughts that it was related to memorable moments, but I believe he was examining the wrong end of the process. You see, it's not about what we remember, but about how much attention we pay to time itself, as it passes, versus how much we pay attention to the happenings within our surroundings, which is what we call space.

The first thing to do is explain the concept of Subconscious Filtering. Here are three examples:

1. How many times has your parent or spouse come into the room complaining about something so trivial that you just completely tuned out their voice while still paying attention to whatever you were doing? When you get *really* good at it, you don't even realise they're present – defences on max the moment you sense a disturbance in the force. Ah, good times.
2. How many times have you been watching a film or reading a book when, at some point, it dawns upon you that you haven't been taking anything in for the past X amount of time, and so you go back and pay attention to what you are doing, actually taking in information this time, which you notice seems to make time pass considerably slower than it was before.
3. All you media pirating hooligans who download foreign releases that have hardcoded subtitles would have noticed that, after a short while, you stop noticing that the subtitles are even on screen... *or so I'm led to believe.*

Points 1 and 3 illustrate our subconscious mind filtering out everything we are not interested in perceiving in general, while point 2 shows it filtering out information when we lose focus (stoners will *definitely* understand point two).

Next, I shall introduce you to the Table of Time Perception (ToTP):

	Focus on Time	Focus on Space	Perception of Time
1	Fair	Fair	Normal
2	Yes	Yes	Slow
3	Yes	No	Exact
4	No	Yes	Fast
5	None	None	Indeterminable

What we can see in the above is the speed at which the brain perceives time differs depending on what we pay attention to. Allow me to explain (the numbered points below refer to the corresponding row of the table):

1. This is what would simply appear as a "normal" rate of perception to a person. You acknowledge time and space, but pay no particular attention to either. Nothing interesting to see here, but it is the rate of perception against which all other rates are measured.
2. This is the slowest possible, and it happens because your brain is trying to focus on what is happening as well as the timeframe within which it is happening, making it *too* aware of what is going on. Rather than leaving some things to the subconscious, the conscious mind is trying to do it all itself, resulting in a full work load composed of both time *and* space. There's no multitasking conflict, given that the tasks are of two different natures, allowing the brain to process them simultaneously, but the division of concentration – part of which is on time itself – means that time has to appear dilated for us to be able to focus on both, with a singular mind, in the same moment. This is what can happen when we are bored. We become incredibly aware of the fact that time is passing and that we are either doing nothing or doing something we do not wish to be doing. Since space literally encompasses every single tangible and intangible object in the world that we can perceive, the conscious mind is taking on the work of all forms of physical perception and time itself. This can only be achieved through increased neuronal activity, which sees neurons firing in a majorly overlapping capacity to prevent breaks in processing, and increases the speed at which things are processed, similar to the phenomenon that occurs during an adrenaline rush, where neuron activity increases so that we can outperform our regular selves and time appears to slow. Different premise, same result.
3. Have a seat. Watch a clock tick. Second by second goes by. It is mind-numbingly dull, and, at the same time, seems slow, right? Relative to our normal rate of perception, it is, but relative to time itself, it is **exact**, and ever more exacting the harder you focus.

4. This is the one we all prefer. Such focus on space that time simply slips away. Having fun seems to be the easiest way to achieve this.
5. Last but not least, no focus on either. This is what happens when we are asleep and the conscious mind is shut down. We have a weakened perception of time when sleeping, which is why we can imagine being asleep for hours when only five minutes have passed, or a quick-seeming sleep may have lasted much longer than the recommended duration for your age group. The conscious mind, not being active, has no external stimuli in space by which to help measure anything that is happening in time, leaving the subconscious mind to its own devices, and, without the conscious mind in partnership, it can have trouble keeping track to a useful degree of accuracy, though not always, which is why you can sometimes wake up almost bang on time, a minute or two before your alarm ruins your slumber. I would also suspect that this is why, at times, we wake up in intervals and immediately feel the need to look at a clock, as a way for our subconscious mind to calibrate itself and get a measure of time remaining before heading back to sleep. As for why this happens, it's a result of sensory deprivation. When one of our senses – sight, in this case – isn't getting the information it needs, reality becomes distorted, which is exactly why extreme solitary confinement in an environment with very low/no light is a punishment. For the time you sleep, the brain may only lose track of space and time temporarily, but, over extensive amounts of time, the effects can be devastating.

In fact, the subconscious mind is severely hampered with all external perception when the conscious mind is inactive because of the perception of time and space, as it picks up the one that the conscious mind isn't focusing on, but still requires the conscious mind to help measure the degree of one against the other. Here's an experiment and some pictures to help better explain. Let's get started:

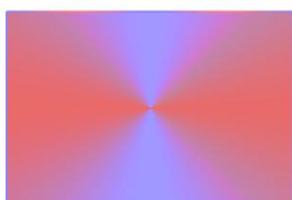
- Open Photoshop.
- Create three canvases that are slightly smaller than twice the scale of your screen's resolution, and set the zoom to 50%. Each canvas is **Space**. Here's a table to help any who may need it:

Screen Resolution (W x H)		Canvas Size (W x H)	
1920	1080	3740	2104
1280	1024	2460	1968
1440	900	2780	1738

1366	768	2632	1481
1280	800	2460	1538

- On the first canvas, throw on some images of things that you either hate or find extremely dull, with some overlapping and others with space between them.
- On the second canvas, throw on some images of things that you love, again with some overlapping and others with space between them.
- On the third canvas, randomly insert a picture of a donkey.
- The window itself is **Time**.
- Go into full screen mode (no menus) and ensure the whole canvas is as centered within the screen as you can make it. At 50% scale, it will all be visible without a need to scroll.

Row 1 – Initial View, Any Canvas



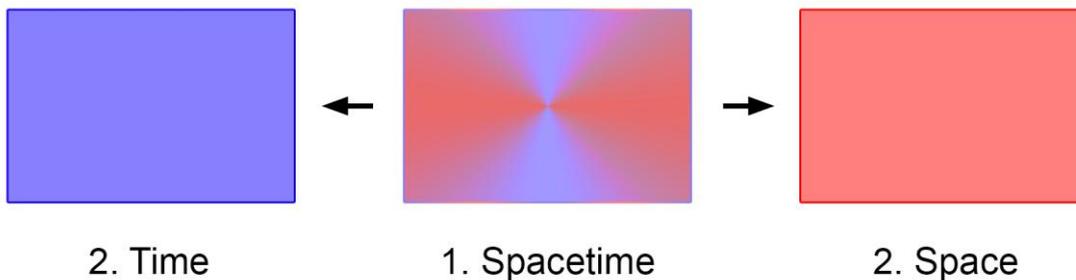
1. Spacetime (Fun Version)



1. Spacetime (Boring Version)

This is spacetime as we generally perceive it, working in harmony, representing row 1 of the ToTP. On the left (fun version), you see how they seamlessly intertwine in reality, but on the right (boring version), it's what it will look like as given in the example above, where the canvas of space (red rectangle) is within the window of time (blue border). This is made easy by the fact that both the conscious and subconscious minds run together simultaneously.

Row 2 – Canvas 1



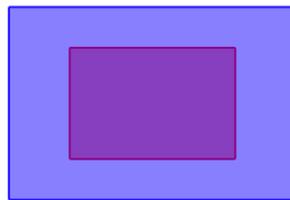
- Zoom into the canvas twice so that it is now at 100%.

- Move the canvas around, slowly, using the hand tool until you have seen all the images at full scale.

This is the transition from row 1 to row 2 of the ToTP. The conscious mind takes on the perceptions of both space and time, meaning the perception of spacetime is essentially split so we can consciously focus on both, like taking two objects that you are focusing on with both eyes, separating them, and then trying to focus on each object with one individual eye – the unity is destroyed, and, to be able to do so, your brain has to work harder. In the experiment, it would be akin to focusing on the canvas and the window separately, but since we can't split them, I have a better way to explain.

Zooming into the canvas represented your increased focus on space. When having done so and you begun slowly shifting the canvas around, looking at images you do not wish to view, your conscious mind focused on both space and time. How can you be sure? Well, you started to realise just how long it was taking to go through the entire canvas while still focusing on the canvas itself. It's that simple.

Row 3 – Any Canvas



3. Time Focus

- Zoom out of a canvas as far as you can.

The focus on time. This is represented by the zooming out of the canvas, indicating your declining focus on space, and it's very simple to understand. The smaller the canvas gets, the more you notice and appreciate the actual size of the window itself, the same way you notice how long a second, minute, or hour really is if you focus on a clock for that period of time.

Row 4 – Canvas 2**4. Space Focus**

- Zoom into the canvas twice so that it is now at 100%.
- Move the canvas around, slowly, using the hand tool until you have seen all the images at full scale.

The focus on space, represented by zooming in on the canvas. When the canvas is enlarged and you are navigating around the screen, looking at a bunch of images you love in greater detail, you don't focus on how much longer it's going to take you to see all the images, but on how much you are enjoying the images themselves.

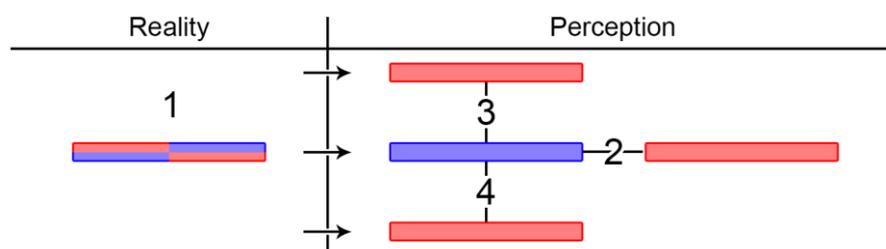
Row 5 – Canvas 3

- Move cursor to the top corner of the screen so it is out of view.
- Look at the position of the donkey and try to commit it to memory.
- Close your eyes.
- Now, pin the cursor on the donkey.

When not consciously observing, the subconscious mind can only do its best to keep track of time (and space, in fact – try walking around in the dark when you're half asleep), using what it knows. Even the conscious mind can't accurately keep track – when you count seconds without a clock, how accurate are you? Not even "1 Mississippi, 2 Mississippi" will continue to provide accurate timing over long durations (if it even starts out that way).

For all 5 of these scenarios, do a neurological psychology test with participants who don't know why they're doing what they're doing. It seems obvious when you think about it, but doing the actual tests will yield valuable information about the mapping of neuronal circuits in the brain. For even more accuracy, create a program that automatically moves the canvases around, just to ensure that each user spends the same amount of time viewing the canvas in each experiment, and then see how different it actually felt for them.

The Four Dimensions



In the diagram above, you can see how spacetime is split depending on the focus of space compared to the focus of time. As a happy coincidence for me, since this was not something I planned, when mapped out, it also perfectly represents the dimensions of the universe – one of time and three of space. The bars for space and time represent the changing relative positions of each element of spacetime, in each of the given cases, based on how it is being perceived – as a rule, whichever is in front (assuming you are facing down the table) is being perceived by the conscious mind. I should mention that spacetime is never actually split, not even in the second case; space and time are just focused on equally by the conscious mind, hence them being horizontally inline, but separated.

As for why only one position of time exists, I'll explain that in Part 2 of this section, which you should skip to immediately (page 380) if you have no interest in reading over 200 pages of physics. The next section isn't important to consciousness per se, but it's relative in certain aspects, and conveys something very important that will be understood in Part 2. However, it's not required reading to understanding all of this, nor the AI sections.

Also, before attempting to comment on any of the physics, make sure you read the entire section. Yes, I will go over some things already known because I'm explaining an entire framework, but remember this: prior to reaching this point, you were convinced that consciousness was to do with awareness, so, rather than now assuming that Relativity is and has been proved true, just stick with it, and then I'll be glad to entertain any and all comments, as long as they don't require an answer already covered within. Don't worry, there isn't any flat earth bullshit in there.

THE THREE ABSOLUTE CONSTANTS

There are three absolute constants in this world that create the universe, and, if even one was to be removed, existence would cease to be, as they are all interdependent. The first two are what we have been speaking of – space and time – and we know that these exist relatively because we can move the same objects at different speeds, but, despite what many have argued against over the years, both these do have absolute versions, and, to understand it, we have to take into account the missing constant – light.

The Three Constants

The First Absolute Constant – Light: The overlooked constant when speaking of spacetime. Light can only exist because of the existence of space and time, and it does repay the favour. To understand the others, we have to look at the most important properties of light – it moves without the need of force, it does so at a constant speed in a vacuum, and it can *never* stop moving if unimpeded. Now, with the tools available in the world of physics today, we have been able to precisely determine the speed at which light travels in a vacuum – 186,282 miles per second. Combine this with the fact that light moves naturally and we now have an exact basis for the second and third constants.

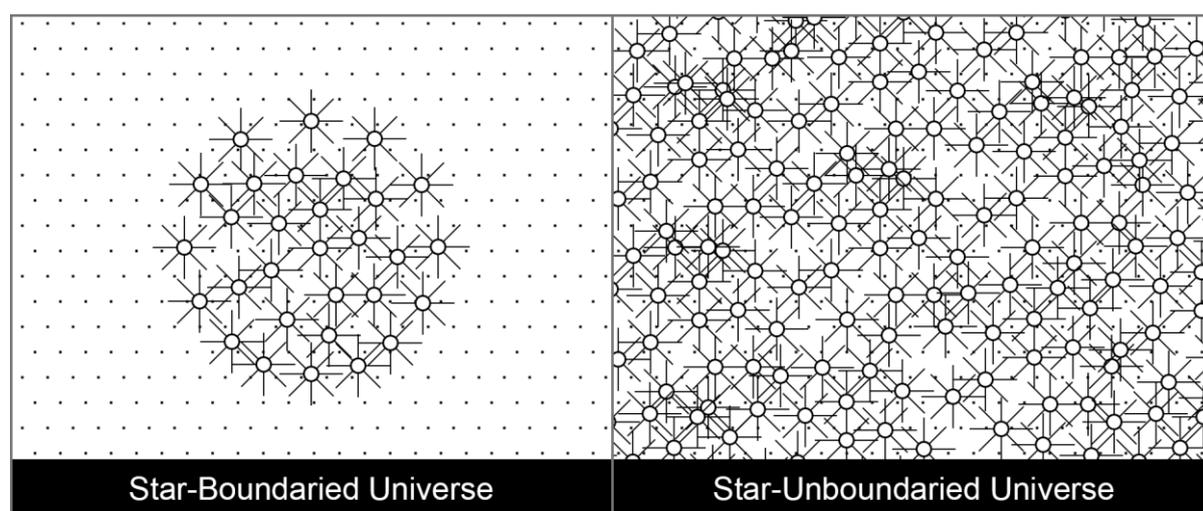
The Second Absolute Constant – Space: The Expansion of universe – okay, so the universe isn't really expanding, despite what anyone tells you, as for something to expand, there must be both a boundary and an area outside it, meaning the universe as we know it would:

- Actually be suspended within matter, leading to the argument of what that matter is then suspended in;
- Have a boundary defined by matter, in the same way a galaxy is, which then had other planets, satellites, stars etc continuously being added to it; or
- Be growing to cover a larger capacity of space.

Unfortunately for those who argue that it is, the universe being defined as "the whole of time and space and all of its contents" really puts a bullet through the heart of that theory, and until some sort of empirical evidence is provided to show the "walls of the universe" (*let's be honest, that may just be the least possible and probably thing... in the universe*), the whole notion is garbage, and goes hand in hand with the fallacy that the universe can expand at an infinite rate.

What could then be said to be happening when space appears to be expanding is actually the

witnessing of the furthest reach of light at any given point, as all anyone can see within the universe are the objects light has enabled us to see. The only way for this to be possible would be if stars worked, in a sense, like candles, and could only produce light once the light from another star hits it. Unfortunately, stars are their own sources of light and are scattered throughout the universe, so it wouldn't be possible for there to be a furthest reach of light at any given point because, for that to happen, there would have to be a point in the universe where no further stars existed beyond, otherwise the lights from different stars would just continue to connect to each other in all directions. I'll explain using diagrams:



In the star-boundaried universe, the light produced by the outer stars will have the further reach, and, because there are no stars beyond them, their light will be what reveals all the other space rocks and whatever else happens to be out there that doesn't produce light. However, no astronomer has ever found a point beyond which no stars exist, meaning we live in a universe with no star boundary – or at least one that no one can ever say exists, yet – meaning light from all stars will simply travel towards other stars, and all of space is actually already illuminated, regardless of whether or not light from any one star, however many light years away, has reached us.

The reason I (seemingly randomly) started with the expansion of the universe is because the absolute space we can refer to can only actually be one of two space-based constants, and if the universe has no barriers or edge, it has to be infinite, which is a constant, making it absolute, given that it cannot change, but it isn't measurable, leaving the only other absolute possibility – the distance light travels within a vacuum in a given duration when no objects of matter are involved.

Don't worry, this isn't my argument to disprove the expansion of the universe. That comes much later.

The Third Absolute Constant – Time: I know some believe time is an illusion, a social construct, a construct of the mind etc, but that is false. We *can* redefine the duration of a second so that it is half of what a second is now, or twice as long, or the current equivalent of 10 minutes – these measurements are a human construct – but the absolute constant of time itself is defined by light, simply because light always takes the exact duration to travel any distance when unimpeded in a vacuum, meaning absolute time is always relative to absolute space, and can only be measured by multiplying what we know as one second to the same degree that the distance light has travelled is compared to the speed at which light travels (in a vacuum).

So, to find the absolute constants of all three, we essentially dissect light in a vacuum. We can name units whatever we want and define units by any measure we please, but any distance covered by light, and the duration within which light covers said distance within a vacuum, are the absolute constants of space and time. In the world today, with our scientific advances and our units of measurement, the speed of light means that the absolute constant of time is 1 second when the absolute constant of space is 186,282 miles. As the following table shows, it doesn't matter at all how relative any civilization makes their clock or calendar, or what anyone measures time in relation to, the figures always equal the same absolute equivalence:

	Degree	Relative Time (Secs)	Relative Space (Mi)	Relative Equivalence (mi/s)	Absolute Equivalence (mi/s)
B	Base	1	186,282	186,282	186,282
1	50%	0.5	93,141	93,141	186,282
2	200%	2	372,564	372,564	186,282
3	10,000%	100	18,628,200	18,628,200	186,282

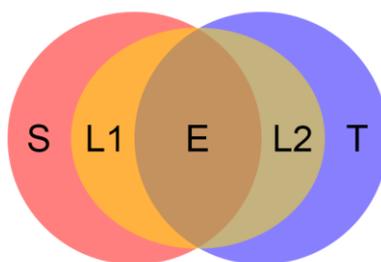
The table above shows both time and space affected by the same degree. Let's see what happens if we used different degrees for each to indicate light travelling at different speeds, based on the current speed of light:

	Time Degree	Relative Time (Secs)	Space Degree	Relative Space (Mi)	Relative Equivalence (Mi/s)	Absolute Equivalence (Mi/s)
B	Base	1	Base	186,282	186,282	186,282
4	20%	0.2	45%	83,827	419,135	419,135
5	5%	0.05	80%	149,026	2,980,520	2,980,520
6	67%	0.67	13%	24,217	36,147	36,147

This proves exactly how and why it is absolute. As the first table shows, any measurement for time and space can be used at any point, but they are all relative to the speed of light in a vacuum, and because no one can change that speed, regardless of how anyone decides to measure space and time, the calculations are all equivalent to the same amount of distance light covers in any given duration. For there to be no possible absolute measure, we would need to have lights that travel at different speeds in the exact same conditions – the same way people run at different speeds, objects fall at different speeds, and planets rotate at different speeds – as shown in the second table, where space and time are different degrees to each other. You can change the duration or the distance over which you measure light, but it all adds up to exactly the same, and it always will until someone finds a type of light that **does not** travel at 186,282 miles per second when unimpeded in a vacuum.

In case there's still any confusion about the above, think of it like this: if we have two of the exact same object in space, we can spin or throw each of them with a different measure of force and they will forever continue to move at different speeds, if unimpeded. Light, however, is always moving in space at the exact same speed when unimpeded, and we have no control over the speed at which it travels as force is not a required input. The two objects only operate relatively because of the existing control factor(s) that allow speed to be altered – light doesn't have any control factors, so it's absolute, meaning the factors of its speed (the distance and the time) are absolute.

Here's a Venn diagram that shows the relationship between space, time, and light:



Space(S) • Space Aspect of Light (L1) • Existence (E) • Time Aspect of Light (L2) • Time (T)

To start off, we have the two circles of space and time, which are required for light to exist. Due to this requirement, the oval for Light cannot go outside the boundaries of either circle. (*I made light an oval because of the significance it has regarding each. A circle would work just as well, but the oval made me feel better.*) The leaf-shaped overlap of all three is where all existence lies. Again, even without light, the overlap would exist, but it would not be possible to perceive or measure either of the remaining two.

Space is needed for light to travel through, and time is required for light to move. Light makes space visible and time measurable. Without light, the universe would be completely dark and completely motionless, and neither time, nor space, could be said to exist. The unity is undeniable, and the removal of any one means all fail and nothing could be said to exist, not least because without light (in the sense of existence) there wouldn't actually be any life to say it. *(I emphasise light in the sense of existence because someone would have started bringing up deep ocean creatures that live where light doesn't reach.)*

Newton was wrong to say that absolute time is imperceptible and could only be understood mathematically; we perceive absolute time at all times, but we only measure it relatively. The passage of time, created by the movement of light, is continuous, and all we have to do is hold up any clock or calendar next to it to see how it is absolute and how all others are relative. Here's an experiment to show you how:

- Get a (very) long tape measure and lay it out flat on the floor. This represents the passage of time.
- Find any self-propelling object that moves at a constant pace and in a straight line. This object represents light.
- Get 3 people:
 - Person 1 is to move for every 15 centimetres the object travels.
 - Person 2 is to move for every 35 centimetres the object travels.
 - Person 3 is to move for every 1 meter the object travels.

Each of these three people shows a relative way to measure against the absolute. The thing is, nowadays, we have global communication technology, so we can synchronise all our timing measurements. Back when time wasn't synchronised across the world, we had many civilisations who could only play by their own rules because they couldn't reach others – that isn't a factor nowadays. Methods of travel were created, human nature took off, empires arose, and unity started to take place. Wars were fought, empires fell, peace was made and, long story short, Coordinated Universal Time (UTC).

All of this also makes me call into question the validity of certain scientific claims that have *apparently* been proven true in the past, and whether or not scientists only considered factors which were needed to prove a claim true.

Beyond this point, we do get into heavy physics – both quantum and classical. I do explain everything in detail, it does culminate at the end, and any simulations will check out, but this is about to be a war on the most current physics beliefs, so brace yourselves. Don't attempt to skip certain parts for any reason. Even if you are thinking that something I'm speaking of has already been well observed, keep reading, because my issues are rarely with the observation, but with the reasoning behind it.

Time Dilation

According to Einstein, time passes at different rates at different altitudes. Interesting. Let's proceed.

Ageing Vs Altitude

This just sounds absurd. Time is absolute, so why would the altitude make someone age differently? This thought experiment – one version of the twin paradox – says that if we took twins, had one living at the top of a mountain and one at the bottom, the one on top would age faster – *incorrect*. The one at the top would *appear* to age faster, but that isn't because time moves faster up there. It is because the person is living in an environment of a lower oxygen content than human cells are optimised for, meaning that what we would actually be witnessing is the degradation of cells happening faster because they aren't getting what they need in as much a quantity as is needed, the same way a person would die faster if they were starved. I'm pretty sure that a person living in an environment much richer in oxygen than humans generally live in now would see even more health benefits to their cells, up until the saturation point where the cells just reject oxygen they do not need. Physics doesn't take precedence over biology here.

Ageing Vs Travelling

Unlike the point above, physicists say you age slower when travelling at higher speeds. Sounds crazy, but it *may* be possible, when interpreted in a semantically correct way, and it's a fun logic puzzle. This thought experiment, illustrated by the first version of the twin paradox, states that if one twin stays on earth while the other twin is sent travelling in a spaceship at near light speed, the travelling twin, once returned to earth, would appear significantly younger than the twin who remained on earth. Okay, let's tackle this:

First off, there are some things to know in order to explain this:

- There is gravity in space, though it is a small amount referred to as microgravity.
- 'Artificial gravity' is created within a container when accelerating.
- Speed and acceleration increase the g-force on an object.

Linear acceleration of the spaceship creates what is said to be a type of artificial gravity, which is simply a pulling effect in the direction opposite of that in which the ship is travelling. Gravity in space will cause the speed of the spaceship to vary depending on its proximity to celestial bodies, meaning that, in order to continuously travel at near light speed, the spaceship will have to be in a constant state of acceleration, which means artificial gravity would constantly be acting upon objects inside. Now, let's put this into some context: it's said that acceleration of a spaceship that was enough to result in the strength of gravity equal to that which we experience on earth – called 1g – would take us from earth to Mars in a few days, max. Light travels from Earth to Mars in just over three minutes, so near light speed could take, say, 5 minutes. If it only took five days to get from Earth to Mars at acceleration equal to 1g, getting from Earth to Mars in five minutes would result in acceleration equal to 1,440g – that's 1,440 times the strength of gravity on earth.

Here's why all this is significant – the degradation of any object is always based on movement:

- Atom decay relies on particles releasing radiation, caused by movements such as collision and oscillation.
- The life of a cell relies on cells changing their physical properties, dividing a maximum of X amount of times depending on the cell type, and receiving signals that contain instructions of what to do at any given time.
- General wear and tear is often caused by the friction created between two surfaces as they move against each other.

Gravitational force, acting on everything with mass, reduces the rate of all movement of any object to some degree. At near light speed, the significant increase in g-force is going to affect the rate of movement of everything subjected to it by an astronomical amount. An object can't degrade if its particles can't move, and if they move slower than normal, they degrade slower than normal. This is the **exact** principle that is the basis of cryogenic preservation. The difference is that freezing atoms can almost, if not completely, halt the movement of particles in atoms if they are subjected to cold enough temperatures, while gravity will never (theoretically) be able to halt particles to such a degree. Therefore, atoms will decay slower at near light speed than they would at any speed attainable here on earth, but will still decay faster than if they were submerged in, say, liquid nitrogen for their entire lifespan. Based on this principle, the effect of the g-force would result in a

younger appearance due to slower particle movement, while still being the same age actual as the twin.

The actual effect of gravity should be taken into consideration at this point, though. While you may physically be much less degraded than your twin counterpart while alive, the force of gravity that would have been applied to you would have killed you way before you ever reached anything near comparable to the speed of light because the human body can't handle anything more than 10g (and that's with training). So, you know, pros and cons.

This experiment would be the equivalent of slowing time for all objects within the spaceship, while the rest of the universe continues at regular speed, but that isn't possible. Therefore, the expected results of this thought experiment could only be realised if the human body, as a complete structure, was able to resist gravity enough to prevent death, deformation, and malfunction, while individual particles still operated at slower speed relative to their operation at 1g. I don't know how this would be achieved, but good luck.

Atomic clocks

These clocks, at different altitudes, run at different speeds. Does this make sense? Yes, completely. Does this come anywhere near proving time dilation, as Einstein thought? Not even in the same realm. In the world of atomic clocks, the National Institute of Standards and Technology (NIST) defines a second as "the duration of 9,192,631,770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium-133 atom." You know what this is? Confirmation bias. Here's why:

Gravity is an incredibly weak force that becomes weaker the higher up you go. For a human, standing on the ground and standing on a plane above the clouds wouldn't create a noticeable difference, but the difference still exists. Is the difference in gravitational strength enough to be noticeable on an atomic level? Evidently, yes, otherwise we would never have been able to confirm it. It's enough to manipulate any atom, and it's the basis for everything that is wrong with the time dilation theory.

All we see now are caesium atoms reacting to different levels of gravitational strength, and using the difference in atomic clock ticks as a "proof" of time dilation would be akin to humans doing the Macarena on land versus in the sea and reacting to the different viscosity (thickness) levels of air and

water – we are going to move much slower in water, with its higher viscosity creating increased resistance, just as the atoms in an atomic clock take longer to move against higher gravitational strengths. As the theory of time dilation currently stands, it would be like saying that a person completing the Macarena on land takes 10 seconds, so them completing it underwater still takes 10 seconds, and that 10 seconds underwater is different to 10 seconds on land, even if the person was at the exact same altitude on land and underwater – which could be done by placing them in a ground-level water tank – because time is affected by the thickness of a fluid through which it passes. If you wish to do such an experiment with an atomic clock, it's simple enough:

- Place two atomic clocks next to each other horizontally. It doesn't matter where they are placed – could be on the earth's surface, could be on the International Space Station.
- Fill one with water so that any chambers involving the atoms used to measure time are submerged.
- Let the clocks run.

We know the water-filled clock is going to run at a different pace without needing to actually do the experiment because it is facing increased resistance due to viscosity, yet this goes completely against the concept of time dilation. If gravity has already warped spacetime and the clocks are equal in altitude, a second should be a second, regardless of any other factors. This is where the understanding of principles comes in. The principle for time dilation is that resistance affects the motion that is defining duration, but if a principle isn't consistent throughout any example, something, somewhere, is wrong. An example of a correct principle is saying light takes a different amount of time to travel through different density transparent mediums. This is correct because it works for ALL transparent mediums. You could then go and measure how long it takes light to travel through each medium. Principles have to be absolute; results are relative to the conditions applied in a given case. With the atoms used to measure time dilation, the results are relative to the resistance the atoms face, so if you put the atom up against difference measures of any type of resistance, the results will differ – even if only by a femtosecond, the clocks will, eventually, run out of sync, regardless of altitude.

The atomic clock experiments done in the past are bogus. Atomic clocks run faster at higher altitudes for one reason – the weaker gravitational strength means the atoms are able to operate faster. This can be applied to any atomic clock:

- For atomic clocks that rely on the travelling of atoms – the fountain clock, for example – weaker gravity means the atoms move against or across gravity faster than they would at lower altitudes where the force is stronger.
- For atomic clocks that rely on the vibration between energy states, atoms, when being excited, take a different duration to change states depending on the gravitational pull.

That is basic physics – the effort required for the physical performance of matter is subject to any physical force that is acting against it. That's why you can jump higher on the moon than you can on earth – the force you are being subjected to (gravity) is weaker, so it takes less effort to jump to an equal height, and when you use the same amount of effort as you would on earth, you jump higher on the moon. That's also why water boils at a lower temperature at the top of a mountain – less pressure is acting upon it due to the thinner air, meaning it requires less heat energy to change from a liquid to a gas. Much less effort is required to run 100 metres on the moon than to do so on earth, and it would take much more to do it in an environment with 100 times the gravitational force of earth than it would to do it on this planet. Less resistance + same energy = increased performance. As an example, if on the surface of the earth gravity's value is 1, and it takes an energy value of 1 to move an atom from point X to point Y in a duration of 1, a weaker gravity of 0.9 at a higher altitude means it would only take 0.9 energy to move the atom to point Y in a duration of 1, but, since the energy being used to move the atom stays the same, an energy value of 1 would move the atom to point Y in a duration of 0.9. Force (gravity) / energy = duration. It's easier to understand in a table format:

Force	/	Energy	=	Duration
1		1		1
0.9		1		0.9
1		0.9		1.111111

See, quicker. In an atomic clock, that difference of 0.1 is going to make a huge difference. If it took a count of 10 atoms reaching point Y for a second to tick off on the surface of the earth, the duration based on atom count will total 10, while at a higher altitude the duration will total 9. That's a duration of 0.1 less to tick off one second, and that's the flaw in atomic clocks and time dilation. You can apply this principle to however the atom is used to measure a second, because the clock has to be based on atomic movement, and all movement of matter is affected by the strength of gravity. It does not matter one iota which atom is used for the time dilation test, only for the accuracy of the atomic clock itself. It's not enough for only the radiation periods to be the same to prove time

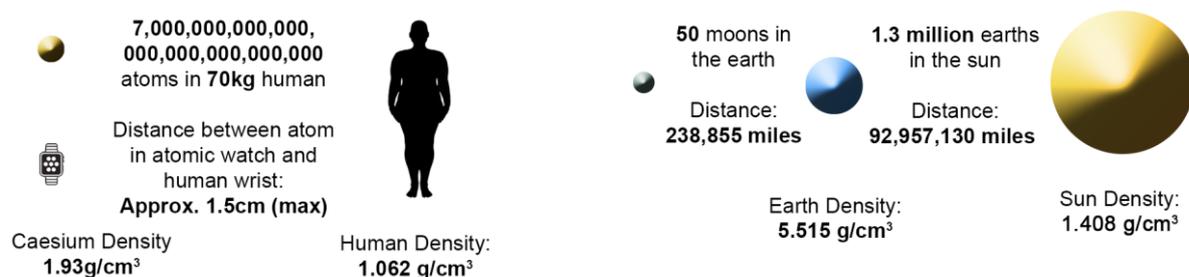
dilation – the actual time it takes for the atom to go from one state to another, or to travel to and fro, must also be exactly the same. I bet that if we measured, from ground-level, the **exact** time it takes for an atom to change state at ground-level and the **exact** time for state change at high altitude, the change of state at the higher altitude would happen faster because of weaker gravity, and this is what is causing the atomic clocks to run faster. Over time, this is going to build up and the time difference between two atomic clocks at different altitudes will only increase – it doesn't matter if there is an altitude difference of one inch, one foot, or ten miles because gravitational pull will differ at the smallest single unit of vertical distance man could ever measure, and the atoms will react accordingly.

What physicists are trying to do is measure distance and duration at different degrees of light each, as I showed you in the second table, which would mean that light travels at different speeds. Problem is that the number 1 rule of physics is that the speed of light is constant. *For anyone wondering why light takes different durations to pass through different materials if the speed of light is constant, imagine it like this: Two cars driving down two different roads of equal length – road 1 is a vacuum and road 2 is a material. On road 1, there are no cars. On road 2 there are cars scattered throughout. These cars represent the atoms of a material. Both cars are travelling at 60mph constantly, never slowing or speeding up. The car on road 1 is going to reach the end before the car on road 2 because the car on road 2 has to spend it's time bobbing and weaving in-between cars, and the more cars it has to dodge, the longer it will take. There's a bit more to it for light, dealing with absorption and other things, but you get the general idea.* So, what this atomic clock experiment means is that scientists are asking for two completely different measures of time, and what it would prove, if actually true, wouldn't be "time dilation", but would be that light, unimpeded, could travel at a speed other than 186,282 mi/s. In fact, it would prove that light can travel at an infinite number of speeds, based on altitude difference to the smallest degree measurable, and that an infinite number of measures of time exist. I look forward to such proof.

None of this proves time dilation. In fact, the very thing that apparently causes time to dilate – gravity – is the thing that disproves all theories of it, because time can't be measured using atoms, given the fact that their movement can be affected by force, meaning they aren't absolute, and scientists are trying to create a relative based on a relative – *not allowed!* Even if there was something to this, using objects that are being affected by gravity would still create incorrect results.

Atomic clocks are probably amazingly precise... at a single specific position, so find a position to set a single master clock and stick with it, otherwise they are useless at their job, even if a second is only lost every 300 billion years.

The Atomic Watch Experiment



Playing by the rules of spacetime, every object exists in space, therefore, every object has gravity, meaning every object in the universe dilates time based on their gravitational pull. If this is true, and technology allowed us to create an atomic watch – let's say, using caesium atoms – every single one of them would be completely useless, and here's why:

- The sun is 1.3 million times the size of earth. A 70 kg adult human is 7,000,000,000,000,000,000,000,000,000 times larger than a single atom.
- The sun is 93 million miles away from the earth. With arms pressed against the sides, the atom would be around 1.5 cm away from the human body
- The sun is almost a quarter as dense as the earth. The human body is almost half as dense as a caesium atom.
- The gravitational pull of the earth can affect a single atom.

Based on this information, a human body should technically create a large enough curve in spacetime to be able to generate a gravitational field strong enough to pull on the atom of the watch. Now, it wouldn't create anywhere near a pull strong enough to disrupt the vertical movement of the atom towards the earth – god no – but it would be significant enough to disrupt the movement horizontally, no matter how small a disruption.

The amount of disruption caused would then depend on the actual size and weight of a human, with heavier people creating a greater disruption. Over X amount of time, even if the watches were held at the exact same altitude above the earth, every watch would tell a different time based on the pull generated by a person. If the varying changes for any one watch was tracked, you could possibly

even be able to approximate how much weight the wearer had gained/lost and over what period of time.

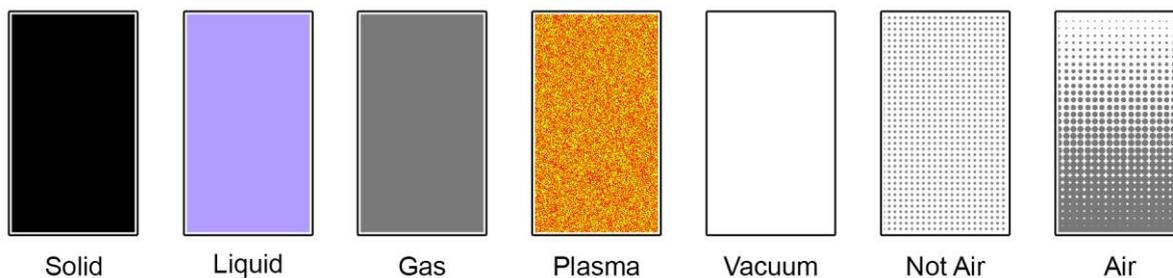
The question then becomes how exactly time would have varied. If time moves faster at altitude, imagine what happens when the arm is moved away from the body and the ground, away from the body but towards the ground, so on and so forth. Timekeeping would be impossible.

One Shift, Two Shift, Red Shift, Blue Shift!

This is where things get fun. In 1959, physicists Robert Pound and Glen A. Rebka Jr. devised an experiment to look for what is known as gravitational redshift and gravitational blueshift, which are fancy ways of saying the wavelength of light increases and decreases, respectively, when light moves away from and towards the source of gravity, respectively. The experiment used a photon emitter at one altitude to send light to a photon detector at a second altitude. When the detector received the photon, the wavelength had changed from the original. A thought experiment was then devised – by Alfred Schild in 1960, if I'm not mistaken – to use this experiment to run two clocks at different altitudes. This was being used as proof that clocks will run at different speeds when at different altitudes, which was something Einstein predicted, and, if true, would definitively prove that spacetime is curved. As you have probably guessed, his predictions were correct! Or that's what everyone thinks, at least. Now, allow me to show you just how wrong everything about both these experiments is, and I'll throw in a bonus experiment, too.

This explanation comes in multiple parts because there is a lot going on.

Part 1 – Shifting: Since none of these experiments were performed within a vacuum (no, none, not one, ever!), we're looking at the movement of light through what is seen as a singular medium (air), whose density changes gradually with every infinitesimally small increase in altitude, in which we cannot see the entrance and exit points. However, air is not a *true* medium. It's not a substance at all. Air is actually just a vacuum filled with enough pressure to not kill us – pressure caused by gases being held in by gravity. To compare true mediums to air, let's imagine we have seven containers that stretch from the surface of the earth to the edge of space, each filled with a single different type of medium:



As you can see, the first six depict uniformity throughout, but only the first five of those are correct. Air is not constant as particle density decreases over altitude. Container seven is, in fact, the correct air container, as the population density of air is higher on the surface than it is at altitude. As for why air density is a gradient, it comes down to a few things – time, circumference, and the weakening strength of gravity over altitude.

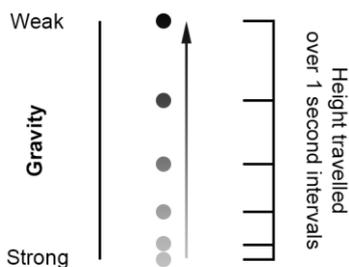
Circumference – Freedom of Space

Pretty simple one – larger circumference, more space to move and be dispersed. If we had two rings around the planet – one on the surface and one at any higher altitude – with an inner edge to outer edge distance of X for them both, there's more space in the ring of higher altitude. If we were to drop the same quantity of particles in each ring and evenly space them out, the particles in the larger ring would each have a lot more room to manoeuvre. This is why atomic ratio is the same even though the density is different.

Gravity and Time – Freedom of Movement

Gravity has a pull on all particles, but the pull weakens over distance, so, the higher a particle is, the more freely it can move.

For particles on the rise, gravity is the "friend" that holds you back, but the further away from them you get, the faster you are able to move. As the particle reaches higher altitudes, the strength of gravity weakens and the particle is able to cover greater heights in any given time than particles of the same energy at lower altitudes, as shown in the following image:



This, too, applies to particles not on any specific path of ascension but those simply bouncing around at particular altitudes – higher altitude, less restriction.

When taking both space and movement into consideration, you can pretty much picture what the invisible world around you looks like.

This gradient is the first key.

Honorary Explanation – Air Pressure

Air pressure is said to play a role in the atmospheric gradient, based on the apparent weight of all air above a given point acting on all air below the same point, but, not only is this not true, it is also not possible, and we can prove this.

There's a principle here that is being ignored – the weight of an object cannot be exerted on another object unless the two objects are in physical contact. When we combine this with the fact that gas particles are not bonded, it becomes impossible for the entirety of air above a point to exert force below the point. For air to exert a downward weight on itself, any gas particles would have to be in constant contact with the particles directly above. Here are some examples for you to better understand it:

- *Our upper body exerts weight on our legs, which is how our legs develop the strength to support our upper body. If our legs were detached from our torso, but the torso was to always hover above the legs, our legs wouldn't actually be supporting anything, as our upper body wouldn't be in contact with them in order to exert any weight onto them.*
- *Are you thinking that, because of air, the weight of the upper body would be exerted on air, which would then be exerted on our legs? Well, you would be wrong. By the same logic, a plane flying overhead should kill us.*
- *Ah, but the plane has forces acting upon it that resists gravity, right? Okay, fair play. Falling objects only. Drop a car above your head from any height and see if the weight has any effect on you before the car actually makes contact with you. All you'll feel prior to contact is particles in the air being pushed against you – not because of the weight of the car, but because of a domino effect, which sees particle A hit particle B, causing particle B to move and hit particle C, and so on and so forth.*
- *Same reason why a scale shows no reading until an object touches it.*

When we look at another type of fluid – liquids – we can see how the comparison disproves the definition. The deeper one travels under water, the greater the pressure is. This makes sense because the liquid particles are always vertically touching, so all weight can be exerted downwards since there is no empty space within which weight can be lost. Air bubbles have no effect as they are the equivalent of rooms in a building – though empty space is contained within, the particles around it are still touching, so the weight is still transferred, the same way the weight of a building will travel through the walls but you, standing in a room, will not feel a thing. If you vertically separate a body of water into two, however, the pressure exerted on the lowest region of the lower body decreases based on how much water the upper body contains. The same goes for particles – if two particles are vertically aligned and touching, the weight of the top particle, under gravity, creates pressure on the bottom particle, but the moment they are separated, they are two individual bodies and the weight of one has zero effect on the other.

Weight cannot travel through empty space because it requires matter-to-matter contact. In any space void of matter exists energy, and energy can create force, but it cannot act as a pathway through which a contact force can travel because a contact force can only act on or through matter. This is why if you had birds flying around inside a container and you weighed the container with and without said birds inside it, the weight shown would not increase by the weight of the birds.

Also, to those thinking gravity and weight is the same thing, as I have seen some people state, they are not, and, before we finish traversing this physics plane, what they actually are becomes abundantly clear.

So, air pressure is actually the force exerted by the number of gas particles immediately surrounding an object, which forces said object to keep its shape when it has a desire to expand, and we can use the classic balloon experiment to prove this:

When we inflate a balloon on the surface of the earth, the gases in the balloon want to expand outwards, so they push against the internal surfaces. However, gases in the air are pushing right back against the external surfaces, collectively forming a resistance barrier that prevents the gases in the balloon from pushing the surfaces of the balloon beyond the point of equalisation, which is based on the pushing strength of the number of particles inside the balloon and the pushing strength of the particles outside the balloon. When the balloon is then raised to a higher altitude, the number of particles in the air decreases, and when there are no longer enough particles in the space around the balloon to equal the push of the particles inside the balloon, the particles inside begin to win the fight, causing the balloon to expand. The reason the balloon doesn't instantly expand as large as it

can and then pop the moment the particles inside create a greater force than the particles outside is because of the increase in surface area, which allows more particles on the outside to simultaneously act on the external surface, increasing the force, while the number of particles on the side and the force created remains the same, but is now spread over a greater internal surface area, creating a new equalisation point.

We shouldn't forget to take into account the temperature variable – hot air is more energetic, meaning gas particles are going to move faster and therefore exert a greater pressure on the side of the balloon on which they are colliding.

Going back to the balloon, it's easy to determine that air pressure isn't about the weight of all air above a given point, and we can do so based on the actual shape of the balloon. Weight, when pushing down on an object such as a balloon, compresses it vertically and causes a horizontal bulge. If air could weigh down on an object, then, as the balloon ascended to altitudes of less pressure, it would become slimmer but elongate vertically, going from short and fat to taller and thinner. What actually happens is the balloon expands in all directions, proving weight has nothing to do with it, and that is has to do with what is happening all around the balloon.

Lastly, we can apply this to the test for the boiling point of water at altitude, where the higher water is, the more the boiling point falls. At higher altitude, there are less atoms pushing against the liquid, so, as it is heated, less energy is required to push back against the air in order to separate into a gas than would be requirement at surface level.

The definition of air pressure is very misleading, and should be corrected. It also has no effect on the gradient of air, but the gradient of air is what changes air pressure.

Now we have to actually examine air. When light is passing through air, air is *not* the medium – the gases are mediums and the vacuum space in between each atom and molecule of gas is a medium. Air is an interwoven cocktail of different mediums which do not actually mix to create a single medium, and it has to be treated as such. This is the second key.

The third and final key lies in the behaviour of light and the fact that air is a mixture of mediums. When entering a new transparent medium, light displays one or two behaviours – 1) it accelerates (either negatively or positively) and 2) it changes direction if entering at an angle that is not perpendicular to the surface of the medium, which is called refraction. So, let's look at the mediums found in air and some of their properties:

Medium	Colour	Refractive Index
Vacuum	Colourless	1.000000
Nitrogen	Colourless	1.000298
Oxygen	Colourless	1.000271
Argon	Colourless	1.000281
Carbon Dioxide	Colourless	1.000449
Water Vapour	Colourless	1.000261
Neon	Colourless	1.000069
Hydrogen	Colourless	1.000132
Helium	Colourless	1.000035
Krypton	Colourless	1.000473
Methane	Colourless	1.000444

As taken from chemicool.com, engineeringtoolbox.com and refractiveindex.info.

The refractive index is a numerical way of explaining light's behaviour through a medium – with a vacuum base of 1, the higher the number, the slower the speed and the greater the change in direction. Air is usually given a single refractive index of around 1.000293, but it is wrong to do so for reasons already mentioned (no actual air molecule).

So, in air, light is jumping between up to eleven transparent mediums (if we exclude all the other trace gases), all with different refractive indices. Since particles in air are not vertically aligned and not all touching, light will engage with many at angles that are not perpendicular, meaning it will continuously show *both* of the aforementioned behaviours. Imagine a sequence like this: *gas – vacuum – gas – gas – gas – vacuum – gas – vacuum – gas – vacuum – gas – gas – vacuum*. You couldn't have two vacuums next to each other because light can't transition from empty space to empty space, since there's only one type of empty space, but gases can be next to each other to show light transitioning from one type of gas to another, and for every transition in that sequence, light is changing direction and accelerating within a space too small for a human to ever witness with the naked eye. As for why we can't view light changing direction in air as much as we can in true mediums, there are two reasons:

1. The refractive indices of the mediums within air are way too small to be perceived on a human scale, and the medium itself is too small to carry light far enough away from its original path for us to actually see that it has changed direction (*if you were to hold a block of glass in the air, we could see light change direction because the glass is big enough for us to see, but we can't see individual particles, so we can't see light change direction in this*

case), but if you shoot a beam of light from the ground, through the air, and are able to determine the *exact* position above that it should hit in a perfectly straight line if shot within a vacuum, you'll see that light doesn't actually hit the mark precisely – it will be off by a measurement that can only really be determined on an atomic scale, if not smaller, but it will be off.

2. The overall curve of light from surface to the edge of space isn't that big at all. The earth's atmosphere is approximately 100 km high, so the entire bend has to fit within that space. Now, 1 km high from the surface of the earth is one percent of the maximum bend. In this particular experiment, for example, the path of light was measured over a height of 22.5 metres, which is equivalent to a bend of 0.0225 percent of the overall curve, so it's going to be completely imperceptible without the use of equipment that allows us to view the world on an atomic scale. Any other time we may attempt to view the path of light – lab experiments or playing with laser beams and smoke, for example – the height over which we view it is usually even smaller, so the degree of the curve is smaller. Human eyes don't stand a chance.

Now, with all this information, we can play ball.

Imagine an emitter on the ground and the detector at high altitude. When redshift is taking place:

- The photons are created on the ground at a specific frequency/wavelength. This is its **natural frequency**.
- The moment it enters air, it does so when the density of mediums is the highest it will be between emitter and detector, since there are many more particles here. Light begins interaction with the mediums. With every interaction, light changes direction and accelerates. This is where a new property comes into play, and it's called the **acceleration frequency**. Acceleration frequency is how often light has to accelerate in a given time frame, and, since light has to accelerate as it enters into every medium, the acceleration frequency in any given space can be roughly calculated as an average like this:

Where d = population density and t = time to cross said distance, either:

$2d/t$, if light enters an even number of mediums in a gas and vacuum alternating sequence; or

$(2d + 1)/t$, if light enters an uneven number of mediums of a gas and vacuum alternating sequence.

This is now the **Base Acceleration Frequency (BAF)** for light.

- For every increase in altitude, the air becomes less dense as there are fewer particles. This means that the higher light travels, the lower the acceleration frequency in a given space is, because there are fewer mediums for it to interact with. We can use the same formulas above to determine the **Current Acceleration Frequency (CAF)**, and then take the CAF away from the BAF to determine the **Difference in Acceleration Frequency (DAF)**.

Anyway, now we can explain the Pound-Rebka experiment. The population density of mediums within air causes light to continuously accelerate and change direction – **mediums are behaviour modifiers**. When there's a linear density gradient with non-uniform distribution of mediums, the acceleration frequency of light over distance changes in one direction – it either increases or decreases – producing a positive or negative DAF, and the DAF becomes a **natural frequency modifier**. Changing the amount of energy in light is how we change its wave type, and, you see, it takes more energy to accelerate more times and less energy to accelerate fewer times in any given time period, so the difference in energy required between the BAF and the CAF modifies the frequency. The changing of wavelength is just an inevitable consequence – when the energy level requirement is decreasing, the frequency gets lower, and the wavelength must get longer. For blueshift, the exact reverse is happening – light travelling towards the ground is travelling into more densely populated air, more mediums, and more interactions, requiring a higher energy level and shorter wavelength. We can use a simple maths example to show this:

	BAF	CAF	DAF	Frequency	Wavelength
Redshift	100	86	-14	Lower	Longer
Blueshift	86	100	+14	Higher	Shorter

I'm willing to bet that if it was a perfect reflective gradient – high density, low density, high density – where the density was exactly the same by numbers (10, 9, 8, 7, 8, 9, 10), the frequency and wavelength of light could be made exactly the same at the end as it was at the beginning. Or, we could do this in a vacuum – the BAF and CAF will be the same, meaning the DAF is 0 and no change would be experienced, regardless of gravity.

As usual, the hidden factor here is time. Light can't and won't instantly change energy levels – nothing can – so there has to be a smooth transition for shifting to occur. Going directly from an environment of one population density to that of one significantly different won't instantly change the wavelength of light to match. An adjustment period is needed – no idea how to calculate it – but, given the speed of light, and the Pound-Rebka experiment, it probably isn't even time that is the

issue. We could probably notice shifting with ease over a period of, say, 10 seconds, but to even be able to measure the frequency of light after 10 seconds in general, we would need to be in a position where we are able to receive a light beam 1,862,820 miles away based on a vacuum, or relatively few thousand miles less if travelling through air. To put that into perspective, the diameter of the earth is 7.9 thousand miles, so, for beams that aren't gamma rays, as used in the Pound-Rebka experiment, if we managed to shoot them straight through the center of the earth, directly from one side of the planet to the exact opposite position, the energy difference would still likely be difficult to measure. To measure light after 10 seconds, we would need to shoot it through the centers of between 233 (approx) and 236 earths, lined up side by side, and then have to hope that the light isn't refracted into a wall or something if vacuum conditions aren't used.

We can actually test this theory using transparent gas containers:

G	G - 1x	G - 2x	G - 3x	G - 4x	G - 5x	G - 6x	G - 7x	G - 8x	G - 9x
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In each section above, the formula calculates the population density of gas per container. As you can see, it decreases from left to right. It doesn't have to be precise, given that we can't count individual gas atoms, but using obvious volume differences of gases, which can be more accurately determined by first compressing the gas as much as possible, will give us what we need. The walls of glass dividing each section should, ideally, be as thin as possible, so the population of their atoms interfere with the light as little as possible. To more accurately represent the atmospheric gradient created by gravity, there should be as many chambers as possible over a given distance, with each wide enough for the population density to be noticed by a light beam. All chambers should be a vacuum before the gas is added to ensure air doesn't compromise the experiment. Once set up, all we have to do is shoot a beam from the left end to the right end and measure the energy levels at each point. The gases shouldn't refract the beam away from a perpendicular angle relative to the glass panes, so the beam can actually pass through all chambers as needed. To test blueshifting, we then just shoot the beam from right to left. We can also run this test vertically and see if the change in the energy level of light travelling through the box differs from the change in energy level of light travelling through air. If either variation pans out as predicted, population density is undoubtedly the cause of shifting, not gravity, as the same degree of gravity would have been present vertically for light being fired inside and outside of the containers, and the gravity would have basically been equal for light when travelling through the containers horizontally. Alternatively, a beam of light could just be shot vertically through a vacuum, as previously mentioned, and measured at both

ends. If there isn't any change, then it is definitely matter which is causing the effect, and gravity, in this phenomenon, is obsolete.

This also explains why light is a perfect constant in a vacuum – there are no other mediums in its path, so there's no DAF to create an energy change, or, at the very least, not enough mediums to require a noticeable energy change. As for what happens when light enters the complete vacuum of space, logic dictates that it remains at its current wavelength. It couldn't return to the original properties it had when emitted from its object of origin otherwise we would have proof that light is able to retain rather than simply convey information, i.e. light has "memory", and that's a whole different ball game to deal with.

In fact, in an open environment, light will always redshift and blueshift due to the beauty of gravity's operation, and I explain why later on in the section "*Curves in All the Wrong Places*".

What I haven't explained thus far is why shifting happens, but the good thing is that it is physics I'm sure we can all agree to. Ladies and gentlemen, the culprit is... **Work**. Yes, that's right. The word Rihanna beat into our eardrums throughout 2016 and benefit scroungers have feared since the dawn of man, and the laws of thermodynamics explain it, though they must be modified due to what wasn't taken into account, but is a verifiable scientific fact.

The laws of thermodynamics state that all work requires energy usage – this is why humans get tired as we do... anything. Work, for light, is transmission through transparent particles. How is it work, you ask? Well, the answer there is acceleration. All acceleration is work, and light has to accelerate every time it leaves one particle and moves into vacuum space – if it didn't accelerate, it could never travel at light speed when it has finished passing through matter. It also accelerates as it enters a particle – negative acceleration on the way in, and positive acceleration on the way out. This only works with transparent particles because opaque particles absorb, reflect, and emit new photons, while transparent particles allow the *same* photons to pass through. The effect of work can't be seen when new photons are emitted – it would be like seeing someone go to a mine, do an eight hour shift, and at the end of the day, having someone who just woke up, showered, and dressed then walk out – but when the same photon is doing the work and being emitted, you see the effect of work as you would on the person who walked out of the mine right after doing the full eight hours.

Unlike with humans, light can't tire out because it is nothing but energy, and since it has to keep moving at a specific speed in the space between particles, it has to modify the amount of energy required to do so when the work rate changes. Whereas humans change the work rate to match

current energy levels, light must change energy levels to match the current work rate. **One property has to change to match the other in any physical system to keep it in thermodynamic equilibrium** (something that has to always be true because no physical system can do more work than it has the energy for, and always needs more energy to do more work), and since light can't change speed in a vacuum, it has to change how much energy it is using for the amount of work it is doing when it is constantly accelerating as it changes mediums. A higher energy usage requirement is a result of higher work rate, so when light is moving towards a gravitational body and facing more and more particles in a given time, its work rate to transmit through those bodies continuously increases, and so does its energy requirement, resulting in it increasing the amount of energy in itself. Because we can tire out, the same holds true for us if we also try to maintain the same work rate – we would need to increase our energy usage to keep up because, in a system that can tire out, maintaining a work rate has the same effect as increasing a work rate, given that the thermodynamic law requires your energy level to fall unless it is continuously increased.

When light enters a constant transparent medium – a vacuum, glass, water – the fact that it is constant means that the work rate is constant (or roughly so), so light doesn't need to constantly alter its work rate. If anything, the work rate may change upon initial entry into the medium. The exception here is when light is travelling through a medium with a pressure gradient in the same direction as the gradient, as the increase in pressure forces more particles into a given space in one position than in areas of lower pressure. You may be able to see this if the wavelength of light was measured as it passed downwards through water, as gravity would cause the pressure gradient, but it is unlikely, given that liquids do not compress much – most not at all.

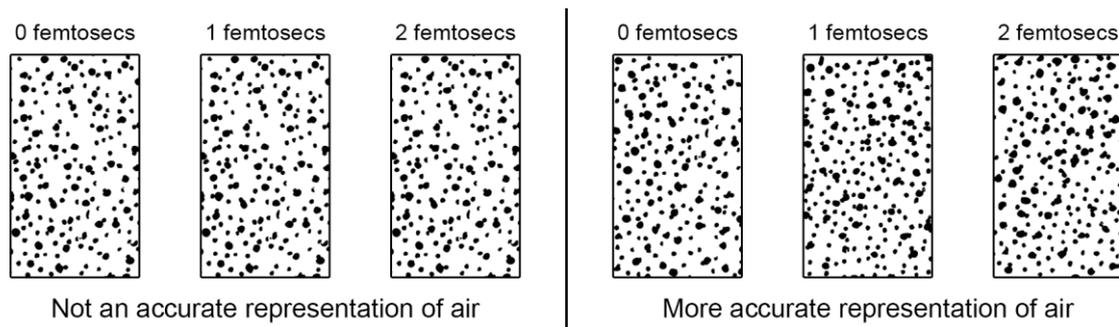
You may be wondering where this energy comes from or goes to when these changes occur, and that leads to another interesting point. Since energy cannot be created or destroyed, the lower and upper limits of its value range must be 'non-zero' for the lower, since zero would mean it has flatlined and could be destroyed, the upper being the value it can only attain by passing through a large enough environment containing gas particles through which it is transmitted, rather than absorbed, at the compression boundary of them being forced into a liquid state as this is the point where it will have to do the most work in the shortest amount of time, and an infinite value range between them. At that point, it adjusts itself as necessary as it reacts to whatever it encounters, hence why it can move at a single speed while having wavelengths of *any* length higher than zero – we are yet to see the upper limit. From the evidence we have so far, photons are the single-most reactive particle known to man. It will be interesting to delve into how particles are able to produce photons with energy levels set on different parts of the EM spectrum – especially those on the more

energetic side, such as gamma rays. What exactly is forcing the photon to work so hard? Is it simply a reflection of the amount of effort required for the photon-producing event to take place? That would make sense, given that gamma rays are produced by events that either require a ton of energy or have it left over – fusion, fission, and particle decay.

Long story short – the wavelength of light is a reflection of its current work rate, and red and blue shifting is a reflection of the change in the work rate as it travels through and between transparent mediums.

Part 2 – Cooperative Light Clocks: Now that we view air in the correct way, we can begin to solve the light clock issue. The light clock experiment sees two photons emitted from the ground, 5 seconds apart, to a detector above. However, the second photon reaches the detector more than 5 seconds after the first. This was supposedly proof that spacetime curves. *It doesn't.* Let's see what happens if this experiment is actually performed, repeatedly, in the physical world.

Let's look at 2 groups of diagrams that depict air:



On the left, we have 3 incorrect depictions of air. Over no time frame is air *exactly* the same because the particles are always moving, which is why the group on the right is more accurate, as it shows that over any given measure of time, particles in air are in a different position formation (I say "more accurate" because, realistically, it probably won't differ *so* much over a femtosecond, but it still isn't exactly the same, and this counts for something major, as you will see).

Just by looking at the diagrams on the right, I agree that the second photon can take longer to reach the top. On the other hand, I also agree that it could be a much quicker journey, and could reach the detector less than 5 seconds after the first. Or, it could reach the detector bang on 5 seconds later – I agree that this can happen, too. Why do I agree with every possible scenario? Well, because the time it takes for a photon to reach the detector through air is not determined by an apparent curve in spacetime, but by how many particles it encounters on its journey. The more encounters it has, the longer it is going to take. We can view the path to the detector as a straight road and each

particle as a speed bump. The photon is a car. If two of the same car drive along a road at the exact same constant speed, and said road has randomly positioned speed bumps that move in and out of the path of each randomly, the car that has to go over more speed bumps is going to take longer to reach the destination. When it comes to the photons, it really doesn't matter how long after the first the second is emitted. The only thing that matters is the amount of particles each encounters. The more encounters one has, the more it will be slowed down, in the same way a speed bump slows a car, and also the more its path will curve, and the path that curves to a greater degree is actually longer over a given distance than a path that is (closer to) vertical, which is how the difference in interval occurs. 5 seconds after the first, when the second photon will be released, its path to the detector is basically a completely different layout of an atomic-scale race track. I doubt you'll ever get two consecutive photons that take the precise amount of time to cover the distance. The possibility of it happening is too low.

I don't know why anyone thought that a curving spacetime must prove time dilation in this instance. Even with a curved path due to curved spacetime, light would still take the exact same time to reach the detector if any and all other conditions were the same, so there wouldn't be any difference in the time it took to reach the top anyway. If two cars went around the same curve, at the exact same speed, and exact same angle, following the exact same line, and experienced the exact same conditions at the exact same point for the exact same duration, the cars are going to take precisely the exact same time to reach the finish line, and the second car is going to arrive the exact same amount of time after the first car as it started the race after the first car. The fact that they are travelling along a curved path doesn't mean a thing. Spacetime would have to stretch or change shape between emissions so that the path the second photon travelled was longer than that of the first in order for it to result in the different intervals between emissions and detections. In fact, this is what has played a part in physicists thinking the universe expands and contracts when, in actual fact, it doesn't.

Part 3 – Separate Light Clocks: This final part concerns a bonus time dilation experiment based on the atomic clock experiment I explained before, only this time we use two of the exact same clocks that run on light rather than atoms, where one is on the ground and one is at a higher altitude. Unless the inside of the clocks are a vacuum, air density gradient is in effect. The air in the clock at the top will contain fewer particles than air in the clock at the bottom, meaning photons in the clock at the top will travel faster between emitter and detector. Tada!

And that's everything there is to all of time dilation.

As a rule of thumb, for any experiment involving light:

- If not in space, you will get significant gravity.
- If not in a vacuum, there will be enough particles in air to create atmosphere.
- With significant gravity, you will have gravity attracting particles.
- With gravity and particles, the forever changing strength of gravity over altitude will forever gradient the density of particles in the air.
- With a forever changing density gradient, light will forever appear to bend, change wavelengths, and cover different distances at different heights within a given period of time.
- With a forever bending light, you are going to think spacetime curves, so long as you refuse or neglect to take into account the gradually changing density of air and behaviour of light. As negligible as it may be on a human level, on a particle level, there is no such thing as negligible.

None of this has anything to do with "curving spacetime". It's just light being hampered by the density of matter particles in its path. If anybody wishes to test this, run the experiment in a vacuum room. With no air and only gravity, if spacetime is curved, the exact same thing that was witnessed in the experiment in 1959 will be witnessed in the vacuum room, without fail. *It won't happen*. In a vacuum, light travels in a straight line with no direction changes, and the clocks will run perfectly. Some thought experiments can actually be performed but remain thought experiments because the actual results are different from what is expected, and scientists don't know how to explain why.

Let me also point out the fact that **no** shifting experiment has ever been performed completely in a vacuum. Harvard students used helium "to reduce scattering" – wouldn't a vacuum have eliminated scattering altogether? Ah, but that wouldn't have produced the desired result. Gravity would still have existed within it, so, if matter wasn't the cause, they still would have seen shifting, no? Observations from other bodies which proved shifting were made after photons had passed through both the atmosphere of the body of origin and the earth's atmosphere, so, leaving the original body, you will get redshift, and entering the earth, you get blueshift.

Mass, Weight, Pressure, and "Gravitational" Lensing

So, I have looked further into the "gravity bending light" situation. Now, I've never looked into space myself, but I have done significant poking around on the Hubble website, NASA website, and others, and filtered out all the doctored images and renderings that I could. Let's proceed:

Here's the thing to know from the very beginning – every celestial body has an atmosphere. Yes, every single one of them. It doesn't matter how thin the atmosphere is or how high the altitude reaches from the surface of the body, the atmosphere is there. How do we know this? All bodies in space have gravity according to the rules we play by, so they will all attract and hold gases from space, right? Good.

Next – there is no such thing as *gravitational* lensing. Photons do not have mass, so gravity cannot pull them. Yes, they carry momentum and momentum creates pressure which can be measured on a scale as a weight, but mass is **not** a requirement of the creation of pressure, and the application of units of weight when talking about mass has got to be one of the dumbest and most misleading things I've seen in science thus far. Creating pressure does not mean an object has a mass, nor does it require it to. Pressure is the creation of force as a result of any type of movement – that is literally it – and there is no mass requirement anywhere in the basic formula. "Weight", more specifically, is how we describe the amount of pressure, but it can only be created via non-rotational, directional movement (forwards, backwards, upwards, downwards, sideways, curved paths), and only when being met with resistance. The only other factor in the basic formula is speed of movement, hence why light is able to push atoms inside an atomic fountain – it is moving in a direction, and so this creates a pressure, which allows light to exert force, which can be expressed as a weight upon contact without having a mass. What this now gives us is two constants:

- Universal Pressure Constant (UPC), which is equal to the measure of the force created when one joule of light, as it passes through a vacuum at light speed, strikes an object; and
- Universal Weight Constant (UWC), which is equal to the measure of the force created when one joule of light, as it passes through empty space travelling at light speed, strikes a *stationary* object (why the object has to be stationary is explained later).

Neither is high in value, but they're more than zero, and that is all that matters because we are going to do something very interesting with this information in a moment. What mass actually does is enhance the basic formula, as the mass of an object, combined with the speed of movement, creates a greater pressure and weight.

Think of this: if a car is suspended in the air by a rope, how much does that car weigh? Put a scale under it and see. The scale can't say anything because the resistance exerted by the rope equals that of the force of gravity pulling the car towards the ground, so the weight is zero. For the scale to display any reading, you would have to push it against the car, but then it would give a reading not based on the car and gravity, but on the scale itself and the force of your push. The same goes for

objects on the ground. When we are standing still on the ground, our weight is zero because the normal force (which is actually a type of resistance because it only responds to a force) of the ground pushing us upwards is equalling the force of gravity pulling us down. When we step on a weighing scale, we create a certain amount of pressure on the scale mechanism because of gravity pulling us down and the scale mechanism not initially providing enough normal force to support us, and that mechanism then continuously calculates a number based on the pressure we exert on it until we reach a point where the mechanism of the scale provides enough resistance to balance out our pressure created by the downward force of gravity. The weight the scale then displays is not actually your current weight as you are standing on it (which is zero), but is the pressure required, under current gravitational strength, to balance out the pressure of your mass. To prove an object is weightless on the ground, we can do a simple thought experiment based on a real life scenario that happens everywhere, everyday.

A person's car breaks down while they are driving. They push it to the side of the road. How?

These people cannot pick up this car, so how on earth are they able to push it? Is it because the car has wheels? Well, it can't be because that doesn't change the mass of the car as opposed to if it was being picked up. I mean, their strength is the same either way, so how can the car's weight be the same as well? Here's how. Lifting the car would depend on its vertical weight, but since the car is on the ground, the vertical weight is zero because gravity and the normal force are equally acting on the car. As you try to pick it up, you are providing your own support for the weight, which decreases the normal force acting on it from the floor, while gravity stays the same. This is why you can sometimes pick up a heavy object but then it immediately seems to get heavier – the moment it loses complete contact with the floor, there is no normal force to support it; it is just you versus gravity, and the initial momentum you used to get it up comes to a stop real fast (everyone who has ever worked out using weights is now having flashbacks). If you can't provide enough force to create a greater upward pressure with your arms than the weight of the object under gravity, you can't support it. Pushing the car, however, relies on horizontal weight, which isn't created by gravity. In this situation, it is created by two different resistances – friction and air. The strength of friction depends on the gravitational strength and normal force, as the higher these two are, the greater the friction because friction depends on the degree to which two objects are being pushed together. The material from which the part of an object in contact with a surface is made (in this case, the tyres) and the material of the surface also determines the strength of friction, if one wishes to be precise. Anyway, friction and air resistance combined are still much weaker than gravity, which is why the car is easier to push, though you can still feel that it has weight to it. *(At this point, some physicists will*

start singing about the different types of friction – rolling, static etc – and the effect they have on the car, as well as the fact that the wheels are round, but one thing remains an undeniable truth: if you can move an object horizontally but not vertically, though your mass/strength/energy levels are the same in both situations, then something about the object has changed, and since the object will have the exact same mass and energy, then it can only be the weight that has changed, based upon the strengths of the different forces in play.) The last part of the proof can be found in how they actually move the car. They start pushing forward – this is the direction requirement for creating pressure. Friction and air oppose the direction of movement, so it fights against them, now giving the car a horizontal weight. They put more energy into their push and, eventually, the car starts moving. What has happened here is that their mass plus the direction of their movement plus the energy being put into said movement has created a larger pressure than the weight of the car under the resistance of friction and air acting against them, so the car starts moving. Still doubtful? Imagine the car was a Ford Focus. It weighs 1.2 metric tons under gravity, easily. That's 2,204 pounds. The bench press world record is 1075 lbs – less than half the weight of the car under gravity, and Ryan Kennelly used a bench press shirt. Now, think of how many times you've seen a couple of skinny individuals pushing said car (or a similar one). These two individuals trying to collectively bench press 300 kilograms would see their chests caved in, so, if there was only one type of weight and it was always the same figure, dependent on gravitational strength, do you really think they would be able to collectively create a pressure exceeding the 1.2 tons it would take to get the car moving from a point of rest? I certainly don't think so. As for anyone wondering why the car is easier to move once it is already moving, it's because the car now has momentum, and that momentum, combined with the car's mass, also creates a force that is opposing friction and air, so the combined pressure of the force of the car moving and the force of the people pushing it is greater than the people versus only friction and air, and the faster the car moves, and the people move along with it, the greater the combined pressure they continuously create to dominate the friction and air resistance.

If we were to try this on a frictionless surface, one of two things would happen once the car started moving:

1. If air was present, the car would eventually stop moving as the resistance from the air continuously slowed down the car.
2. In a vacuum, the car would keep going until it hit something that could provide enough resistance to stop it.

In the latter situation, the reason the car would continue to move forward indefinitely is because its vertical weight is zero, and, with no air or friction, it is weightless horizontally, which is different to a zero weight (a weightless object has no force acting on it, while a zero weight object has perfectly equal opposing forces acting on it). Weight is only observed in one direction – opposite to the strongest force acting on an object, which is equal to the direction of the resistance (or the weaker force, in the case of two actual forces) acting on an object – and, with no friction and air creating resistance, there is no horizontal weight, so, with gravity still in effect, it would be impossible for an object to move along a surface indefinitely without a source of propulsion unless it was *effectively* weightless all around, because any positive value for vertical weight would create pressure, and any positive value for pressure would create friction (which is also which it is impossible to achieve a frictionless surface in real life – can't turn off gravity). Finally, the only requirement to get an object moving on a surface in a frictionless environment, without a means of constant propulsion, is force. The speed at which the object then moves is dependent on its mass and the amount of force acting on it, as well as how the kinetic energy transferred is dispersed throughout the mass, as rigid/flexible/fluid objects all behave differently when force is applied. Some examples:

- You shouldn't expect the car, on a frictionless surface, to go hurtling across the room if you kicked it, because the kinetic energy transferred from the kick is not enough when distributed amongst the car's entire mass to move it very fast, if at all, which it would need to do since the car is a rigid body object. Kicking a golf ball along a frictionless surface, however, could see the ball hurtling across it, because the mass of the ball is much lower, and so the energy requirement is less, and distribution amongst the mass is much more effective.
- Flexible objects, such as rope, are very annoying in this situation. They don't distribute all energy prior to movement like rigid objects do, nor do they do it evenly. They distribute energy as they move, in a way which sees each particle receive less energy than the last, which is why the point on the object where contact was made receives the largest dose of energy and moves the most, and the particle furthest away, receives the least (if any), and moves the least. On a frictionless surface, the rope would act as its own resistance, to a degree – the particles at the point of contact would move ahead at speed X, but the other particles, receiving less energy, would hold it back because they would all be moving slower, with their speed of movement dependent on the amount of energy received. It would be like trying to run as a chain of people. Off the mark, the fastest person would zoom in front, but because everyone else is slower, they hold the person back. Such a shame.

- Fluid objects (we can only really be talking about liquids in this case) would be the biggest pain because of the lack of strong bonds. Still, upon impact, the energy would be dispersed in a similar manner to flexible objects, and the weak bonds would see the object break up and scatter across the floor like toy marbles.

A final example – or test, if you so choose – which can be used as a happy medium between the car/road and frictionless surface examples, can be found when ice skating. Forget about when the ice has been sliced through for hours. We want to concentrate on right after that Zamboni machine applies that beautiful, fresh layer, and there's as little friction between ice and blade as there's ever going to be. Okay, so now we place one person standing on ice wearing ice skates. We place a second person outside the rink wearing rubber-soled shoes. Now, a third person must try to pull each person, one at a time. However, there are two rules:

1. Both people must have (near enough) the same weight when standing on the same scale, dressed as they need to be for the experiment (ice skates included).
2. Neither person being pulled is allowed to lift their feet off the ground.

The result? The person outside the rink has a greater weight and is harder to pull because there is much more friction between their rubber soles and the floor outside the rink (especially when the floor is rubber too, as with most rinks) than there is friction between the freshly resurfaced ice and the blades of the person standing on it. You can repeat the experiment where each person is wearing the same shoes and then again with the same ice skates – same result.

Another way to see it is based on the fact that we have mass in space but almost no weight. Nevertheless, if you punched someone in the face in space, they would feel the pain caused by the pressure created by the mass of your arm and speed of your punch, and the resulting weight as it hit their body which created its own resistance, and if an asteroid is hurtling towards you at even their slowest apparent speed of around 25,000 miles per hour and you aren't able to get out of the way, well, due to the pressure it is creating, I hope you made peace with your demons because it's about to be bye-bye birdie for you. This is also why it is completely wrong to think of weight as something that is created by a *downward* force such as gravity. If a scale is held in the air, upside down, and an upward force pushes an object into it, the scale will give a reading that tells you the weight of the object based on the objects mass and the strength of the upward force. The harder the object is pushed, the greater the number the scale will display. Under gravity, the object could weigh one kilogram, but under your push, it could weigh ten, as long as you are pushing ten times harder than the strength of gravity. If you rammed an object into the scale at great speed, the scale will give an

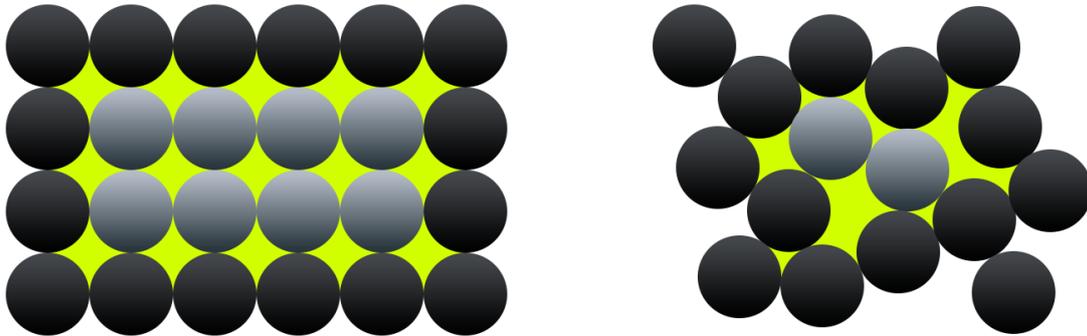
initial reading of the weight based on the mass and speed of movement before it changes to account for the fact that your hand is now at rest, and the only factors now in play are the mass of the object and upward movement of your arm. *(Yes, even though your arm appears still, it is still moving upwards, otherwise the scale pushing against your arm under gravity would move your arm downwards, and this also applies to us and gravity, where we are always moving downwards because gravity is pulling us, but the normal force exerted by whatever we are standing on is also pushing us upwards, equal to gravity, so we remain in a single position. If a floor, for example, pushing us upwards, wasn't equalling the strength of gravity pulling us down, our downward weight would bend the floor until its point of failure and we would go crashing through, at which point we hope the speed of our fall combined with our mass doesn't increase our weight so much so that we can immediately go crashing through the floor below.)* This is also why we can say something like "the weight of the punch", even though the punch travelled horizontally and not vertically towards the ground. Weight can be created in any direction, and is simply a measure of the impact force of a moving object. Weight should not be associated with gravity or a downward force/motion because an object has weight in any direction in which it presses upon another object.

Despite what you have been told, the mass of an object does not increase with speed (no matter how fast it is going), only its pressure and the resulting weight does, and this is a gross scientific error. Just think about it – mass is the number of particles (protons and neutrons, to be specific, though it should really include electrons, too) in a single body, so what particles are being added to said body just because it moves faster? That's right, *none*. There are no such things as "rest mass" and "relativistic mass". There is, however, "mass", "rest weight", "equalisation weight", and "dynamic weight", if you will:

- Mass – The number of protons and neutrons in an object.
- Rest Weight – This is the weight of an object at a point where all forces acting upon it are balanced by resistance in the opposite direction, and it is always zero. (Okay, it's never *actually* zero, but more "zero-ish", for reasons we'll talk about.)
- Equalisation Weight – The normal weight we are used to referring to, which is equal to the amount of pressure required to equalise the weight you are creating due to the gravitational strength at your current altitude, but this can be applied, again, in any direction.
- Dynamic Weight – The weight of a moving object at a specific moment, based on the mass of the object and the speed at which it is travelling. The speed at which the object is travelling is dependent on the strength of forces which acted or are currently acting upon the object, but opposing forces/resistances can never be equal, otherwise the object would be at rest.

You do not ever use the term "relativistic" because all weight is relative. Mass is the only absolute.

Here's the interesting thing I said we'll do. The following is the image we will use for this:



- The formula for the Universal Pressure Constant (UPC) is:

$$UPC = 1 \text{ Joule} * \text{Speed of Light}$$

- The above formula can be applied to solids and liquids because of shapes and how matter is packed together. For this explanation, let's just imagine all particles of matter are perfectly round and the same size. The body on the left is a solid, and on the right, a liquid. The yellow space highlights the empty space between particles. Since this space is empty, energy being radiated through this space will travel at light speed, so the UPC will be in effect as the energy impacts with the receiving particles. Energy transfer between the points of particles that are actually in physical contact with each other, however, is going directly from one to another, with no medium in between. When this happens, the energy is still moving, so the receiving particle will be nudged, but the force of the impact will be much lower because the energy wasn't able to achieve light speed, given that there was no empty space for it to travel through prior to contact. This impact force will then be calculated using this formula:

$$CF = \text{Joules} * \text{Transfer Speed}$$

We can call this the Conduction Force (CF), but we can't call it a constant because we don't know if photons are always conducted at the same speed. This same formula can, however, be used to calculate the UPC.

- The formula for the Universal Weight Constant (UWC) is:

$$UWC = (1 \text{ Joule} * \text{Speed}) + (((\text{Object Direction})\text{Object Speed}) * \text{Object Mass})$$

The speed used can be the transfer speed or the speed of light. This may need slight modification later, but it generally works for the concept. As for why this formula is much more complicated, that's coming soon.

- Okay, so, an object is heavier the hotter it is, right? Why? Well...
 - Let's say the solid object on the left, sitting on a scale the precise width of the object, weighs 10 kilograms at a base temperature.
 - We then heat it up by transferring 10 million joules of energy into it that are now continuously being radiated from one particle to another.
 - We'll imagine all particles are the same size, have an equal amount of energy, and all radiate energy uniformly.
 - For all particles that aren't in direct contact with particles and space outside the body of the object (the grey ones), they radiate energy to other particles only, and have energy radiated to them. This effectively cancels out the universal constants that could be seen because, for all energy radiated downwards, pushing the object down and increasing the apparent weight on the scale, an equal amount of energy is being radiated upwards, decreasing the apparent weight on the scale. We would see no change.
 - The particles that are in direct contact with matter and space outside of the body of the object (the black ones), however, create a different result. The ten outer particles that are not part of the of the bottom row will radiate energy into the atmosphere – that energy never touching the scale – but the bottom row of particles are going to transfer energy – through both radiation and conduction – directly onto the scale. This means that the UPC/UWC and CF come into play.
 - Let's imagine that, in a single moment, 1000 joules of energy are transferred to the scale – 990 via radiation and 10 via conduction. This means that the formula for the weight of the object that would appear on the scale would now be:

$$10kg + 990 UWC + 10 CF$$

I don't know what weight increase would be exactly, but it's going to be small. Micro, nano, pico – some "illionth" value prefix of a gram. Nevertheless, it will appear heavier.
 - Now let's imagine a cooler object radiates 100 joules. The formula for that would be:

$$10kg + 99 UWC + 1 CF$$
- In the real world, we can't guarantee such neat and tidy particle arrangement in a solid, and particle arrangement in a liquid is already in disorder, so emission and reception of energy won't be equalised for the most part, meaning we can get a ton of variation. Two of the same objects with exactly the same size, mass, and energy, would very likely show two different weights on a scale sensitive enough to detect the minor increases simply because

of particle arrangement, whereas the same objects could easily read as the same weight in larger units of weight on a less sensitive scale.

- So, are objects heavier the hotter they are? No. Is the weighing scale registering the mass of the object under current gravitational strength AND the weight of the force created by the increased energy being transferred as it pounds into the surface of the scale? Yes. Why? Because hotter objects radiate more energy at a single time, and the more energy that is radiated onto the scale, the greater the collective force created, and the greater the apparent weight increase.
- And no, you can't deny all this, because the laser beam used to knock an atom in an atomic fountain is the basis of proof, but an experiment can be done to test this. If we can find a scale sensitive enough, we simply need to hold a very hot object above it – the hotter the better. It shouldn't be touching the scale at all, but what we want to see is the weight reading on the scale as the barrage of energy impacts upon its surface. *(For those wondering why the scale doesn't read anything normally, it's because particles above the scale tray that are radiating energy down are being roughly equalised by particles below the tray that are radiating energy upwards, so the tray remains in balance, but the scale will be adjusted to make up for any slight variations, so that the reading is generally zero, though operations at different heights and, therefore, different atmospheric pressures, would likely see it need readjusting, depending on whether or not air could freely escape from inside the scale, enough so that it can naturally adjust to the surrounding particle population of a given altitude. An air tight scale would see greater pressure internally at altitudes higher than the one it was created in (unless a specific amount of air was introduced or it was created in a vacuum), or lower internal pressure at lower altitudes.)*

This all allows us to better explain some more things, too:

- Particles of matter are always vibrating because energy is always being transferred, so the pressure created as X joules of energy moves from one particle to another makes them move upon impact. The less energy there is, the less they move. Reaching absolute zero is therefore impossible because it would create a paradox:
For matter to reach absolute zero, it could not be receiving energy from any other matter whatsoever. For this to happen, it would have to be completely surrounded by particles – no matter the distance, and no gaps in the walls – that are not emitting energy. But, for them to not be emitting energy, they themselves would have to be at absolute zero, meaning they would also have to be entombed by particles which are not emitting energy in order to not be

able to receive energy...

And so on and so forth. For one particle to reach absolute zero, every particle in the world would have to be absolute zero. It would all have to happen simultaneously. It just isn't possible. The Heisenberg Uncertainty Principle has no role in this whatsoever.

- *This is my favourite.* Nuclear explosions. More specifically, the resulting blast wave that likes to destroy everything in its path. The incredible amount of energy built up and released creates an amount of energy with a pressure that is, quite frankly, unfathomable. Let's forget the pressure created based on the Conduction Force, for now. So, imagine this ludicrous pressure. Imagine this pressure travelling at light speed between particles. Imagine what happens to a single particle when this pressure impacts it. Now, imagine what happens to a group of particles, formed as a solid object, when this pressure hits it at light speed - *obliteration*. 1 gram of TNT is said to release over 4000 joules of energy, so let your imagination run wild when thinking of what megaton nuclear weapons yield. The Tsar Bomba – the most powerful nuclear bomb ever detonated – was a 57 megaton weapon, and that's only because, if I remember correctly, its chief designer, Yulii Khariton, defied the order to create the 100 megaton bomb that was originally requested. You only need to search for images and videos online to see that in action. There's a Discovery Channel clip on YouTube that shows it in action. In case you were wondering, 1 megaton is 1 billion grams, which results in the dispersion of 4 quadrillion joules of energy. The Tsar Bomba unleashed 228 quadrillion joules. The pressure... the heat... *incredible*.
- Isolated particles cool much more quickly than particles in a group, and smaller groups cool more quickly than larger groups. Let's take hot water, for example. A bath tub full of hot water is generally going to take much longer to cool than a cup full of water of the same temperature, in the same environment. Why? There are a lot more inner particles for energy to travel between before it can reach the outer particles and escape, so the inner particles really just end up keeping each other warmer for longer through a greater amount, in terms of particle numbers, of energy exchange with all their neighbours. Same principle invoked when large groups of animals, such as penguins, huddle to keep warm. Isolated particles are going to cool the quickest because they emit X joules of energy but do not have similar particles to receive the quantity of energy from. All give; less take. It becomes a net contributor to the cooler surrounding particles, which is why those particles initially become warmer, too, before it all balances out once the energy has dispersed far enough and thermal equilibrium is reached.

Now, this was all done for a more significant purpose...

Tada! $E = mc^2$ means absolutely nothing. The formula (and the idea itself) is completely useless.

The formula is supposed to imply that the smallest amount of matter still contains a large amount of energy. "Energy" is supposed to refer to kinetic energy, as opposed to anything to do with photons. Well, this is false from the start. It's too early for us to get into the full details of mass, motion, and actual energy (such as photons), but I'm going to explain this dealing with all three because *they are individual entities in their entirety.*

First of all, mass cannot ever be converted to any type of energy in any way, shape or form. The idea itself is so god damn ignorant. The sole thing one can do in this situation is determine the approximate mass of a moving object by calculating how much stronger the pressure the object creates is than the UPC equivalent (UPCe) of a photon travelling at the same speed, and the Conduction Force formula is the same formula we can use for the equivalent.

So, as an example:

- An object is travelling at 93,141 miles per hour – half the speed of light.
- The UPC of light at light speed is 100.
- Light travelling at half the speed creates half the pressure, so it will have a UPCe of 50.
- A single deuterium atom (a Hydrogen isotope) has 1 proton, neutron, and electron, which is perfect.
- Let's imagine the deuterium atom, travelling at 93,141 mph, created a pressure of 10,000.
- We'd then be able to determine that a single atom consisting of one of each particle, travelling at said speed, creates a pressure of 9,950.
- The reason we take away the UPCe is because that is the minimum strength of pressure it is possible to create at said speed, but that can only be applied to massless objects. This means the actual mass of the deuterium atom contributes 9,950 pressure, while the *kinetic energy itself* only contributes 50 pressure, blowing $E = mc^2$ out of the water entirely.
- After that, we determine roughly what percentage of the mass of the atom is the proton, the neutron, and, *if we want to be as accurate as possible*, the electron. I say this because electrons aren't taken into account when speaking of mass, even though they are particles of matter. Not sure why. Anyway, then we would divide the 9,950 pressure value into the percentage values of each particle.

- Then, we can calculate the approximate mass of an object by knowing the speed at which it is travelling and the pressure created. For example:
 - Proton is 50%, giving it the pressure value of 4,975.
 - Neutron is 40%, giving it the pressure value of 3,980.
 - Electron is 10%, giving it the pressure value of 995.
 - Imagining all protons are the same, as well as neutrons, and electrons, if we had a ball of lead travelling at 93,141 mph, and it created a pressure of 987,040,000,000, we could calculate the mass with ease by using the particle composition of a lead atom, calculating the pressure of a lead atom at said speed, dividing the ball pressure by the atom pressure, and then multiplying the resulting figure by the mass of a single lead atom.
 - Given that lead has 82 protons, 125 neutrons, and 82 electrons, we would have:

$$(4,975 * 82) + (3,980 * 125) + (995 * 82) = 987,040$$

$$987,040,000,000 / 987,040 = 1,000,000$$

$$1,000,000 * 207 = 207,000,000$$
 - The lead ball would have a mass of 207,000,000.
- Finally, what we can do is calculate the energy equivalent, based on the UPCe. So, with the UPCe being 50 when a single joule of light is travelling at half of light speed, the energy equivalent to the ball of lead in order to create the same amount of pressure would be 19,740,800,000 joules.
- In case you were wondering, it would take 11,549,683 of those lead balls, travelling at half the speed of light, to create the same amount of pressure as the Tsar Bomba.

So, you can calculate how much energy it would take travelling at a certain speed to equal the pressure created by a mass travelling at the same speed, but you cannot convert mass to energy at all, and there's more of this when we get to Quantum Mechanics.

There's another major flaw in the formula – the lack of resistance. Not the resistance to a force mass itself provides, but the resistance it then faces. The greater resistance an object is facing, the more kinetic energy it needs to move at a given speed than if it was facing less resistance. That's common sense, and, unless this formula was only used to measure objects travelling in a vacuum where there is absolutely no gravity applicable (not even microgravity, for reasons you'll understand later), this formula couldn't give anywhere near an accurate indication because it doesn't take into account the degree of resistance being faced. So, how do you determine the quantity of kinetic energy in a mass travelling through a vacuum versus the same mass travelling at the same speed through air, water,

radiating a lot more energy down onto a scale, increasing the pressure on the scale and creating a higher reading. So, tell me, how would you use the equation to determine the energy levels of each, given that the masses are exactly the same, but the temperatures and vibration rates are so very different? That proves the formula wrong. If it was correct, you could never have objects of the same mass at significantly different temperatures because the different temperatures would create different rates of vibration. In fact, if $E=MC^2$ was true, every measure of mass would have a set specific temperature that it would correspond to, and it would *never* be able to change it.

What's worse is that a scale couldn't even be used to identify which of two similar masses has more energy because different materials transfer energy at different rates, so two equal masses with equal energy but made of different materials would very likely produce different weight readings.

There is no fool proof method. There is no equation. It doesn't matter if energy refers to motion or heat, you cannot convert or calculate mass to energy in *any* situation. It is not possible! They are not equivalent in the slightest.

When a nuclear bomb goes off, mass is *not* converting into energy. The nuclear reaction destroys the bonds of the matter particles, and, while doing so, simply creates such a large quantity of photons that the pressure they create as they travel tears through everything in their path. More on the particle physics behind this later.

Oh, and mass is not relative to an observer, nor is the kinetic energy. Again, the mass is absolute – unless matter is added or removed, this does not change. Your perception of the speed of the moving object changes depending on the speed and direction in which you are moving:

- Not moving allows you to perceive the object at its actual speed.
- Moving in the opposite direction of the object makes the object appear to be moving faster because the distance between you is closing or increasing faster than if you were stationary, given that both you and the object are covering ground.
- Moving in the same direction as the object makes the object appear to be moving slower than it actually is because the distance between you and said object is changing at a slower speed than if you were stationary.

When you are moving with an object, such as when inside a moving vehicle, the properties still are not relative, but your *perception* is for as long as you are moving with the vehicle, and if you do not believe me, stand inside a vacuum chamber within a moving vehicle and then jump straight up, then come back and tell me whether or not you landed in the same spot from which you jumped – *you*

didn't. Your perception only remains relative if a force is keeping you moving along. In a normal scenario, air and friction would be responsible – the back wall pushes the air, and the air pushes you, while friction, as long as you are standing on the floor, provides forward resistance to keep you from moving towards the back of the vehicle as it moved under your feet – but, in a vacuum room, there's no air to be pushed, and if you jump, there's no friction to move you, so the room would move independently of you, and you would land in a spot more towards the back of the room than where you jumped from. Regardless of whether or not you move with the vehicle, the vehicle is still moving at a given speed, and any universal positioning system would show you that.

Weight, however, is relative to the mass and speed of an object (or joule and speed of a photon), and the object with which it impacts, hence why the formula for the UWC is longer. A simple example of this is the egg catch. Anyone who has ever tried to catch a falling egg will be familiar with this. You throw the egg high into the air and wait for it to begin its descent. What you do next determines the probability of the egg breaking in your hands:

- If you keep your hand in a single position, the egg is likely to crack.
- If you move your hand towards the egg, it's more likely to crack.
- If you move your hand in the same direction as the egg, the egg is much more likely to remain whole.

So, the final mystery is how moving your hand in the same direction as the egg gives it the best chance of survival, and here we arrive at the last piece of this puzzle – negative weight.

Unlike mass, weight can be negative because it – along with pressure – is not an actual physical object – like matter – or property of an object – like length – in itself. Pressure operates on a scale (no pun intended) that basically looks like this:

The more you move forward on the top half...								
Object Direction of Movement →			0	+1	+2	+3	+4	+5
-5	-4	-3	-2	-1	0	Object Direction of Movement →		
... the more you move backward on the bottom.								

When an object is in motion, it creates positive pressure in front of it, and an equally negative pressure behind it, both moving in the same direction as the object itself. It's the same effect we see with a fan that blows air in front of it and sucks air in from the back, but the air is travelling in the same direction at all times – a single object creating positive and negative pressure that are moving

in the same direction, but are in opposite positions to each other. It would otherwise be impossible for an object to create two opposing forces that move in the same direction with a single motion, nor could an object create two opposing forces in the same position that move in opposing directions, so, to write out the principle in full:

A matter-based object creating a force in one direction with a single motion creates an opposite variant in the opposite position in the same direction.

This falls in line with Newton's Third Law that we are all aware of – for every action, there is an equal and opposite reaction. I don't know if there's already a name for this specific principle, and, if there isn't, I can't be bothered to think of one, so someone can have fun with that.

Anyway, the egg. When the egg and your hand are moving in the same direction (down), with your hand below the egg, your hand is creating negative pressure above it. The faster your hand moves, the greater the pressure it creates below, and an equally negative pressure above. The negative pressure your hand is creating reduces the weight of the impact of the egg by decreasing the pressure of the resistance it will be met with, and, the lower the overall net weight is, the higher the chance of the egg surviving in one piece. So, for example:

- If your hand remained in a stationary position, the impact of the egg on your hand would depend on the mass of the egg, the speed at which it is falling, and the resistance your hand provides as your muscles exert the required force to keep it in place. The rest weight is in effect, but, upon impact of the egg, your hand creates a positive upward pressure in order to resist the pull of gravity it was already being subjected to *and* the impact weight of the egg, which is going in the same direction as gravity – if it didn't, your hand would be pushed down. The weight of your hand resisting gravity and the weight of the egg upon impact give the base impact weight in such a situation.
- When you move your hand towards the egg, you are now creating a positive upward pressure above your hand. When you try to catch the egg, the total impact weight is now a combination of the upward pressure you create by moving your hand upwards and the pressure of the egg based on its speed at the moment of impact. This, obviously, is bigger than the base impact weight alone.
- When you move your hand away from the egg, you are creating a negative downward pressure above your hand. Now the total impact weight is the positive pressure of the egg at the moment of impact and the negative pressure your hand is creating, which, since it is a negative number, lowers the total impact weight.

The egg is going to crack under *some* weight. The whole idea is to create a weight lower than the weight under which the egg will go splat.

There is a caveat, however, regarding an imposed limitation – your hand cannot move at a speed equal to or faster than the egg, for the simple reason that, if it does, the egg will never catch up to it. This means that there is a limit to the negative pressure you can create to lower the impact weight of the egg, and, if the impact offset isn't enough, the egg will crack anyway. Still, what's life without the prospect of chaos?

Finally, this leads to trying this trick with other objects/materials, and other factors also reveal themselves. You'll have a better chance of successfully catching the egg with a pillow of feathers than one of equal shape and dimensions made of concrete because the feather pillow's weight is inherently lower due to its mass, and you would have to reach quite some speed for the positive pressure of the feather pillow in motion to even equal the base impact weight of the egg and a stationary concrete pillow. There's also the fact that the feather pillow is much more flexible than the concrete variant, so the absorption and dispersion from the impact differs. The feather pillow, being more flexible, allows for easier deformation, which then helps better disperse the pressure of the impact, further reducing the impact weight.

With all the weight stuff out the way, I can now explain the fine detail about the UWC. Remember I said it only applies when light hits a stationary object? Some people would have argued that, since all particles are always vibrating, no object is ever truly stationary, and they would *almost* be right. Since particles do not vibrate in curved paths, there is always one point in which they are stationary – the point at which they change direction in their vibration pattern. You can visualise this by drawing two straight lines without lifting your pen/pencil of the paper. That corner you create when you begin to draw the line in a different direction is the point where a particle is stationary. So, in the UWC formula, the value of "Object Direction" isn't actually a number. If the object is moving towards a photon in a vacuum, the Object Direction (OD) becomes a positive symbol (+) because it is going to increase the weight; if the object is moving away, the OD becomes a negative symbol (-) because it is going to decrease the weight; if the object isn't moving, or is moving perpendicularly to the direction of the photon, the OD is neutral.

You have no bearing on any physical property of an object whether you are moving or not, and, unless you do something to physically interact with the object, you never will. No physical property is relative to any observer, **and your relative perception of the object does not change anything about it.** Imagine a moving object had two observers – one that was stationary and one that was

moving alongside the object at exactly the same speed. Do you really, *honestly*, think that this then gives the object two completely different states? I know Quantum Mechanics likes to go on about how an object can exist in multiple relative states simultaneously, but that is garbage, and I'll debunk that near the end of the physics section of this document, and again later on when we get to subjective experience.

Anyway, gravitational lensing. The "bending" of light around celestial bodies. Gravity *requires* mass to create weight and move an object, but *weight* doesn't require mass to be created, only a moving object facing a lack of equally opposing pressure, and it is for this reason that gravity cannot have any effect on light whatsoever, as a massless object doesn't suddenly gain mass based on movement. Mass only changes if matter is added or taken away. So, what is this phenomenon that was thought to be gravitational lensing? The culprit is something we not long ago become familiar with – air (or atmosphere, if you want to be technical). What we witness is actually *atmospheric lensing*, and, as usual, particle population density plays a role – quite a significant one, at that – but we'll go over the basics first.

We'll start with heat-generating celestial bodies such as stars:

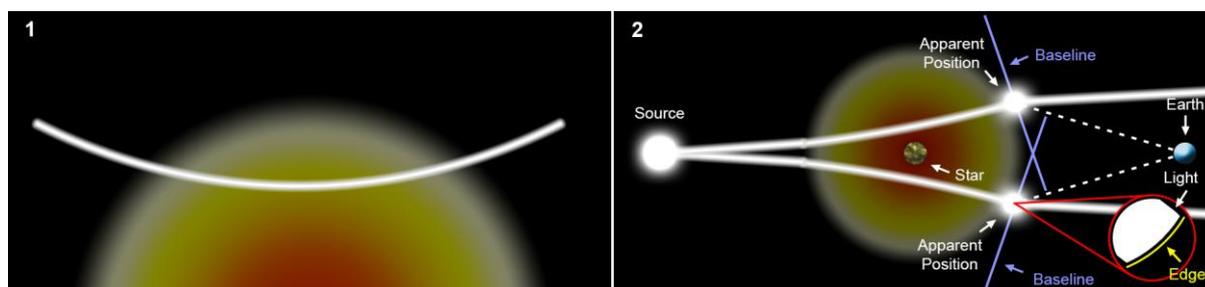
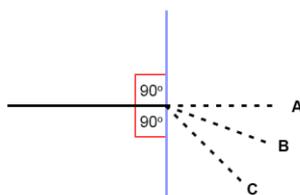


Image 1 helps depict the general principle in such a situation – light is refracted away from the hotter, less dense atmosphere. It's not perfect, since I didn't include the straight line angle of refraction once light exits, but that isn't relevant here. The objective is to explain the principle, not be mathematically precise. However, if you do wish to know, the exiting light would be refracted more towards a horizontal line than a vertical one.

Image 2 shows the refraction in a real life situation. Light from the source going towards the star is refracted upon contact with its atmosphere and bends away from the heated center of lower density until it reaches the edge, where the light is distorted as it follows the curve of the atmospheric sphere. An "apparent position" image is created at the exit point of the atmosphere, which makes the source of light appear in a false position. Other than the true position (source),

these are what we see. However, all apparent position images are distorted in some way, based on the curvature of the atmosphere and angle of contact.

How the apparent position images that we are able to see appear to us depends on the natural distortion created by the curved edge and the angle from which it is being viewed. To determine the viewing angle, a perpendicular baseline need be drawn so that there are angles of 90 degrees between the angle of contact of the light hitting the edge and the baseline itself, as shown below:

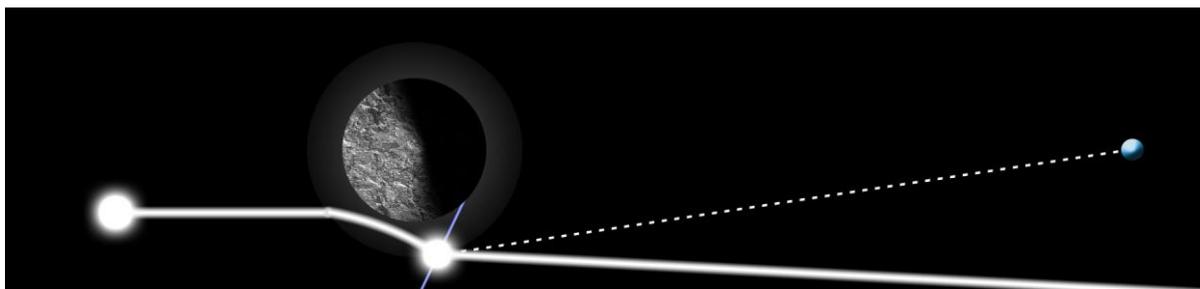


- A. Position A is directly in line with the angle of contact, so the apparent position image would appear as if you were standing directly in front of the source.
- B. In line with position B, which is the path of refracted light, the image appears distorted in exactly the same way it is distorted against the edge of the atmosphere, as if it has been partially rotated.
- C. Beyond position B, such as in line with position C, we see the same distorted image as position B but from what looks like a side angle, appearing as if the image has been smeared along the edge of the atmosphere. The further away from B we are, the more smeared the image appears.

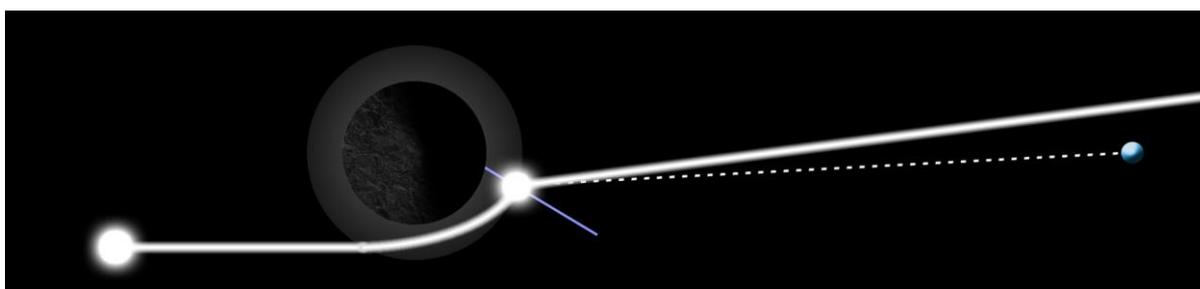
Thanks to the apparent position image created against the atmosphere, the refracted path of light doesn't have to be coming directly at you for you to see it, and without the atmosphere, the light wouldn't be visible without a direct line of sight to the source, and it definitely wouldn't be able to bend around a body. Remember, it has to be the atmosphere causing the apparent position images because photons can't be seen unless they are interacting with matter.

The above can be emulated using bubbles, transparent orbs, domed bottle necks etc. A simple experiment can be done to simulate this, which I show you later.

There is, however, a catch with stars – they shine very brightly. The intensity of their natural shine can make the light from the apparent position image indistinguishable from the atmosphere itself, so they can be lost. With other types of celestial bodies, this isn't a problem, as you can see below:



In the above image, the planet doesn't produce its own light, meaning the apparent position image within the line of sight from earth is fully visible. The angle of refraction through the atmosphere is based on the assumption that the atmosphere is heated more from the surface of the body – enough so that, like with a star, the least optically dense area of atmosphere is closest to the surface, as well as the highest population density. If it is heated in an inward manner, resulting in the highest optically dense area being on the surface, as well as the highest population density, the curve bends the opposite way, and can look like this:



In this situation, should the beam pass close enough and with the right conditions present, light will somewhat partially swing around the surface of the body before continuing its exit path to the edge of the atmosphere.

Where population density comes into play is in the shape and degree of the bend through the atmosphere. To be as accurate as possible when plotting the path of light, the section of the bend with the highest degree of curvature, which will have the most control over the change in direction, will occur where the population density is the highest, due to the fact that light will interact with the largest number of transparent matter particles in the shortest space of time, making it refract and change directions a significant number of times more than anywhere else higher in the atmosphere. The change in direction may be tiny per particle, but when the number of times it has to change direction is considered, it can all add up to a very large curve and significant direction change within a large enough atmosphere.

There is a third situation that presents itself with certain bodies – those such as earth – and it's all to do with magnetosphere. The earth's magnetic field traps ions and electrons within the magnetosphere, and these ions form layers called radiation belts. Since these belts actually contain matter, they also cause light to refract as it passes through. The significance of this is that, depending on the angle of incoming light, it may not only curve once but multiple times as it is redirected multiple times from one area of heat to the other. We'd then have to determine the population density in order to have an idea of just how much the light is being refracted.

It's worth noting that working out the exact path of light is not so simple. Sure, we can pretty much always account for the population density gradient, but heat is a tricky issue because hot air on the rise and sinking cold air can be found on the same levels. We also have to take into account day/night, clouds and weather, the positions of other heat sources that may be radiating heat on a body, and so on. It's likely impossible to plot any precise path, but it is possible to make very accurate efforts.

Lensing Parties

What I like to call the phenomenon where we see a single source with multiple scattered apparent images, especially when amongst other lensed images from other sources. There are multiple ways that this is achieved, with at least three of them being:

- Multiple streams of light from a single source, travelling in different directions and interacting with one or more atmospheres at different angles and from different positions.
- Internal reflection, which actually sees one apparent image reflected internally onto a different part of the atmosphere.
- Multiple celestial bodies between source and us can cause light from a single source to be refracted many times against the atmospheres of many different bodies, so a single source has the potential to appear scattered across our entire viewing range as light jumps from atmosphere to atmosphere, which can be due to both refraction and reflection.

Black Holes

Now for black holes. First off, certain things need to be made absolutely clear:

- Every amazing image ever seen of a black hole is fake. All those beautiful, colourful swirls are artist renderings designed for shock and awe.

- On the "Black Holes" page of the NASA website, they state, "*Scientists can't directly observe black holes with telescopes that detect x-rays, light, or other forms of electromagnetic radiation. We can, however, infer the presence of black holes and study them by detecting their effect on other matter nearby.*" That word, "infer", can be a **dangerous** word to use when trying to claim proof of something, and you're going to see why, soon. When you look at what has been seen, you will discover that the entirety of black hole theory has been determined by a black circle in space with distorted light around it.
- In 2014, Stephen Hawking claimed that there may be no black holes.
- "Hawking Radiation" was theorized in 1974 – has never been confirmed, and if you actually look into what all these apparent "confirmations" actually state, you'll realise that it is all bogus information, usually created using computer simulations that are designed to make it look as though this can be possible. It also makes absolutely no sense whatsoever. The emission of HR is supposed to be what reduces the size of black holes and causes them to die. Let's look at how ridiculous this theory actually is, completely disproving its possibility very, very easily:
 - Black holes are said to be able to pull and consume light, due to the extreme gravitational strength. I've already explained above why it is physically impossible for gravity to pull the massless particles that are photons. However, let's imagine they can. We now have this question: how can something that has the strength to pull light then emit it and allow any particle of any type to escape? Any particle that attempted to break free would immediately be pulled back into the black hole. It wouldn't stand an ice cube's chance in hell of getting out, let alone any radiation making it to earth. Paradox.
 - Because of the above garbage, it is said that particle-antiparticle pairs are created just outside of the event horizon, and one particle is sucked into the black hole while the other one escapes. As crazy as this sounds, it gets worse, and the antiparticle road leads us down two paths that make no sense whatsoever in relation to what Hawking has stated:
 1. Some say antiparticles have a negative mass. Yes, you read that right. How on earth can an object have a mass *lower* than zero? Zero is nothing, so this type of particle exists with a mass less than nothing. Better still, mass is based on protons and neutrons, so antiparticles are supposed to have less than zero of each of those. Hawking agrees with this – he has to because this particle, with its less than nothing mass, is what is supposed to cause black

holes to die. Think of it like this: a black hole has a mass of 100, and an antiparticle has a mass of -1. $100 + -1 = 99$. We are supposed to believe that black holes need to consume enough negative mass antiparticles until its mass reaches zero for it to die. If you believe this, come find me – I have a unicorn and some magic beans I stole off a boy named Jack to sell you.

2. The other antiparticle theory is that they have the same mass as the normal particle but a negative charge. At least this is plausible, since we know particles have positive and negative charges. However, this goes against Hawking Radiation – if the mass is positive and black holes continue to consume antiparticles, it will only ever get bigger, meaning it will never die.

Either way, Hawking Radiation is impossible. I'm telling you, the domino effect of Einstein's work on Relativity has really done a number on the physics world.

- Black holes, and an associated theory, also defy the laws of physics and logic:
 - They are said to crush matter to the point where it is infinitely small, giving them infinite density, and this is supposed to explain their massive gravitational pull. Okay, a few points to make:
 1. Every physical system has a lower limit and an upper limit. That is just the way nature works. It is not possible for anything physical to be infinite in nature. Space can be infinite because it is not physical, but the objects that exist in space are physical, and, therefore, their systems must have limits.
 2. Infinitely small must equal infinite density – this is a given fact. If you really want to know what infinite density is, think of the biggest elementary particle in terms of volume. I'm not sure of the actual volumes of each, so let's just call it Particle X. *(If you ask a physicist right now what the volume of any elementary particle is, most will say they have no volume. This is a lie. Anything physical has a volume, even when it is too small to measure. Anything with mass has volume, too. Photons, which have no mass, also have a volume. Look at the palm of your hand and imagine you are holding a ball. That ball is imaginary, and even that has a volume, depending on how big you have imagined it. If something doesn't have volume, it can't have a physical body – not even an imaginary one. The correct answer is that science currently does not have the tools to actually measure the volumes of such particles.)* Elementary particles are the building blocks of everything – they make up composite particles, which make up atoms, and atoms make

up everything else. The reason we need to use the biggest is because all the smaller can fit into the biggest, but the biggest can't fit into anything smaller, and they can't be broken down any more than they already are. So, if a black hole was infinitely dense, it would not be bigger than Particle X, because it would just shred every atom into its composite particles, every composite particle into elementary particles, and then stuff every elementary particle into a single Particle X. Why stuff all of them into a single Particle X? Well, if you had two, three or even one million of Particle X, then it wouldn't be infinitely dense, but as dense as the total mass of all Particle Xs spread over their combined volume. Alas, matter cannot pass through matter, so this is impossible. Oh, and before anyone thinks that maybe all the particles are squashed together, it is said that the size of an atom cannot be changed, so it's *rather* unlikely that it is then possible to squash an elementary particle even a little bit, let alone squash an unquantifiable amount into a single space.

- The information paradox – can matter be destroyed or not? Black hole theory says it can... how? Elementary particles, by their very nature, can't be broken down any further. How then do you destroy something that is, very literally, indestructible?
- Black holes are said to consume light but emit radiation. Light *is* radiation. If a black hole's gravitational pull is strong enough to consume and destroy light, how can it then emit it? Wouldn't radiation get caught in the black holes own gravitational field and be sucked back in before it was ever able to get anywhere?
- Again, if a black hole's gravity is so strong that it can pull light in, how can a "cosmic burp" and polar jets simultaneously expel matter? You can't externally push and pull something in opposite directions at the same time.
 1. If the force of the expulsion was less than the force of gravity, nothing would be expelled.
 2. If the force was equal, matter would simply spin at the same altitude within the black hole.
 3. If the force was greater, matter would move towards the exit of the hole, but, given the strength of the gravitational pull, it likely wouldn't move much and the struggle would be immense.

For matter to be expelled against a black hole's own gravitational pull to the point where it exits the hole completely and returns to a point in space where it again

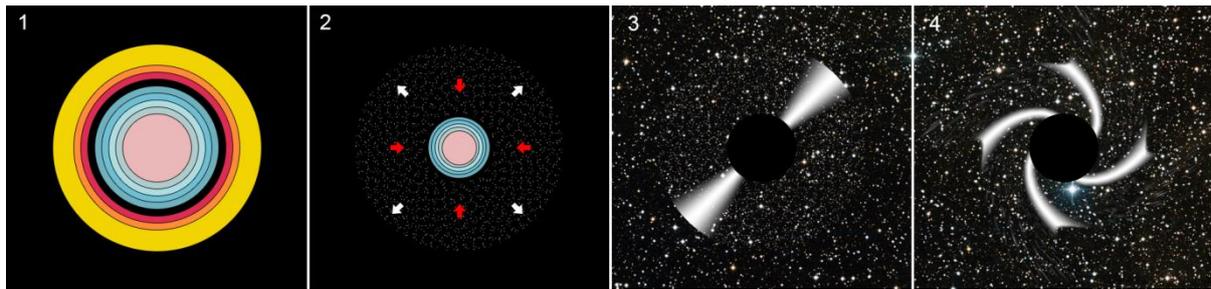
became visible, said expulsion would be the strongest force in the existence of the universe. Given the almost instant nature that would be required for the matter to escape, the force of the burp would need to be X amount of times stronger than the gravitational pull itself, to the point where the matter is forced to travel faster than the speed of light, since light itself is said to not be able to escape it. How would a black hole not completely rip itself apart and cease to exist when it is creating two opposing forces, so strongly, which are going in opposite directions and working directly against each other?

- Some people hypothesise that there may be a wormhole in the middle of a black hole. How can there be a tunnel that we cannot observe from the side – not even in a manner that "infers existence" – yet may magically have an exit in another part of space, making it able to transfer matter and light between two points? Space is literally nothingness, meaning there would be holes in nothingness that are able to transfer something that isn't nothingness (matter, photons) to another point in nothingness, all without us being able to see the path between the two points, meaning that the tunnel through which matter and photons travel has an outer layer made of something (element? compound? who knows!) that either so perfectly bends light around itself that it cannot be seen – a genuine invisibility cloak; Dumbledore would be so proud of nature, I'm sure he would shed a tear from beyond the grave – or would not be of this world.

Having said all that, this is a specific example image I created of what a black hole in full force could generally be considered to look like:



There could possibly be more light involved, but you'll understand the image above once a more plausible process has been explained properly, which we'll get straight into now:



1. A star. The different elemental layers are represented by each colour.
2. The star collapses, succumbing to its own gravitational force.
3. Here's where it all gets interesting. I'll first go over the likelihoods and possibilities before giving what I believe is the most logical framework:
 - i. **Compression** – This starts the moment the star collapses and continues indefinitely.
 - ii. **Rotation** – The weight of the core collapsing inwards creates immense angular momentum (rotation). *I'm not sure if near or anywhere near light speed is even plausible in such a situation, as some scientists have claimed to have recorded, but I'll let it slide until we get to the theory of gravity.*
 - iii. **Supernova** – The degree of compression creates an increase in temperature and pressure that is now too much for the gravitational pull to contain, and what cannot be contained erupts as a giant supernova, leaving behind a core remnant of what the gravitational force was able to hang on to.
 - iv. **Recombination** – Rapid plasma recombination, to be precise, caused by the removal of the heat source due to the end of the nuclear fusion process, turning most of the plasma ions back into a normal gaseous state.
 - v. **Transition** – With the now much lower temperature, the elements of the star with much higher phase transition points – carbon, magnesium, silicon, iron – as well as any other elements or compounds that have formed, return to a liquid/molten or solid state, depending on the exact temperature.
 - vi. **Black** – *Bear with me. I'm going to have some fun here first.* The main factor. The black appearance. Carbon? Though naturally black in a solid state, the reason the carbon is *so* black, let's imagine, is based on a process involving a combination of extreme heat, pressure, electricity and/or relatively rapid cooling, resulting in a thick outer layer of deposits of an allotrope with properties similar to but greater than the carbon nanotubes used to create the substance "Vantablack".

For those who do not know, Vantablack is the blackest man-made substance in

existence, absorbing up to 99.965% of visible light (when viewed, it literally looks like someone decided to cut out and remove the space it occupies). NASA also developed a super-black material in 2011, I do believe, which absorbs 99% of light across multiple spectrums – visible light, infrared and ultraviolet. Again, this was made from carbon nanotubes. A star collapsing is going to produce more heat than any other object in the universe that isn't a rival or larger star, is going to create what is amongst the greatest pressure in the universe when it collapses on itself, has enough atomic collisions and flowing electrons to generate enough electricity to – I don't know – power the earth for the foreseeable future, and has enough of other elements that we use to synthesise nanotubes in a lab, such as nitrogen and iron. It is entirely plausible for this process to create a carbon nanotube substance that absorbs near or 100% of all radiation, especially since many of the processes used in a lab to create synthetic carbon nanotubes can occur naturally in such a situation, except that, with a star, it's going to reach a level of extreme that mankind will probably never be able to replicate. Really and truly, during the collapse of a star, anything involving carbon formations is possible to any degree – nature is better than NASA. Also, the family that carbon nanotubes belong to – fullerenes – have been found in nature and outer space. Logic dictates that these can only have either been created by stars or extremely intelligent extraterrestrials – since we don't have any proof of the latter, let's keep it within the realm of what we actually know, which is that stars have the ability to create (almost?) any element possible, and at least the upper end extreme of their forms. It's also for these reasons that I find it very hard to believe that these bodies are only formed from the largest of stars. In my opinion, the single most important factor in their creation is the quantity of carbon particles available at the time of collapse, and the nanotubes are a result of the extreme arc discharge present during the collapse.

Okay, now we can be *realistic*. Given how much light is absorbed by carbon in any of its dark forms – coal, soot, graphite – it could possibly be one of those, though the idea of carbon nanotubes is *way* cooler. The only requirement is the surface temperature being below the melting point of carbon, but above the melting points of other elements. Simple enough, given that carbon has the highest melting point of any known element. Even still, carbon still reflects some light, so it begs the

particles light interacted with along the way. Still, in this infinitesimal amount of time, and over such a minute comparable distance, we were able to detect a change in energy levels, so, over a distance of 15 million miles, duration of 85 seconds (at least), and the unfathomable number of interactions between light and gas particles of the atmosphere, the redshift is going to be incredible. The light may be emitted as infrared radiation, but it isn't going to be infrared by the time it exits the atmosphere, and microwave radiation is the next stop down the electromagnetic spectrum line. *The duration of 85 seconds for travel through dense atmosphere may be rather optimistic. It's said that a photon can take thousands of years to reach the surface of the sun from the center, due to the number of interactions taking place. The radius of the sun is 450,000 miles, so 15 million miles of interactions may take a while. Hey, I'm not the maths guy; I just explain the logical framework. Either way, redshifting from infrared to microwave is the most logical conclusion, and something we already have evidence of.*

As for any heat that may be created below the outer carbon layer, conduction, convection and/or radiation may carry the heat to the outer layer (it's hard to say which, given that the state of the inside of a black core is unknown, but, since it was a star, we'll assume, for now, that it is a mixture of at least solids and trapped gases – much like planets and stellar remnants), the carbon emits it as infrared radiation and the same redshift process happens again. Given this, what we know as the "cosmic microwave background" would really simply be the redshifting of infrared radiation to microwave radiation due to photons passing through the atmosphere of the black core from which they were emitted. This makes sense, given that super massive black cores are theorised to be at the center of every large galaxy, and smaller black cores are dotted around space anyway – all that energy has to go somewhere, or, you know, *everywhere*. As for those mysterious bursts of radio waves that are sometimes detected in space, they would be the result of already redshifted light being redshifted even further, or lower energy photons emitted from a black core being redshifted into the radio wave section of the spectrum. Of course, it isn't only redshifting that can occur, and taking into account blueshifting brings us to a very interesting point – that which could be mistaken for Hawking Radiation. You see, should the light interact with any transparent mediums in space, it would be entirely possible for it to blueshift from microwave back to infrared, and

this would solely depend on the population density gradient of the medium, the direction in which it is graduated versus the angle through it through which light travelled, and its size. If this happened, and, from our viewing position, the light appeared to be travelling directly between us and a black core, we wouldn't know any better, and, based on theory, would easily make the mistake of thinking it was actually Hawking Radiation being emitted, when it was, in actual fact, light being shifted. To throw even more confusion into the mix, the radiation wouldn't even need to originate from a black core in question – it only has to be refracted enough times the right way in order to fool us with an apparent position image, since we can't actually trace the path light has travelled. However this is very, very unlikely, hence why there has never been any evidence of HR.

Think this sounds crazy? Ask any physicist why gamma rays created in the center of the sun don't reach earth. They'll tell you that it's because of the number of particle interactions experienced between the center and the surface that redshifts the photons to a lower end of the electromagnetic spectrum, giving us UV rays, which are two down from gamma, after x-rays, and the same thing happens through the gaseous atmosphere of the black core, with the only difference being that the atmosphere of the black core hasn't been ionized into plasma. The sun redshifting gamma rays to ultraviolet definitely means that a black core can shift infrared to microwaves.

Thinking about it, it may even be possible that visible light is emitted from the surface of the core – more likely from the lower end of that section of the EM spectrum, but really it could be from any part of the visible spectrum – and is still redshifted enough through the atmosphere to become microwaves and radio waves. 15 million miles of thick atmosphere is a lot to get through. If we can find a way to mathematically determine the precise loss of energy based on thick atmospheric gradients and distance, we can calculate how much energy visible light could lose and where on the electromagnetic spectrum it is likely to end up, but gamma to UV shifting from the sun is pretty much the only evidence we need in order to determine that light is being redshifted out of the black core. For all we know, black cores may not even be black – and they probably aren't – and may not be covered in carbon –

they're probably not – but just be camouflaged by the extreme atmosphere and the laws of thermodynamics.

- x. **Growth** – Besides the minds of some individuals, nothing is infinitely dense, so anything that can consume must also grow to accommodate said consumption.
 - i. **Free Matter** – The attraction of any floating matter in space that strays too close. It won't make much of a difference in relatively short spaces of time, as there isn't going to be so much matter in space near a black core to create noticeable expansion, given their (usually) already incredible size. It would be considerably less significant than pouring a cup of water into the ocean.
 - ii. **Celestial Bodies** – The consumption of celestial bodies, on the other hand, should it ever actually occur, is a different story. There are a number of factors that affect whether noticeable growth is experienced, such as the quantity of mass in the body compared to the size of the black core, the temperature of the core, and its atmosphere, and the state of the added matter at the temperature it is experiencing.

In either of the above cases, anything in a gaseous/vapour state will become part of the atmosphere, though some may become trapped below the surface of the core.

Any solids and liquids will simply fall to the surface.

- xi. **Spaghettification** – The vertical stretching and horizontal compression of an object into a spaghetti-like shape, without it appearing to initially lose any mass, said to be caused by extreme gravity and tidal forces. Is it possible/likely? Let's see.
 - i. **Non-Solid Bodies (NSB)** – It all starts when the edge of the atmosphere of the black core meets the edge of the atmosphere or corona of the incoming body, but, prior to this meeting, the nearing of bodies creates violent disturbances as the gravity of one body weakens the pull of gravity on particles of the other body, yet both bodies retain the particles that belong to them. No spaghettification could occur at this point as the gravitational pull will simply be too weak.

Once the meeting occurs (15 million miles away from the surface of the core if we are sticking to the black hole from the example), however, everything changes. Due to the inverse square law, the instant the atmospheres overlap and microgravity becomes regular(?) gravity, the gravity of the black core

will dominate the gravity of the NSB and its particles that are within the overlapping area, forcing said particles to now obey the core. As this happens, what we would usually expect to see if a body such as earth was doing the pulling is the NSB being stretched in a seemingly straight line directly towards the surface based on the relatively slow rotation – not resembling spaghetti exactly, but more akin to some of the strange eyebrows flooding social media, where it starts off thick and then continuously tapers off to a point. Depending on its entry speed, we may even get the inconsistencies in the tapering, too. Anyway, this is due to the fact that the NSB starts off at its largest size, and, as it loses mass to the black core, its own gravitational pull continuously attempts to spherize the remaining matter, becoming smaller and smaller until it has no more matter left to give. With black cores, however, the core is spinning at amazing rotational speed, so the particles are being carried around the core within the atmosphere at the same time, while still descending towards the surface, resulting in a tapered swirl. This is just the natural occurrence when you have a rotating system meeting a single but loosely held together composite object of progressive contact and continuous movement. Spaghetti? No. Swirl? Yes.

- ii. **Solid Bodies** – Solid bodies, such as moons, won't undergo a spaghettification process because they do not deform as easily as liquids, gases, and plasma, or some other solids. They aren't elasticized, nor are they malleable, so if a force was to attempt to horizontally compress them, even if by means of vertical stretch, they would just crack and crumble. The only thing that will deform is the atmosphere of the solid body, as that is made of gases. When the actual solid body does move beyond the meeting point with the core's atmosphere, travelling through a fluid so thick, for 15 million miles, at a speed that reaches a *minimum* of whatever the terminal velocity of the body is with the core in question (depending on whether or not the solid body is travelling faster than terminal velocity upon entry, and whether or not it slows down to terminal velocity before it comes to a stop), the friction acting on that body is going to ignite and break it apart in the same way a meteorite does on earth, but much, much faster. Picture wood through a wood shredder. Nothing more than dust is going to reach the

surface, with any matter that managed to reach its boiling or ionization point remaining in the air as gas or plasma until it cools down to the temperature of the surrounding atmosphere, at which point it may become a liquid or a solid again.

iii. **People** – People falling into the atmosphere of a black core (feet first, let's say) wouldn't experience spaghettification because we are not elasticized, either. For us to stretch in such a manner, our head would have to be experiencing such an incredibly higher difference in resistance compared to our feet, while our feet are experiencing an incredibly higher difference in gravitational force, causing our head and feet to descend at significantly different speeds, with our feet descending faster (head descending faster = body squashed), but that isn't possible since our feet would be closer to the surface and resistance increases the closer to the surface you get, as well as the fact that such a difference is impossible in this situation as it would require the atmosphere to be thicker at higher altitudes, and, given the even tallest height of a human, would require an immense (and I really mean unfathomable) difference in atmosphere over an altitude of, what, less than 3 metres? Even if such a fantasy was possible, the human would just tear to pieces. If anything was to happen in a real world scenario, we would get shorter, not longer, under the increase in resistance our feet face compared to the head, but it really would depend on the difference in gravitational strength versus the difference in resistance that our head and feet are facing. Still, we would certainly die very quickly. You can pick the method you like best:

1. Since the atmosphere is so thick that it isn't breathable, suffocation is guaranteed.
2. Only God knows what gases are in the atmosphere, so some sort of poisoning is highly likely.
3. Terminal velocity for the average human on earth is around 122 mph, meaning it will be significantly more around one of these gravitational behemoths. The impact as you hit the ground will create the most beautiful piece of macabre artwork no one will ever live to see, and that's if you make it to ground...

4. ... because, with such a thick atmosphere, friction, combined with the speed and the duration of your fall (remember, 15 million miles of falling), will see you burnt up and torn to shreds long before you are able to taste the surface.
5. If, by some act of God, you make it to the surface alive and in one piece, you won't be able to move. The gravitational force is too strong for a human – we aren't built for it. You'll be stuck in one spot – you'll starve, you'll dehydrate, blood flow will be impeded. The upside to this is that you would've long been unconscious, so you won't even feel a thing.

Really and truly, it's a race to see what will actually kill you first. Should anyone, at any point in the future, manage to make it to a black core alive, spin your body around if need be and go in head first – get it over and done with immediately.

- xii. **Shrinkage** – Can black cores shrink? Sure, why not. There's nothing in the laws of physics preventing such a thing, and there's evidence to suggest that it is a possibility.
 - i. Polar Jets – Jet streams of energy and matter being expelled from the poles have been witnessed. As for why this happens, I can think of two possible reasons:
 1. Nuclear fusion explosions, the likes of which we use for nuclear weapons, only much, *much* bigger. Gravitational compression causes enough heat to begin the nuclear fusion process, just as it does in stars. As the process continues, the energy being produced increases, all while continuously being compressed. At some point, the energy is too much to be contained, and becomes strong enough to push through to the surface and into the atmosphere.
 2. Mass compression ignition, which sees large quantities of trapped flammable gases ignited through compression. Given all the elements likely present in the core, everything required for the mechanism is there. For example, after consuming a star, hydrogen – a flammable gas – and oxygen – an oxidizer – are both trapped and compressed within the core by its gravitational pull and the

weight of matter on top of it. The core itself, having been a star, could also have gases remaining that could be used.

In either case, the black core would act as a combustion chamber, and, when ignition takes place, the force of the explosion bursts through into the surrounding atmosphere via the poles – as, for reasons explained when we examine gravity, these are the paths of least resistance – and out into space, carrying matter with it. The loss of matter would then be responsible for the loss of size. Polar jet expulsion could be a very important function of these behemoths – it's a way to ensure matter is redistributed across the universe, ensuring there is enough free matter floating around to be able to create new stars. Polar jet expulsions could, theoretically, help the universe self-sustain indefinitely.

- ii. Cooling – If the core begins to cool down, the body will naturally contract in size. Depending on the order, states, and temperatures of any internal layers, the degree of contraction can range from minor for a solid to significant for gases/plasma.
 - iii. Collapse – If any layers within the core are composed of gas, if there are any gas chambers of significant size, or if the structural integrity of any solid layer is poor, the gravitational pull and/or weight of the mass on top can work in combination to cause an internal collapse and a resulting implosion.
 - xiii. **Below** – Still the biggest mystery of all, but we can use reasoning to help determine what is beneath the surface:
 - i. The creation of the reactions which cause polar jets means that the center of the core is either a solid or a liquid, as gas/plasma cannot be used as a container within which pressure is built.
 - ii. For enough pressure to build for polar jets to occur, this means a significant (relative to the mass and density of the body) portion of the layers surrounding the central core are also solid/liquid, as a single layer of gas/plasma would prevent the weight of every layer above it from having an effect as the weight wouldn't be able to travel through the empty spaces between particles in such layers.
 - iii. The speeds of rotation and sizes of these bodies are going to generate incredible heat, meaning there's a good chance that some layers below the surface are in a liquid form, at least.
-

- iv. Based on the fact polar jets travel straight upwards and out through the poles, it's virtually impossible for there to be any gas/plasma layers beneath the surface. How do we know this? If there were, the explosions would traverse and disperse around them, as they would be the path of least resistance compared to the, what would need to be, solid layer above (gases couldn't support a liquid layer above them due to the easily broken bonds between liquid particles). At this point, if the stream matter was still to make it out, it's highly unlikely (read: damn near impossible) that the streams would be emitted from the poles and only from the poles *every single time the phenomenon is observed*.
- v. Gamma rays have been detected being emitted from the black cores. Now, under the normal atmospheric rules of redshifting, said rays should likely have redshifted to lower energy radiation waves before leaving the atmosphere. However, the fact that gamma rays can be detected tells us something very important – below the surface, much like with stars, atomic nuclei are decaying, producing gamma radiation, and these same decaying particles are being ejected high enough into the atmosphere for the gamma rays produced to escape before they have a chance to redshift.
- vi. The non-constant polar jets eradicate the infinite density theory. If a "black hole" was infinitely dense, it would be the cause of infinite and continuous compression, which would cause infinite and continuous heat, which would cause infinite and continuous gamma ray production, and then infinite and continuous polar jet emissions. All that energy would cause all surrounding matter to become a gas, ionize into plasma, and then nuclear fusion would occur throughout – just like in a star. Based on the current theory of gravity, the gravitational strength would also be infinite due to the infinite density, meaning everything in existence would travel towards a black hole at an infinite speed. Gravitational strength cannot be infinite, given that it **must** weaken over distance based on the inverse square law (infinity cannot be divided, meaning there would be no inverse square law applied to gravity here, which is impossible), but if it was, there would be no "event horizon", because its gravitational pull would be infinite throughout the universe, and the entire universe would have been sucked into a single black hole literally the instant the first one was ever created. Also, even if that didn't happen,

infinite gravity would mean we would be travelling at the same speed light is also travelling in such a situation, given that current theory states that black holes can pull light, so we would have been pulled into the hole long before we were able to sit comfortably in our position in the universe and observe light from objects further away than the hole itself. With infinite energy, matter would be able to support itself against non-infinite gravity and would grow outwards – just like a star. Infinite this, infinite that – once you trigger the "infinity trap" in any physical system, everything falls apart and nothing is real anymore, and, if current theory was true, either "black holes" wouldn't be black at all, but would be easier to spot with the naked eye than a vegan in an abattoir, or the universe would have been eradicated almost immediately after the first black hole was created. Intermittent polar jets mean there has to be a build up of energy for the process to happen, which can only happen when density isn't infinite, meaning there is no singularity, either. *Reductio ad absurdum at its finest.*

- xiv. **Death** – Highly unlikely, if not impossible. It would be like expecting the earth to die – I don't mean all living things that inhabit it, but the physical destruction of the body of the planet itself. The only really plausible way to expect a black core to die naturally would be for its polar jets to continuously expel more matter than it consumes outside of its atmospheric reach (good luck), causing it to shrink and its gravitational strength to weaken, and, eventually, when we're all long dead, buried, and survived by our superintelligent AI machine descendants, the core reaches a size that allows one final internal combustion to simply rip it apart.

There is, however, another possible way for these cores to end. If a gravitationally dominant star travels close enough, it could end up consuming the black core.

4. Aside from the absorption of light, two other things create the spiralling appearance that help light perform the tricks it does. The first is the rapid rotation of the black core and its atmosphere. The second is caused by the drag of gravity as it weakens between the surface of the core and the edge of the atmosphere. They both help it appear as though light is being bent and that objects within and behind the atmosphere are being distorted, but the resulting optical illusion, as previously mentioned, is simply due to the population density change as light travels through it.

Summary

To offer the most logical, simplified explanation of black cores, they are formed when very large stars collapse and cool down enough so that matter can return to a solid form. They generate significant heat due to the absorption, compression, and speed of rotation, but we aren't able to detect the heat as infrared radiation because, by the time said radiation escapes the incredibly dense atmosphere, it has redshifted into the microwave portion of the electromagnetic spectrum, and these microwaves are what have been mistaken for the cosmic microwave background – yep, fuck the "Big Bang" leftover radiation bullshit – and the radio wave section of the spectrum, which is the cause of "strange alien signals" we sometimes detect here on earth.

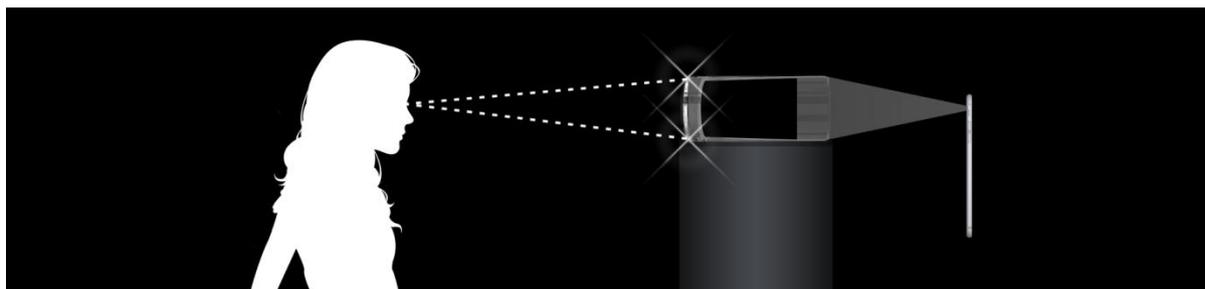
They help to keep the universe in balance. It's no coincidence that they are found at the center of all major galaxies. They consume free matter and possibly obliterate celestial bodies, and then expel large quantities of matter back into space, where it can be used to create new stars. Over millions and billions of years, the cycle of renewal continues.

Any time you see any statement or publication that claims some lab somewhere has come anywhere near close to creating a "black hole", just know that they are lying – how do you know you've almost created something when you've never even known what that something is? The Large Hadron Collider is not able to, nor will any other particle accelerator or collider ever be able to, create a black hole. It's all fairytales and bedtime stories dreamt up by fantasists and crackpot lunatics. The earth isn't going anywhere due to the smashing together of a few particles. Seriously, do you know how volatile this universe would be if that was possible? You would have black holes being created within black holes. Talk about a paradox. I'll sit here and watch them try until they die or retire.

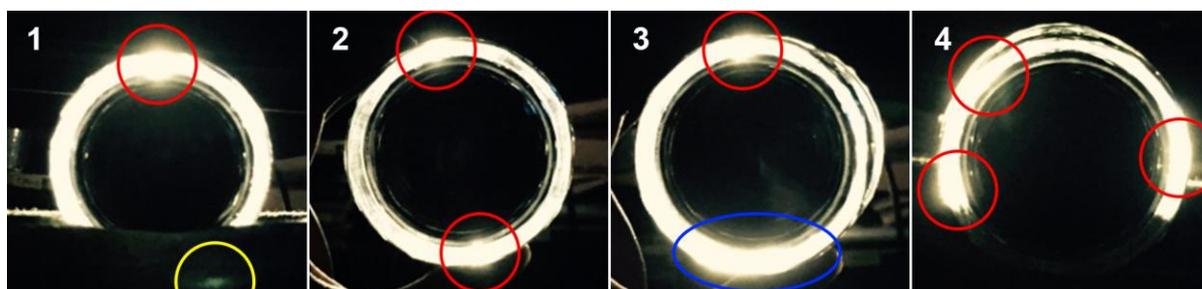
Lensing and Distortion Experiments

Atmospheric Lensing

Using a light (I used my phone flashlight because of how bright it is), a glass tumbler, a blocking object (I used a watch pillow) that can be squashed within said tumbler, and stands for the light source and tumbler if you wish to do this hands-free (best to do this is a dark room), I was able to recreate said effect:



Turn off all lights in the room and close any curtains/blinds to prevent light coming in from the window. Stuff the pillow (or your object of choice) to the bottom of the glass so that light cannot come through the center of the base. This object acts as the celestial body, while the tumbler acts as the atmosphere. We can't recreate the atmospheric gradient this way, but that's fine. Put the glass in a horizontal position. Place the light source behind the glass, so that the beam shines directly into the glass opening. Now look through the base of the glass. You'll see the light source lensed, resulting in what appears to be one or more light sources around the blocking object – the exact same thing that happens when atmosphere surrounds a celestial object. By moving your head around to change the angle from which you are viewing the base of the glass (while keeping the light blocked by the cushion so that you never see it directly), you can get multiple lensed images. I managed to get two, three, the infamous "Einstein cross" four, and one distorted image that went around almost the entire rim of the bottom of the glass in an almost complete halo. Here are some of my results:

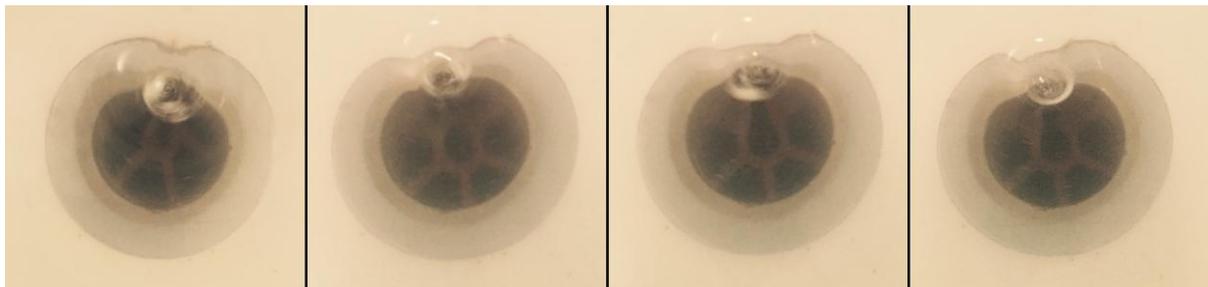


1. In the first image, we can see a single apparent position image (red circle) and the point where the light is directed (yellow circle).
2. In the second image, we can see two apparent position images.
3. In the third, we have a single normal apparent image (red circle) and a smeared apparent image along the bottom of the rim (blue circle).
4. In the last image, we manage to get three apparent position images.
5. I never managed to get the Einstein cross a second time around, and got frustrated while trying to find the angle for it.

None of the photos were modified in any way, as you will see for yourself. This looks exactly as it does with gravitational lensing as it is seen in space, yes? *Riddle me that, Batman!* Extreme gravity certainly has nothing to do with this.

Atmospheric Distortion

This one came to me serendipitously and at a rather odd moment. While I was standing around, waiting for the bath to drain, oddly fascinated by the whirlpool as I always have been, I noticed the rather weird distortion effect it caused to the metal rim. It looked exactly like this:



Yep, that's the same distortion you see around a black core, and it's simply an optical illusion caused by the rapid rotation of a transparent medium. You can just fill a bath with some water, let it start draining, wait for the whirlpool, and see the effect for yourself. Extreme gravity certainly has nothing to do with this, either.

Making a Mole Hill Out of a Mountain

Before we completely move away from some of the things discussed about "black holes", I'd like to talk about another celestial object that is said to be incredibly dense – Neutron Stars.

These, too, are said to be caused by the collapse of very large stars. Here's the kicker: they have atmospheres of carbon. If I was to take a stab in the dark, I'd state that neutron stars are like black cores that, during or after collapse, never cooled down enough for carbon to return to a solid form, so the abundance of carbon remains in a gaseous state and forms the majority, if not all, of the atmosphere. Physicists say that neutron stars can then collapse into black holes... More likely, neutron stars cool down enough for the carbon to become solid, again giving us carbon-coated cores.

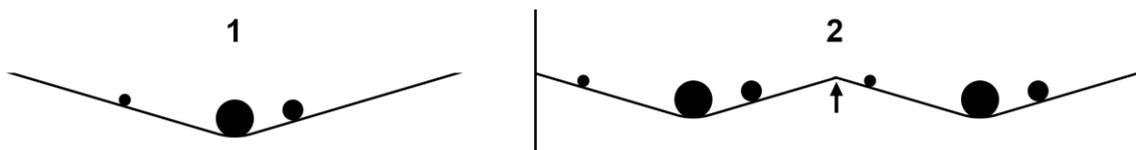
Now, it is said that a teaspoon of matter from a neutron star would weigh something like one billion tonnes because the gravitational strength is so great that it crushes protons and electrons together to become neutrons, creating a body of absolutely incredible density. This is solely based upon the

fact that they have been determined to have immense gravity for their size, as there is no other way to come up with such a thought. Just try to imagine that – the weight of a mountain on the end of a teaspoon, all contained in less than 6 millilitres of material. This isn't as bad as the infinite density of a black hole, but it hasn't fallen far short. It's becoming more and more apparent that Einstein's theory of gravity is the reason for many of the misconceptions and misunderstandings of the physical universe. We won't tackle it quite just yet, as there are a few more things to go over beforehand, but, I promise you, it is worth the wait.

Even Models Have Flaws

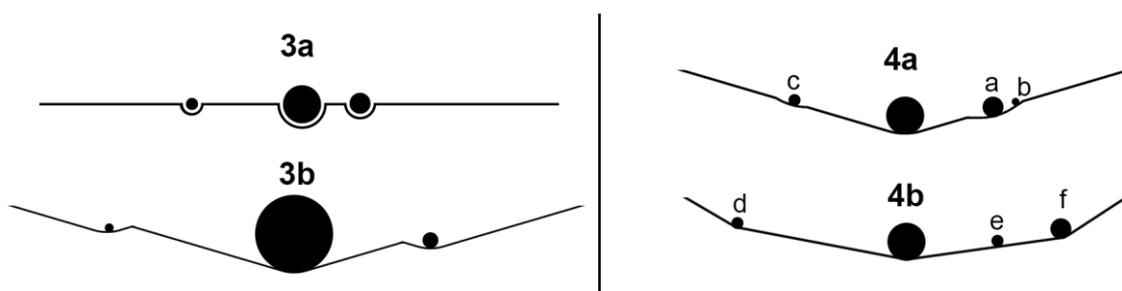
We can use the most common demonstration used to explain the bending of Spacetime (*which is an absolutely terrible demonstration, by the way*) and compare it to physical behaviour we can actually test to show the flaws in Einstein's models.

1 – Which celestial body bends spacetime?



Spacetime is said to be curved by objects such as and celestial bodies. The demonstration of spacetime sees balls being placed on a sheet, with a heavy object in the center and the balls orbiting it using motion and speed. Image 1 is a general depiction of the layout. However, in multiple celestial systems – two neighbouring solar systems, for example – objects orbit a different central object, meaning that there would need to be a boundary, as shown in image 2. That can easily be explained by saying the boundary is any point where the gravitational strengths of any central objects of different celestial systems meet and are equal.

Spacetime simulation models, however, always indicate such boundaries on the "fabric" of spacetime similar to what is shown below in images 3a and 3b, and herein lies the first flaw.



First we'll look at the demonstration used to depict spacetime. If the curvature of spacetime is what creates gravity, then:

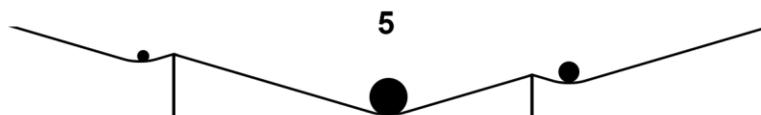
- The object at the center of any celestial system must create a downward curve between the boundary of the system and its central position, as image 1 shows, in order for it to enable an orbital system with a single point around which everything within the system orbits.
- The curvature must extend the distance of the gravitational pull, from center to boundary.

Given this, how can any celestial body besides that which is the heaviest and in the center have its own gravitational pull in a single system? If gravity is created by curvature, then objects can't orbit objects that are orbiting other objects because objects on a stretchable surface that is being weighed down can't create a small curve within a bigger curve within the dominant curve, in the way image 4a shows, with object A creating a curve on the right slope, object B sitting within the curve of object A, creating its own tiny curve, and object C on the left side creating its own small curve. This setup is **physically impossible** to create in the real world. Let's continue.

With multiple objects present on a stretchable surface, the heaviest object would remain in the center, and the most any other object could do is create a bend in the fabric where it is currently placed, as seen with objects D and F in image 4b, but that bend wouldn't be the object's curvature because it would be dependent on the already established dominant curve of the central object. More issues arrive when multiple orbiting objects are involved, but the primary one is the fact that, even if the bend was counted as an object's own curve, not every object would get its own curve because of the non-uniform distribution of objects by weight. With boundaries and a center defined, any objects heavy enough to bend the fabric will create a straight line point between itself and the center on one side, and itself and the boundary on the other. Much lighter objects that then existed between the central object and the object creating the bend, as we can see with object E, wouldn't then be able to create their own bend, and wouldn't have gravity at all. If the lighter object was motionless, it would roll into the center, and if it had orbital momentum, it would simply continue to move in a circular pattern, but it could only create its own bend in the fabric when far enough away from an object currently creating a bend, and either being the sole object between the boundary and the center, as is object D, or the heaviest object between boundary and center, but when it circles back round to being between a heavier object and the center, its bend would disappear. Formations such as that which we can see in image 4b implies that the large gravitational force of the central object can be increased by heavy objects at one angle as the heavy object weighs the fabric down, so that it is closer in strength to the strength nearer the central object than it otherwise

would be, but then would weaken sharply between said heavy object and the boundary of the celestial system. As a real life example, it would mean that when earth is in line with Jupiter, the heaviest planet in our system, Jupiter would weigh the fabric down more and earth would experience a stronger gravity at the time, but then the gravity would weaken as earth moved further out of line.

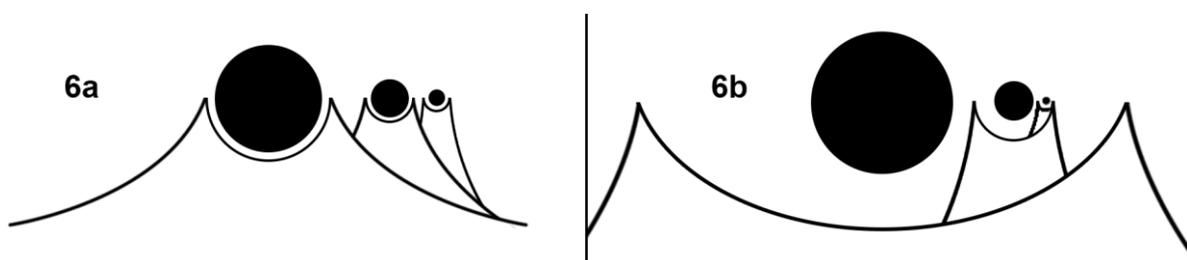
The only way for objects to all have their own curvature in spacetime, as the demonstration depicts, would require literal support structures for the fabric, in order to create a staggering, like so:



Unless physicists decide that columnar support for spacetime also exists, this demonstration is pretty useless in depicting anything other than objects orbiting the heaviest object in the center, so now we can look at the simulation models.

Heavily resembling images 3a and 3b, depending on which one is viewed, simulation models use a horizontal plane with curved dips around objects, but they should really face the same issue – no curves within curves for 3a, and the addition of no support structures for 3b. What has been done to solve this, however, is the fabric of spacetime has been re-imagined as an amazing semisolid – self-supporting, shape-conforming, and re-inflating. There's absolutely no basis for this other than it's the only way physicists have been able to make this ridiculous model work.

The next thing to ask ourselves is this – what on earth is causing objects to sink into spacetime, resulting in the curves? If the curving of spacetime creates gravity towards an object, what is pushing or pulling objects into spacetime to create the curve? Maybe we can view the model a different way, where proximity to the fabric of spacetime causes it raise and wrap around an object, like so:



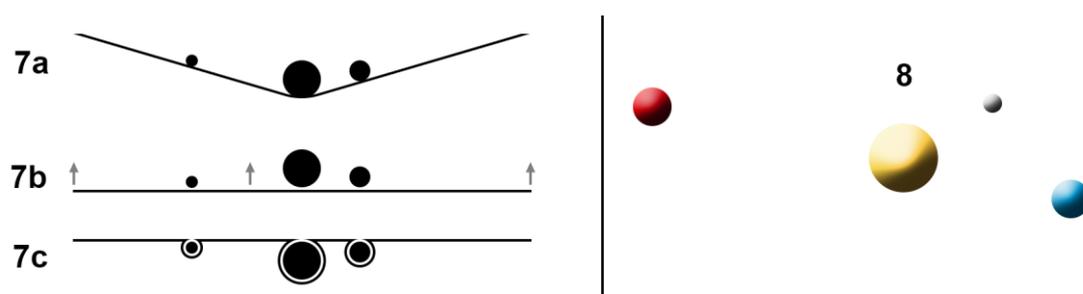
The reason, I suspect, this model isn't used is because it would be even more unrealistic – depending on how one decided to depict gravitational reach, the raised fabric for orbiting objects would either

erect on the slopes of the objects they orbit, with orbital rotation making it appear as if a volcanic mountain range one day decided to begin dancing in circles, like image 6a, or erect in the fabric curve of the object in which they orbit, shown in 6b, as if dancing volcanoes were spouting other dancing volcanoes.

Something else to understand is the fact that this model can't only apply to celestial bodies, as they are always shown. As every object is *supposed* to have gravity, every object should bend spacetime. Attempting to use these types of models – or any of the models you will see beyond this point, for that matter – for an accurate depiction of spacetime bending would be disastrous.

All the models shown here are bogus. Physicists are creating and allowing conditions to exist that have **no** observable basis for foundation, for the sole purpose of supporting a theory that would otherwise be thrown out. Nevertheless, let's continue.

2 – On Versus In



Let's see if we can make this work a different way. We're going to use objects and the fabric of time again, but not in the way shown in image 7a. Rather than objects sitting *on* spacetime, we'll test them sitting *in* spacetime.

Imagine the fabric of spacetime had a natural force that directed away from the top face, as indicated by the arrows in image 7b, but no resistance to weight whatsoever. Objects with mass that sit on the fabric automatically fall into it, becoming completely enveloped, as shown in 7c. This way, the upward-facing force of spacetime will be directed towards the surface of the object. However, this model immediately fails because it would be impossible to determine the gravitational reach of any object.

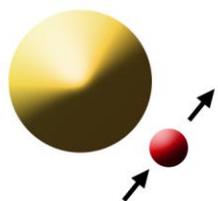
We know the fabric is only imaginary, but it would still need to follow the laws of physics, which means it would still have to behave in a logical way that can be determined in the physical world. What becomes immediately apparent – and we can create any 2D spacetime curvature model a person can think of – is that no model can come anywhere near creating an adequate simulation,

based on how spacetime and gravity is currently explained, without physicists bending the rules, ignoring data, and disregarding aspects of how things behave to suit Einstein's work – literally ignoring the physics of the physical world to define the physics of the physical world. Unfortunately, this is an all-too-common practice. Regardless, it's impossible to prove Relativity with objects sitting *on* the fabric of spacetime.

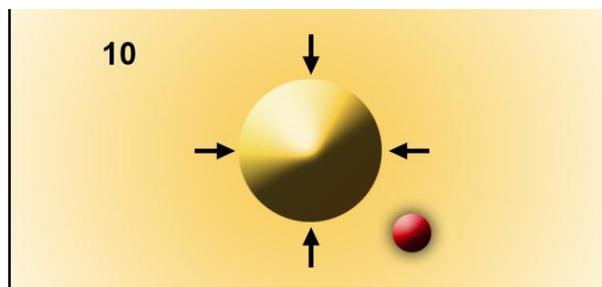
If we consider objects *floating* in spacetime, however, as shown in image 8, treating spacetime as a fluid, then a different story begins to unfold.

3 – 3D Wrapping – A pulling force is still required to bend spacetime

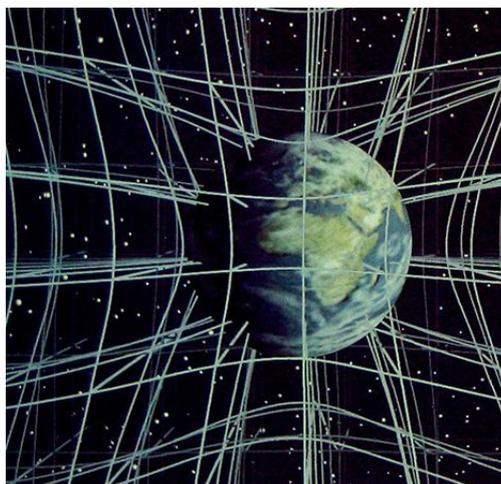
9



10



Imagine two spherical objects of two very different sizes are floating in a nothingness comparable to space. You push the smaller object right past the larger, as is shown in image 9. What exactly is going to make it divert course and drift towards the surface of the larger object? Gravity? How would that work exactly? Let's take a look at the 3D model of spacetime, in case you aren't familiar with it:



Now, take a good look at that image and answer this question: how exactly is spacetime stretching *inwards*, towards the object, instead of outwards? How exactly is the object pulling spacetime towards itself? For spacetime to even be able to be stretched towards an object:

1. There would first have to originally have been an area between the object and spacetime itself in which spacetime did not already exist, because you can't pull an object into an area that it already occupies, unless someone attempts to say that spacetime folds over like a blanket, which opens a whole world of other ridiculous issues to consider.
2. There would then have to already exist a force that was able to pull spacetime into the unoccupied area, which we have to question because, if said area is unoccupied, we have to question what the object even exists in if not spacetime, unless we now attempt to claim that gaps in spacetime are possible, so it looks like {object}-{area of complete nothingness}-{spacetime}. This is starting to become even more ridiculous than the 2D model.
3. The only other way spacetime would be stretched would be if it was attached to an object and then an external force pulled it outwards, but herein lies another issue. When something is pulled in such a manner, that which is being pulled stretches in its entirety between the source of the force and whatever it is attached to. Say the distance between the source and attachment is 10 metres. If you pulled a material so that it stretched a metre, the whole material would stretch. It would never be a case of only the first 2 metres of a material stretching an entire metre, and the rest of the material remains perfectly normal. **Physically impossible.** Still, this provides another obvious flaw – everything would be pulled away from, rather than towards, the object, so we would all be floating off into outer space rather than towards the surface of the earth.

If any of the above models could work, the fabric of time would be different for every solar system and galaxy, depending on the gravitational pull of the dominant body, and then the individual pulls of all orbiting bodies. You know, I genuinely read somewhere that these spacetime models "are not meant to be taken literally". *Gee, I wonder why.*

4. Gravitational Strength

Simulation models are only visualisations and maybe I'm just being picky; maybe I have unrealistic expectations; maybe I'm just looking too much into it and sounding crazy. Let's use some numbers from NASA's planetary factsheets instead to see if we can make sense of it:

Mercury and Mars are said to have approximately the same gravitational force – 3.7 m/s^2 . Let's look at some of the properties:

	Surface (km ²)	Diameter (m)	Volume (km ³)	Mass (kg)	Density (kg/m ³)
Mercury	74.8*(10 ⁶)	4,879,000	6.083*(10 ¹⁰)	0.33011*10 ²⁴	5,427
Mars	144.8*(10 ⁶)	6,779,000	16.318*(10 ¹⁰)	0.64171*10 ²⁴	3,933

The reason I chose these five properties is because these are the only properties that can affect a curve created in a substance – even a non-existent one. However, mass and density only have an effect when gravity is already in play (or, laughably, something is pushing the object downwards) and, since the fabric of spacetime can't have gravity itself, anything that involves mass of an object sitting on the fabric of spacetime won't come into play. So, at no point do any calculations based on the given numbers of properties that will come into consideration for these two planets even come near to being equal, so how can they have the same gravity based on a curve? There is no "wide and shallow, narrow and deep" equivalence between them for a 2D plane, nor any surface area equivalence for a 3D plane, so something has to be wrong somewhere.

There are no other factors that affect any curve an object can put into spacetime in such a model. What exactly could be creating an equal gravitational pull between the two? Rotational speed, orbital speed, temperature, and any other property cannot have any effect on the curve created as shown in these models. Are we honestly expected to believe that the curvature of spacetime is what creates gravity, but that it does not determine the gravitational force based on said curve? Why, that would be absolutely ludicrous! The way I see it, there are only three possibilities left:

1. God did it;
2. Magic is real; or
3. Spacetime curvature is a bogus theory.

I vote for number 3, though it doesn't really matter which option is chosen, as they will imply option 3 anyway. Still, there are a few more things to consider, so let's not jump to any conclusions just yet.

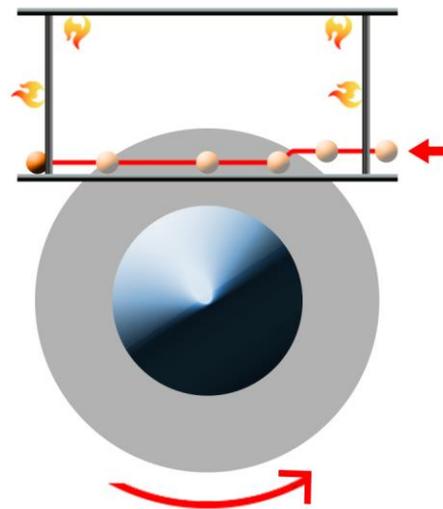
Some of you may be thinking that objects simply exist at the required level to sit in spacetime, and this could be acceptable if orbiting planets were perfectly horizontally aligned. It doesn't matter if we check for alignment for the top, center, or bottom of a planetary object along their orbital path around the sun, they are all out of sync, with Mercury really off doing what it wants, having the greatest inclination. Then exists the fact that there's no correlation between how an object sits in spacetime at any point in its orbit and the stated gravitational strengths of the sun and each planet. This implies that the fabric of spacetime wouldn't even be a flat plane in itself, but would be a plane of varying heights, just like image 5, and would continuously vary in height at specific points under

an object to ensure its curves remain exact, otherwise its gravitational strength would change constantly.

Curves in All the Wrong Places

"Spacetime tells matter how to move; matter tells spacetime how to curve!"

So says John Archibald Wheeler as a summary of Einstein's work on relativity. Bad news, Wheeler – it doesn't. Energy, force and resistance tell matter how to move. Transparent mediums and reflective surfaces tell light where to go. Spacetime minds its own business. Let's do another thought experiment. This time, however, all we really need is an image:



What we have here is a structure that is sitting both in space and within the atmosphere of a planet, wide enough so that the floor passes directly across the atmosphere.

- Propulsion opposing the planet's gravitational pull is preventing the structure from crashing to the planet's surface. It is perfectly equal in strength to the pull of gravity.
- Propulsion opposing the rotation of the atmosphere is preventing the structure from being forced to orbit the earth, so the earth ends up rotating beneath it.

With a single object spanning both types of reference perspectives, we can take a good look at the situation.

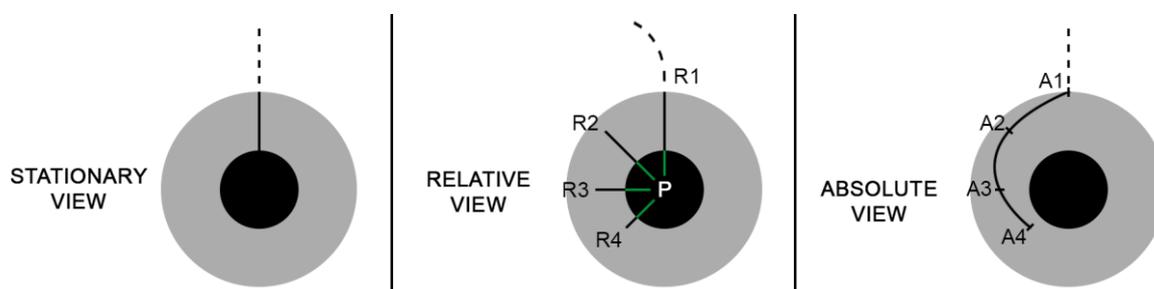
A ball is sailing through space as shown, using momentum picked up from somewhere at some time when the ball was doing something and some interaction occurred. It comes into contact with the planet's atmosphere. Since the gravitational pull has significant effect here, it causes the ball to fall to the floor of the structure. Normal force exerted by the floor is supporting the weight of the ball.

Usually, the ball would (eventually) stop rolling due to friction. In this case, however, the rotation of the atmosphere keeps pushing the ball along the structure's floor because the structure isn't orbiting with the movement of the planet. Eventually, the ball, continuing to roll along the structure's floor, rolls out of atmosphere and back into space. What happens next depends entirely on the remaining momentum – the ball could continue off into space or may end up being pulled back into the atmosphere by microgravity.

Where in the above example does spacetime come into play in telling anything how to move? If spacetime really told matter how to move, it *should* be impossible to defy it, since every single piece of matter would have to conform simply because it exists, or does the dictation of spacetime only matter when energy, force, and resistance have nothing to say? Simply existing in spacetime means nothing, as neither space nor time interact with anything physical in any way. Curves, on the other hand, do play a role, but it has nothing to do with spacetime, either.

Matter

How do you turn one straight line into two lines, where both are straight and curved at the same time, but one never appears the same as the other? Using two reference perspectives, like this:



- In the stationary view, the body and the atmosphere are stationary, meaning a straight line path of an object falling from space to surface is just that – a straight line. Your position doesn't matter.

When the planet and atmosphere are spinning, however, it all changes:

- In a relative view, as shown in the middle image, you are moving with the body, so imagine you are standing in position P. The object, when outside the body's atmosphere, appears to take a curved path as you rotate anti-clockwise, but it's really just an illusion, something like the sun appearing to move across the sky in a curved path. For it to enter the atmosphere directly above you, it starts in front of your position. Once it does enter, the falling object moves with you and the body at the same rotational speed, so the path of travel now

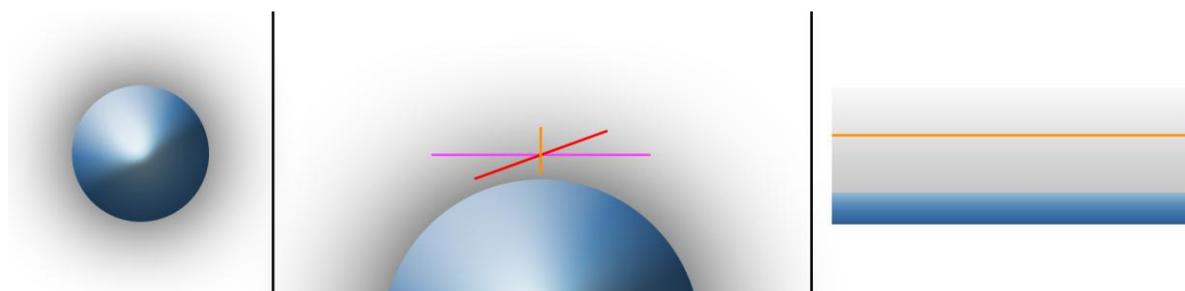
appears, to you, to be a straight line (we can imagine no other interferences, such as wind, come into play). For each relative position of the falling object in the image (R1, R2, R3 and R4), the black line towards the center shows the path of travel. The connecting green line coming from the P shows the direction in which you are looking. As you can see, they directly line up, and always will, because your rotation speed matches the object's orbital speed.

- In an absolute view, shown in the image on the right, there is no position P because the position from which you are viewing now is an absolute position – that's the great thing about looking at something on paper. So, viewing it like this, you see what is really happening – a straight line fall into the body's atmosphere and a curved descent as the body rotates.

This can all be emulated using a rotating platform, such as a playground roundabout, and three people – one watching from a fixed position outside the roundabout, one watching from a fixed position on the roundabout, and the last walking in what appears to them to be a straight line from a position outside the roundabout to the center of the roundabout, though you may want a larger platform than the standard roundabout you would find in a playground if you desire enough walking room for a decent portrayal.

Light

Light and curves have a different relationship on a body, and this image will show you why:

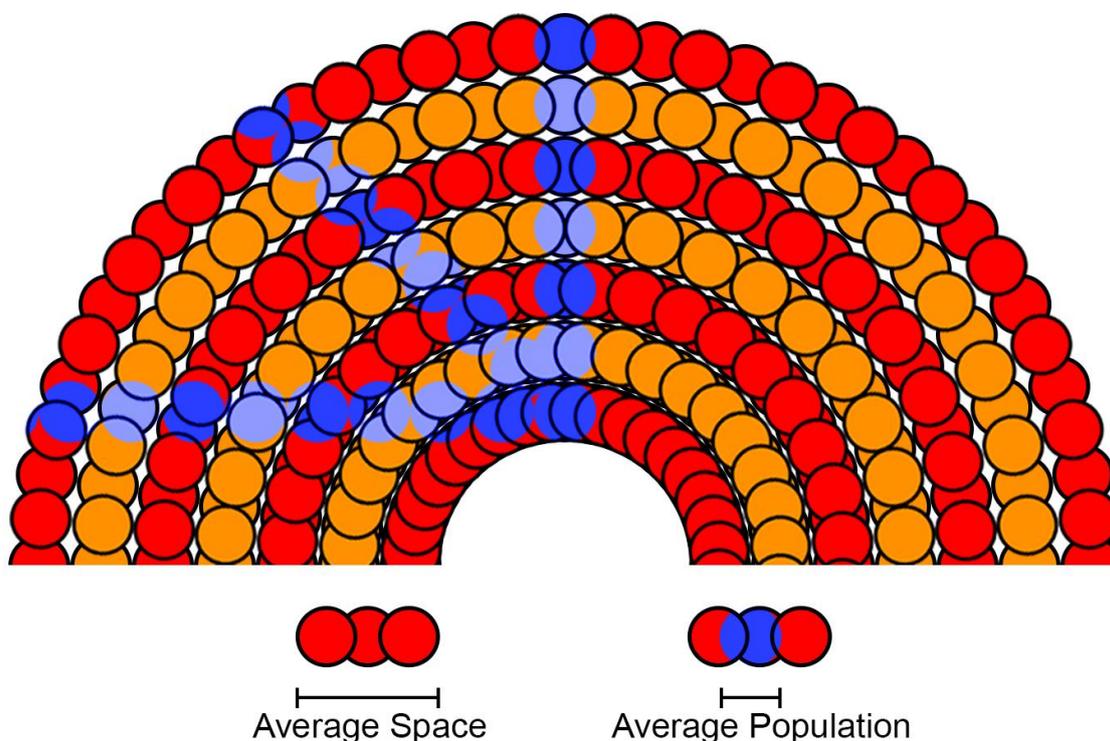


Light wants to travel in a straight line, but, outside of a vacuumed room, it's impossible within a body's atmosphere for two reasons:

1. Particles would refract light.
2. No two sections of a straight line can ever actually pass through the exact same population density of air on a circular surface.

Let's imagine refraction due to a single particle wasn't a factor, and that only the population density affected the curvature of any beam of light. For this to actually be possible, a celestial body would have to be flat (sorry, flat earthers) and gravity would have to operate in a universally downward direction – not towards the center of a body from all sides as we currently know, but actually downwards, as in if you tried to walk over the edge, you would literally fall off the body and die in the vacuum of space.

In the first image, we have the typical body and atmospheric gradient. Having already examined the gradient of an atmosphere, we now have to look at how it works on a curved body, and this is what we get:



The above image shows the atmosphere based on layers of particles in rings around a body. In each layer, we examine three particles – two in front and one in between.

- The distance from one side of the three particles to the other is the average spacing between particles at a given altitude.
- Blue spheres represent what straight line travel paths of light would look like going in multiple directions from a single starting position.
- For any blue sphere, the total amount of each of the particles that fits inside the sphere represents the average population density for that layer.

This is a visual representation of the atmospheric gradient we previously discussed, and now we can see precisely why we will never get a straight line of light anywhere outside of a vacuum room:

- First, it is clear to see that the density decreases and spacing increases as we go from the inner edge to the outer edge. Now, I didn't sit there and painstakingly arrange all the particles as you see them. The way to achieve this is to simply create a single column of particles that stretches the full diameter of the atmosphere, and then duplicate the layers and rotate them about their center by the same degree each, with said degree being a factor of 360. The reason I'm explaining this is so you understand what I explained before about the larger circumference of a circle naturally creating more space between particles, which means a lower population density in a given space, without anything special having to be done, which is what creates the atmospheric gradient of any celestial body. This is why scientists always say that the particle ratio at altitude compared to on the surface is always the same, but not that the actual number of particles within a given space. So, if you have 100 particles in a space on the surface, and, of those 100, 90 are Particle X and 10 are Particle Y, and at 50 kilometres up in the air, there are 10 particles in the same amount of space, with 9 of Particle X and 1 of Particle Y, the ratio is the same – 9:1 – but the actual number of particles has changed.
- As a direct result of the above, we can see that light is going to pass through fewer particles as it gets further away from the surface, regardless of the direction in which it travels. On the innermost layer, we can't even see the particle that is supposed to be behind the two shown in front, but, in the outermost layer, we can see that the behind particle is almost completely visible. If the layers were to keep going, you'd eventually get a great idea of the amount of space between particles in the vacuum of space.
- The fact that light encounters any particles means that it is going to change direction, but here we can clearly see that it is not only going to change direction, but change direction a decreasing amount of time the further away from the surface that it gets, which creates a curved line that begins to straighten out over increasing altitude, as was shown during the atmospheric lensing section.

What we can't currently detect, light will because it has to obey the laws of changing optical density and population density. Obviously atoms in the air move around, so it wouldn't all be so perfectly simple, but you can understand the principles here.

Straight lines over curves. Because gravity operates in all directions and from the same angle of a given point which can be traced from the center of the object creating it, it radiates radially, creating a sphere. With a sphere, no section is level, and with the lack of a bond between gas particles, there's no possible way light can travel through it as a straight line.

If we follow what was previously stated about a flat celestial body with a universally downward gravitational pull and applied the same particle columns spread across the body, everything will line up perfectly, with the same spacing and population from top to bottom. Alas, 'tis not the world in which we live.

Happenings

I love Hollywood and I love magicians, but if there's one thing they both have taught me, it's that sometimes, what your eyes think they see is not what is really happening.

Let's do a quick Relativity recap:

- 2D Spacetime Model – Fail.
- 3D Spacetime Model – Fail.
- *Gravitational* Redshift/Blueshift – Fail.
- *Gravitational* Lensing – Fail.
- Time Dilation – Fail in every way possible.
- Black Holes – Fail.
- Worm holes – Fail.

Anything to do with any sort of curvature in an imaginary fabric – whether it is 4D, 3D, 2D, or part of a boy band – that doesn't at all follow the laws of physics is part of the greatest prank ever played on humanity, and so many people have done nothing but parrot it continuously, as if it was the word of a God in any religion you fancy. *Kill it – kill it with fire!*

Now, there will undoubtedly be physicists who lie to you and tell you that I'm wrong, so this is how you determine it for yourself. Ask them these simple questions and also search for the answers on the web:

- **Does light change direction when it enters a new medium?** The answer is yes.
- **Is there empty space between gas particles in air?** The answer is yes.
- **Are there fewer particles in air the higher up you go?** The answer is yes.

- **Does this mean that light has to change direction every time it passes from a gas particle in the air either directly to a different type of gas particle or empty space?** The answer is yes.
- **What's the probability of a measured beam of light or photon packet passing through the EXACT same path pattern of particles (including the type) and empty space between at least two points?** The answer is highly improbably and damn near impossible.
- **Given all answers above, does that mean the light passing through an atmosphere is going to be forced to curved as it does so, given that it changes direction more times in a given period as it nears the surface, based on the higher number of particles present?** The answer is yes.
- **Can weight travel through empty space?** The answer is no.
- **Does a physical system need more energy to accelerate a greater number of times within a given time frame?** The answer is yes.
- **Is light a physical system?** The answer is yes.
- **Does light have to obey the laws of thermodynamics?** The answer is yes.
- **Can any property of a physical system actually be infinite?** The answer is no and you can even ask a mathematician this. If they say yes, ask them what it is and for proof.
- **Given the population density and altitude of the atmosphere of a black core, is it likely that infrared radiation emitted from the body redshifts light into the microwave and radio wave section of the electromagnetic spectrum in the same way gamma rays and redshifted to ultraviolet?** Begrudgingly, they'll say yes.
- **How can light have mass if it doesn't have any protons, neutrons or electrons?** I don't know how they'll fumble around this answer.
- **Is weight really then as it has been described – the measure of directional pressure when it is met with resistance?** They hate me by now, but they'll say yes.
- **So light doesn't have a mass at any point, but, by its very nature, its movement creates pressure, which can be interpreted as a weight, hence why the atomic fountain clock is able to work as it does?** They'll say yes.
- **So... Relativity is garbage, then?** Doesn't really matter what they answer at this point. Every premise has been true, so the conclusion is absolute. If they start waffling on about mathematical formulas that show X, Y, and Z, just walk away.

The explanations given throughout this section so far create the same results using a different basis, and can be seen on all applicable scales, not to mention that they make a whole lot more scientific sense, can be proven, and can be repeated – as the scientific method dictates. Much is based on

gravity's interaction with particles, and then light's interaction with the same particles – something that seems to be almost, if not completely, negated in classic physics. *I know classic physics focuses on things on a larger scale, but I still expected more.* Light and gravity do not directly interfere with each other for reasons previously stated, and a particle middleman is always required. So, the real question is, what's more plausible – something that doesn't obey the laws of physics or something that does and can actually be tested and proven any which way you want?

What you'll understand at this point is that eccentric theories are created and propagated to drive support for other, even more eccentric, theories. The expanding universe is a prime example, seeing as if the universe can expand, it would mean there is space outside this universe, meaning it is possible for other universes to exist in this space, and we now have the multiverse theory. Time dilation also leaves the door open for time travel because if time can't be universally measured, multiple points in time co-exist. Scientists – and people in general – have a tendency to gravitate (ha!) towards ideas that they find "cool", and they then find ways to make them appear to work because they wish (and want) for them to be correct, looking past other possibilities that may not have the desired result. It's human nature, but it doesn't make the ideas true. There's an unwritten rule in theoretical science that doors should be left open for theories that cannot be completely verified, because they allow for even more eccentric theories that are unverifiable. These things are awesome in sci-fi games, films, books, and on television, but there is no adequate basis for any of them in the real world, with the physical world giving scientists an inch and them taking a round-the-world trip.

Something that I've learnt myself is that, if you are not willing to be open-minded about being wrong, when you actually are wrong, you'll continue forward to a point where you are stuck because the work doesn't make sense anymore, and you'll then be forced to admit your mistake, go back and do it all over again anyway. The fear is that much of the work based on incorrect theories may have to be redone, assumed laws and calculations will have to be thrown out, scientists going back centuries will be discredited, careers ended, textbooks rewritten, and so on. An arduous process it will be, but such is life.

It's no coincidence that Relativity doesn't play well with Quantum Mechanics, and no one even managed to make the connection between Newtonian mechanics and red/blueshifting, so physicists really need to stop spewing that garbage throughout the world of physics as if it cannot possibly be wrong. Einstein is treated as a God amongst men, and many physicists refuse to hear a bad word about him, but he isn't solely at fault. He operated in a time where classic physics ruled the airwaves,

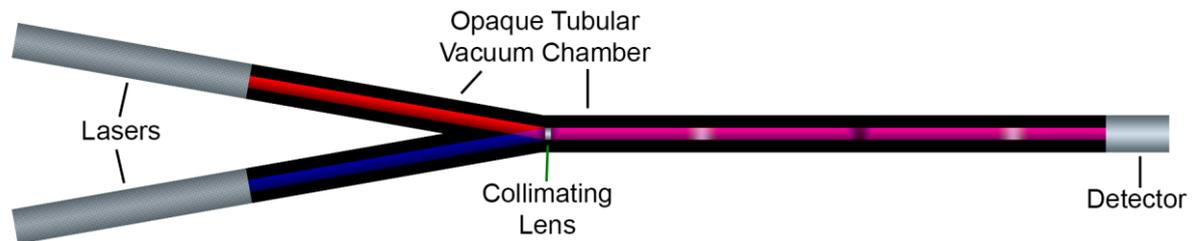
so, at the time, it was probably correct to consider his work phenomenal – wait, who am I kidding? The man left out anything that would have broken that garbage, half-arsed model he created, negating everyday observations just so the maths would add up. It should never have carried on this long, and it has only been due to the narrow-minded ignorance of many physicists since. I say many because there have been a few – even Nobel prize winners – who have dared to challenge Einstein's work, but it would seem none have ever been able to explain why the predictions appeared to be true, so their thoughts were tossed aside, including those of people like Nikola Tesla – a man whose work essentially created the basis of the world in which we live today. If a Theory of Everything is to be established, physicists will need to go back and force themselves to be open-minded and consider other possibilities because, in the words of a one Justin Clarke, better known as 'Ghetts', *"If you ain't got an open mind, you can watch and not even see."* Funny, that is literally what has happened in this case. I guess that red pill wasn't a placebo. Top 3 selected he may be, but he won't want to be the "Einstein of Grime" anymore. In fact, it's possible that much of the world of classic physics needs to be converted to quantum if they ever hope to understand the universe because the impact of a single particle can change everything. You can't try to understand the universe looking at things on a major scale, the same way you can't try to understand the brain if you don't look at the operations on a cellular level. Physicists won't like it, but they will go back because, if they do not, the work will never provide the proof and unity they require, I'll storm ahead in this field, and they'll be left wondering how.

Relativity is a fun concept, and the many predictions may appear to prove it, but it fails at the very first hurdle, and no amount of mathematics can visually depict an accurate model that makes sense in the physical world. Real life can't be defined based on imaginary concepts that can't be brought to fruition, nor can we use evidence of what we can see to prove something we can't, when the thing we can't see cannot be physically recreated, at least in part, in any way which provides a genuine basis for reason. Relativity, while acceptable for the turn of the 20th century, has been the single most destructive theory to the advancement of the modern physics of the universe.

Absolute Time: The Perfect Clock

Now that I've taken down relativity the long way, I'm feeling cocky. I'm going to show you just how efficiently I can wipe it out. Time is absolute... and we can prove it. Welcome to this wonderful journey of logic and common sense. Enjoy your stay. Let's begin, shall we?

So, is it possible to universally measure time from any position in the universe – including on a gravitational body with as strong a gravitational pull as you can imagine? Indeed it is, using a rather unconventional-looking light clock:



The requirements:

- First we take an opaque tubular vacuum chamber that is forked on one end. The tube should be opaque to prevent external light from interfering.
- Attached to each forked end is a laser which fires down the tube towards a collimating lens.
- The collimating lens – used to make incoming beams of light parallel – aligns the beams so that they are overlapping, which is what is needed to consistently measure the duration between a clock's ticks.
- A detector used to measure the varying intensities of the incoming light beam.
- The clock to remain still in an absolute sense, for reasons that become clear later in this section.

When in operation, the two beams of light from the lasers fire down the tube and into the collimating lens, which changes their direction and causes them to overlap. Then we take advantage of one of the characteristics of overlapping light beams – the patterns of increasing and decreasing light intensity, called interference patterns. When wave patterns of light overlap, the intensity is increased, and this is called 'constructive interference'. When the wave patterns oppose each other, the light intensity is decreased, and this is called "destructive interference". All the detector on the end then has to do is sense the interference, count it, and, when the exact interference count for either or both types of interference that occurs in a second has been reached, the clock ticks. There are three beautiful things about a clock of this nature:

- Different wavelengths of light can be tried and tested to the point where the most precise measurement possible can be determined. As a general rule, the lower the wavelengths, the higher the frequency of interference points, allowing for much more accurate results. We

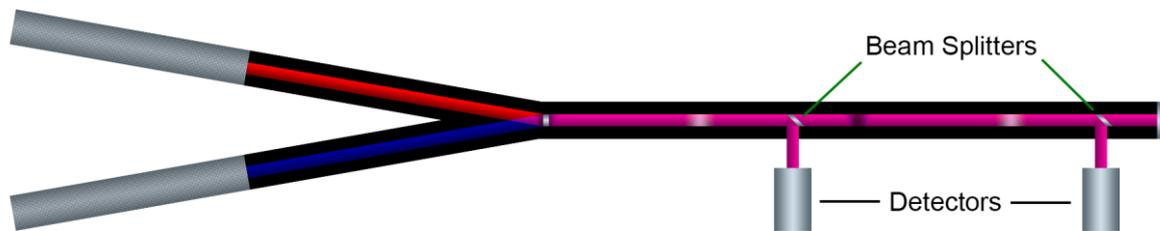
can also use more than two lasers, if one so wishes, to further increase accuracy, and I'll explain the maths behind that later.

- This clock will run at the exact same speed at any given gravitational strength or temperature because, unlike atoms, light isn't affected by either, and it is a constant speed in a vacuum.
- Unlike atomic clocks, this clock can never lose time. As long as the power source is continuous and nothing breaks, time, at any given altitude, will forever be measured perfectly.

The flaw, unfortunately, is and will always be the detector, depending on how quickly it can record the interference patterns, but all is not lost and it is still possible to make it work. All that is required is that the process for a single interference count starts and finishes before the next interference is detected, and that the initial reaction times are the same, even though the duration isn't. What this will enable is – using a flip clock for this example – us to see exactly when the new second has started, based upon when the numbers begin to change, even though they may take different durations for the flip mechanism to complete. Given that cameras have been created that are able to capture 1 trillion and 4.4 trillion frames per second – a method called femtophotography – it's definitely possible to create such an ultra high speed detector. This, at the very least, can be accomplished in order to allow the clock to operate perfectly in space and on earth, simply by ensuring the single count process is fast enough on the surface of the earth and in outer space. If anyone ever plans to send it to other celestial bodies with stronger gravity, well, they can have fun playing around with the mathematical adjustments for that one, but the general principle here is that the faster the single count process is for the detector, the stronger the gravitational pull it will be able to withstand without losing time or synchronization with any other clocks.

Note: Do not try to be clever and build this clock using an interferometer. Beams of the same wavelength will never create interference patterns in a vacuum.

There was a second clock design I came up with, based on the one above, for use with the light clock experiment of Alfred Schild, but it's not completely reliable as it won't be totally within our control.



This design uses two beam splitters to split a single beam down two separate paths to two separate detectors. *(Only a single beam splitter is actually needed as the second can be a normal mirror, but we're splitting beams, not hairs.)* Each detector runs a separate clock. Despite the horizontal nature of the clock in the image, this one was specifically designed to operate vertically. The detectors are to be at different altitudes. This particular type of setup is designed to have two clocks powered by the exact same beam, with no random particles in the way to alter the speed or path of light as it ascends. In a perfect world, this works, but not in this one. Since we've already sorted the detector issue, the last remaining issue is one that is completely out of our control – the absorption and emission of photons by atoms in the mirror. Much like with the caesium atomic clock, we can't control the rate at which the atoms respond to the incoming beam, and we won't be able to until we learn how to control the strength of gravity in a given space, so, although the difference may be so small that a human couldn't perceive it, technology will, and the clocks will eventually show it by displaying different times.

The Principle

Regardless of which clock we look at, we can still determine that time, space and light are absolute constants of the universe. The detector doesn't matter. The rate at which the clock is able to show ticks doesn't matter. Only one thing will ever matter to understand this clock – the interference of the merged beams of light, and here's why for each constant:

- Light – Being in a vacuum, there are no particles, meaning the speed of light is never altered, the wavelengths/frequencies are never altered (no, not even by red/blue shifting, but if you are reading the preview, your ignorance is forgivable as those are explained prior to this section), and the interference pattern is perfectly consistent.
- Time – All things remaining consistent and unaltered, the time it takes for light to travel from point X to point Y is always the same, regardless of whether it travels against gravity, along it, or towards it.
- Space – All three going hand in hand (in hand), two consistencies force the third to be equal.

Standard clocks measure time relatively – not because time is relative, but because the performance of matter, and, in turn, the clock, is relative to the gravitational force they are being subjected to. A proper light clock, such as this, without even need of a detector, measures time absolutely, simply by counting perfectly overlapping or opposing waves. The best thing is that, even if different gravitational forces acting on matter had an effect on the wavelengths of light being emitted – even slightly – time would still operate at the exact same speed, and we can prove that by calculating the equivalence between the different interference patterns. For example:

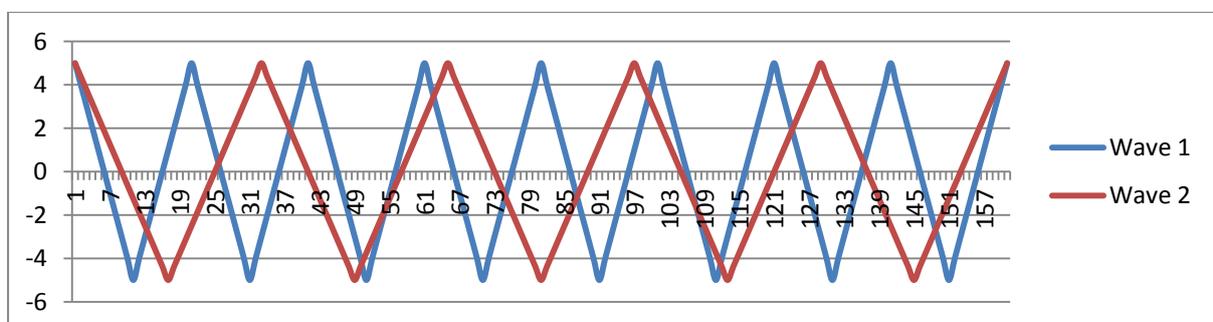
0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9
1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

The top row is the time in deciseconds (tenths of a second). In bold, we can see where the time hits 1 second.

The middle and bottom rows are two different interference patterns of light. The first has a 4 counter cycle, while the second only has a 2 counter cycle. So, in this example, we would say that 1 second is equal to 2.5 cycles of the first interference pattern, and 5 cycles of the second.

The principles of mathematics and numbers force the equivalence between different interference patterns, regardless of how many different wavelengths you try this with. It's the beauty of the field. They literally run like clockwork, and clock or no clock, detector or not detector, ticker or no ticker, get yourself a vacuum, lasers, and interference patterns, and you will be able to prove that time is absolute, just as this does.

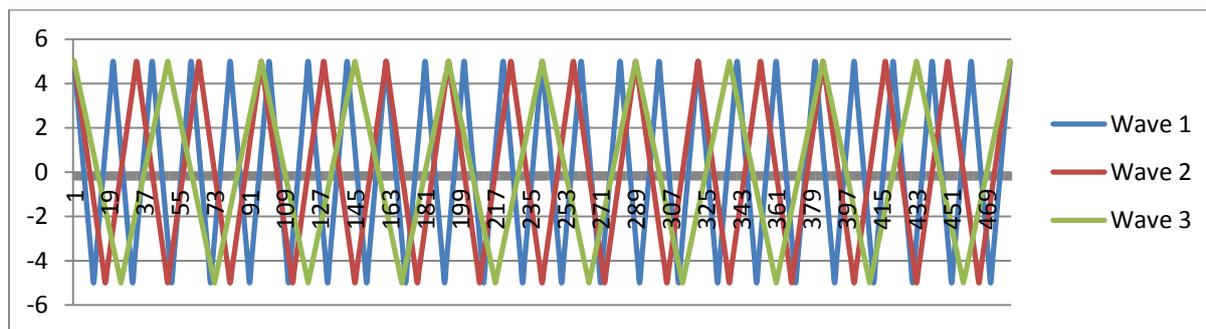
To add further proof, I've taken the liberty of demonstrating this with an actual wavelength pattern diagram for your viewing pleasure:



As you can see, the wave patterns create constructive interference at both ends of the diagram, and right in the middle we can see destructive interference. Wavelengths of 20 and 32 were used, resulting in a full pattern cycle every 160 units of distance. This pattern will repeat itself continuously and perfectly using the clock I designed because, being in a vacuum and moving at a constant speed, it is forced to hold, given that there are no particles of matter to throw them off at any time. You can use any wavelengths you want, and you'll get the same thing, just over different distances. Use the count of interference patterns to calculate a second and you have absolute time anywhere in the universe.

The maths behind determining the accuracy of measurement for this clock is simple. So, light travels at 299,792,458 metres per second, but that's too large a number for me to bother working with for the sake of this explanation, and I hate maths, so I'm going to use the easy number of 1000 instead, and you are going to have to use your imaginations. Now, the easiest way to get a perfectly precise count for the length of a second is simply to use wavelengths that create the type of interference point you want over a distance that is a precise factor of 1000. For example, if we use wavelengths that result in a full pattern cycle every 200 metres, five counts would equal 1 second because $1000 / 200 = 5$. If you want half pattern cycles, which see the clock counting both constructive and destructive interference, you would just set the count to 10, given that they would appear every 100 metres. Then, you simply initiate the clock when it detects the first interference point type it is to detect (but don't count it as that is the zero/start mark) and let it count off however many it needs to, but every first count after a second starts from 1, not zero. The very first point is just to trigger the counting process because there's no way we can guarantee that the first bit of light to hit the detector would be an interference point, and not having this "safety measure", if you will, would throw off the count between 0 and 1 and 1 and 2, though 1 and 2, 2 and 3, etc would still match up. It's not *that* big a deal, but I don't want to give the physicists now gunning for me any ammunition whatsoever.

As I previously mentioned, more than two lasers can be used, but it gets a bit tricky. Imagine we are using three lasers:



- Constructive Interference – This one is easy. All three waves overlap, creating a much brighter beam than any individually, and we can see this achieved above, again at the start and end points of the diagram. Using wavelengths of 20, 32, and 48, the full pattern cycle occurs after 480 points. However, there are other points of constructive interference that occur between only two waves, so the detector would have to be calibrated to look for a specific increase in brightness.
- Destructive Interference – This is the very tricky issue. Looking at around the 242 mark (right in the middle), we can see that destructive interference is taking place, but there is also constructive interference as well. Waves 1 and 3 perfectly overlap, while wave 2 perfectly opposes them both, but the combined brightness of 1 and 3 can't be completely dimmed by wave 2, given that the combined amplitudes are greater than the single. Now, there are also points where destructive interference happens between two waves but not the third, as we can see around the 81 mark, so two waves cancel each other out while the third is still visible. There's never a point where there is no light, so a detector would have to be calibrated to look for a specific decrease in brightness, but this decrease happens at multiple points that aren't perfectly spaced, so, it's either unreliable or a lot of effort has to go into programming the detector to ignore certain points. Would probably be a lot more trouble than it's worth.

If you wish to try this with more than three beams, go ahead, but that's overkill and not something I'm going to get into right now.

The Reality

Okay, so we couldn't *really* build this clock and expect it to work flawlessly, and the two reasons why are simple:

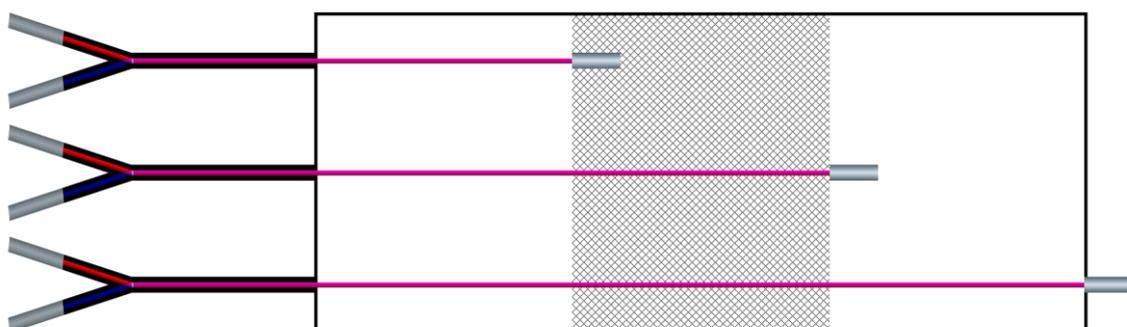
1. We can't control the starting point of a wave, nor do we know whether or not they always start in the same position.
2. Photons can be superpositioned, so we can never really know how many of them are occupying the same space. Physicists will say they can do single photon emissions – that's an impossible guarantee, especially over short distances. Any radial dispersion pattern with overlapping objects will show you just how difficult this would ever be to assure.

Nevertheless, the logic holds, and we can now do a very simple computer simulation to prove it – can literally be done in less than an hour. Create a simulation model of the clock diagram as shown above, emit two single photons simultaneously – one from each laser, each starting at a peak of their wave pattern – down the tube, and pretend that the part of the tube which comes after the collimating lens is of infinite length. Display the wave pattern interactions. The result will see similar patterns to the ones shown above, with the only difference being the length between constructive and destructive interference points, depending on the wavelengths used for the photons. Any computer scientist can run this and prove it. Do so.

What you need to take from this is the principle that overlapping waves will always create equidistance interference points that are always exactly the same distance apart in a vacuum, based on wavelength, regardless of altitude. This is what we will use to bring the whole theory crashing down.

So that's the absolute clock to prove time is absolute, but let's not stop there, because we can use this understanding to further disprove time dilation by doing a series of what I call "The Glass Box Experiments".

Experiment #1

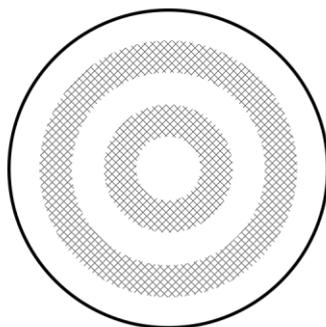


As you can see, we have three collimated light lasers (CLLs) pointing inside a box composed of three sections. The first and last sections are vacuum spaces, while the middle section is all glass. At the

end of each section, before the beam of light can enter the next section, is a detector that receives the beam.

- Top Detector – Light from the first CLL going into the top detector. It travels through nothing but vacuum space, so the detector is going to record time as absolute as time is.
- Middle Detector – Light from the second CLL passes through vacuum space, but then it passes through glass before it is received by the detector. What happens now? As it passes through the first vacuum chamber, everything is as it was with the top CLL, but once it enters the glass, it's going to slow as the photons must pass through particles of matter. This slows down the speed at which light covers distance, and this will result in the detector recording time at a slower rate than the first because it is receiving the beam of light while it is still traversing at a slower speed. This makes the recording of time relative to light passing through glass.
- Bottom Detector – The bottom CLL passes through the first vacuum space, through the glass, and then through the second vacuum space before it is received by the detector. So, what happens now? Does the detector record time absolutely or has the glass caused it to slow? Absolutely – it records time absolutely. How? Allow me to explain. Let's imagine we are just counting the points of destructive interference, which we will refer to as a 'point'. When a point enters the glass, its speed now slows, but the point behind it – which is still in the vacuum – is still moving at light speed. In the time between a point entering the glass and the next point behind it reaching the glass, the point behind closes the gap between the two because it is moving at a faster speed. While both points are within the glass, the distance remains the same as the distance when the second of the two entered, which is shorter than the original distance between them when they were initially emitted. This is a benefit of the fact that photons can be superpositioned, and why using light in this situation is superior to using any form of matter to determine if absolute time is possible. If matter was used, the distance would remain constant because it wouldn't be able to overlap in the same space in order to change the size of the gap. Now, once the point in front escapes the glass and enters the second vacuum space, it moves at a faster speed than the point still moving through the glass, increasing the distance between the two. What happens after that is the second point will emerge and move at light speed like the first, and you'll find that the distances between the two has returned to precisely the same distance as it was originally. Run the simulation if need be.

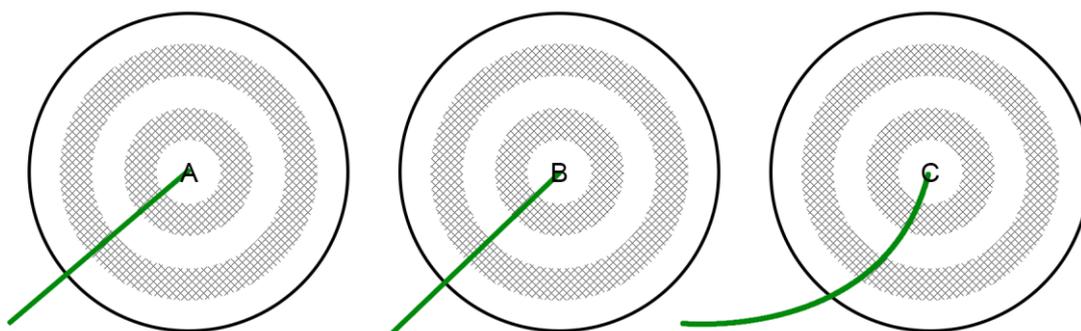
So, has time dilated? Given the manner in which this experiment was performed, can we ever say that it has? You know what, I'll do you one better.



Let's use this arrangement of glass and vacuum space instead, with detectors sitting on the edge of each section, as they were in the original box, and all light aimed towards the center of the circle.

No, wait, this still isn't good enough. I know – let's imagine this is a sphere and scale it up to the size of, oh, I don't know, let's say... planet earth. Yes, that's perfect. Also, let's make the glass layers super dense – comparable to the density of a neutron star. Yes, that'll work nicely.

So, according to the current theory, all particles emit gravity, right? I mean, whether they do or not is actually irrelevant because the end result is the same, but I'll humour it and do examples for if they do and if they do not, since we haven't arrived at the gravity section yet. If they do, that means this body is going to create a very strong gravitational pull – one from which even light cannot escape! Okay, now we are ready to go! Look at these three bodies:



- A. Body A has no gravity. Light is aimed towards it perpendicularly.
- B. Body B has gravity. Light is aimed towards it perpendicularly.
- C. Body C has gravity. Light is being pulled towards the center by the strength of the gravitational pull. (No, I didn't account for refraction. Makes no difference. Also, don't begin

to throw your toys out the pram as you cry that gravity doesn't pull light. There is method to my madness, and all will become clear during the grand finale.)

So, does time dilate in any of these situations? Remember, each of these are a single body, moving as a single body, and, for the ones that do, producing gravity as a single body, so the gravitational pull is stronger towards the center, as we normally expect to see.

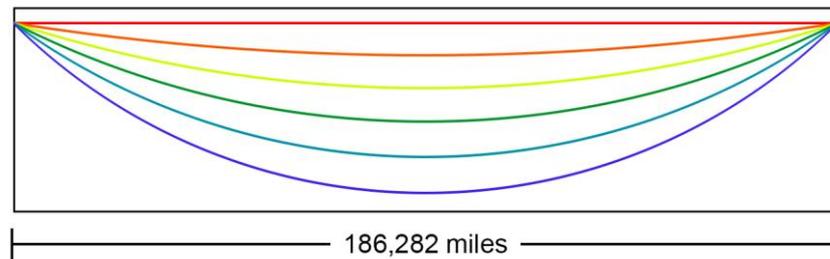
The answer is no. Not one of these bodies result in time dilation, and I think everyone in the field of physics knows why already, which makes explaining it that much sweeter.

In bodies A and B, light is travelling in a straight line. Light travels at a single speed in a vacuum no matter what, so, gravitational pull or not, any detectors receiving light from a vacuum space is going to record time absolutely – **exactly as I showed you before**. The points of constructive and destructive interference are going to be precisely spaced apart as always, and this is how we know time isn't dilating. The only way for this to be disproven is for light to travel faster or slower in a vacuum than what we know as the speed of light, as it does when passing through any transparent material, but that just isn't possible, **and that has been proven**. Detectors receiving light travelling within the glass are going to record time based on the slowing down of light as it passes through particles, also as explained before.

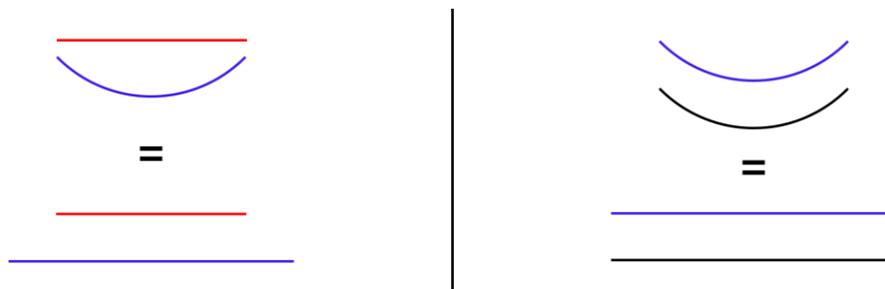
In body C, light is travelling in a curved line, but it still makes absolutely no difference whatsoever to the recording of time. There will, however, be a delay due to geometric laws forcing light to need to travel a further distance:



See, within any absolute width of space, a curved line is always going to be longer than a level, straight line from side to side, as is shown above. In a race, the light travelling through body C will take longer to reach any and all detectors, but this wouldn't dilate time either. Light takes longer solely because of the increased distance it has to travel, but the constructive and destructive points of interference still remain exactly the same distance apart in a vacuum (otherwise the wavelength would change), and so all light picked up by detectors in a vacuum are going to record time absolutely. **It is physically impossible for it to be any different unless the speed of light changes.** Here's further geometric proof:



Each of the lines above start and end at the same point, and are representative of the different paths of travel light would take at different altitudes from a gravitational body if spacetime really did bend, and this is supposed to be the cause of time dilation. Problem is, as I previously explained, the curved lines are longer, meaning light has to travel further, and the deeper the curve, the longer the path. When we do a comparative analysis, we see the grave flaw in this logic. Here's a hint: there's a significant difference between the **distance travelled** and the **distance crossed**.



Let's start with the deepest curve – the blue line – versus the straight, red line, which is shown on the left of the above image. They both fit within the same absolute width of space, but when we straighten out the blue line, it's clear to see that it is longer than the straight line. This means that yes, light would take longer to pass along the blue path because of the increased travel distance, but it would cover the exact same distance in the exact same time, maintaining light speed, and once you apply the interference point count of time, one second, regardless of the path, altitude, or distance, is precisely the same throughout.

On the right of the above image, we now compare the blue path to the exact space it covers. When we flatten them out and measure them against each other, they are (obviously) equal. We can then compare it to the red line in terms of length, and what we'll come to understand is that light, moving at light speed, will cover the exact length of the red straight in the exact same time that it covers an equal length of the blue line, but will then need to continue on until it covers the entire length of the blue line. So, for example, if the red straight is two-thirds the length of the blue curve, and the straight is 186,282 miles, light will reach the end of the red straight in 1 second, and will be two-thirds of the way along the blue curve in the same amount of time, but will need to continue on for

another 0.5 seconds in order to reach the end, but physicists want to ignore this fact and simply measure based on distance crossed, which *is* the same for both the red and blue lines.

Do you now see and understand the stupidity? The only way for time dilation to exist using curved space is by measuring time using paths curved to different degrees within flat space, i.e. an absolute width, ignoring the increase in travel distance over a curved path, and still behaving as though the distance is or should be exactly the same. If the travel path of light was measured based on curved space – which is what physicists would have to do, seeing as it is supposedly curved space that causes light to bend in a vacuum – the measurement would **always** have been equivalent to that of a straight line because the curved space and curved path combined would have reflected the actual increase in distance travelled. Seriously, you have to be a fucking imbecile to measure a curved line against a straight within the same width of space and be amazed that the curved path takes longer to travel by an object that must travel at the exact same speed along both. The rule of the speed of light is that it **travels** at X speed in a vacuum, meaning its path will be of specific length after a given amount of time, ***not*** that light will **cross** from side to side of X distance within a given amount of time. It would seem as though physicists have overlooked that, and while they may be able to hide it amongst a bunch of equations, it all comes to light when you actually start to visually depict what is supposed to happen. Curve or no curve, X distance is still X distance, the time it takes for light to travel said distance in a vacuum will always be the same, and, using the interference point principle, time will **always** be measured exactly the same. For time to dilate with the interference point principle in play, the actual wavelength of a photon, in a vacuum, would have to stretch, with us still attempting to measure a count based on the original, shorter wavelength. FYI, this still wouldn't dilate time, as if we knew the wavelengths had changed, we would have accounted for that, but it would make time appear to dilate due to our ignorance of what had taken place. Again, computer scientists, feel free to run this logic. In fact, run all the logic written here and publish your results until your heart's content. Then we'll see whose work holds up.

So here's where it's really going to start messing with the minds of those who believe in this time dilation nonsense. If gravity dilates time, but there are vacuum spaces with detectors recording absolute time at different distances from the center of a body, how can time dilation possibly be real? What will you attempt to tell me – that time can be sandwiched? That, between different vacuum layers, time runs at different speeds, but it is recorded at the exact same speed within each vacuum layer? Honestly, if such a thought dared to cross your mind and you were going to attempt to use that as an argument, I hope, by some series of unfortunate events that even Lemony Snickett

would be proud of, an Unmanned Aerial Vehicle drops out of the sky, narrowly missing you, but the debris from the impact scatters and tears your face off for being so stupid and ignorant.

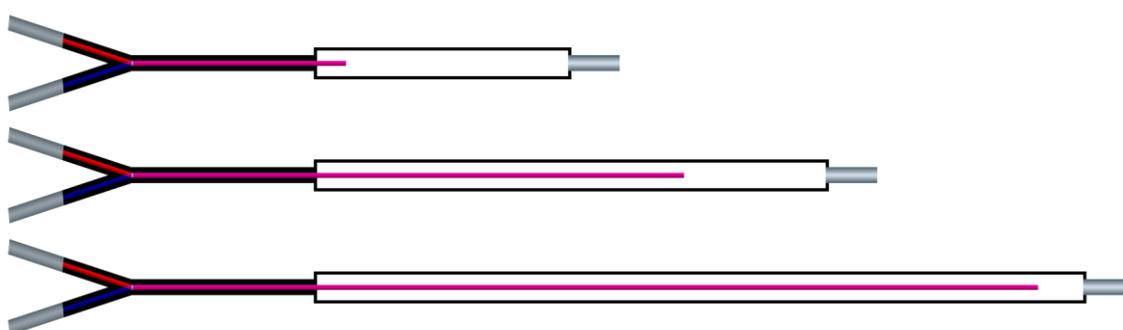
Experiment #2



In this very short experiment, we have two CLLs, each with a glass vacuum tube between itself and the detector. Both lasers are fired at the same time. Does time dilate here? Obviously not. It simply takes longer for the second beam to reach the detector because it has to travel a further distance. The wave patterns still force the points of constructive and destructive interference to be equally spaced, and so the clocks may not change in sync, but the calculation of one second will be exactly the same for them both. There will just be an initial delay as the light in the longer clock travels to the detector.

Moving on to another part of the time dilation fiasco, Einstein also stated that time is relative to speed of movement, where the faster an object moves, the slower time passes. This... is hilarious, to say the least. Let us ridicule such an idiotic notion using some other thought experiments:

Experiment #3



Here, we have three different instances of the same CLL. What's happening is that the glass box is magically extending at a speed slower than light, but still very fast.

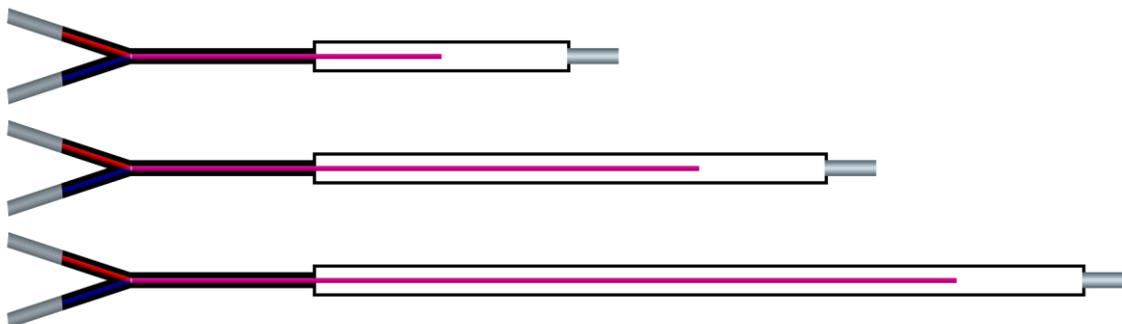
Does time dilate?

...

...

Sure doesn't, but it would *appear* to. If we ran this next to a normal CLL clock, the first thing that would happen is the beam from the extending CLL clock would take longer to reach the detector, creating an initial delay, but it would get there eventually. What happens next is the interesting part. The constructive and destructive interference points of the CLL would be spaced as normal, so we know that time is moving at the same speed because these points would still be covering the same distance in the same amount of time, but because the detector is constantly moving away, even after it receives and counts an interference point, it would have moved slightly further away from the next interference point, meaning that point actually has a larger distance to cover before it can be counted. This would continuously create a delay between each point and make the counts occur slower than normal, even when the wavelengths are known and the actual distance between each point prior to any interaction with the detector is the same. It's all a mathematical illusion based on increasing distance.

Experiment #4



In this one, the glass box is extending at the speed of light. *Yes, I know the impossibility, but, you know, "thought experiment"*. Since the beam, the interference points, and the extension of the glass box are all moving at *exactly* the same speed, the beam would never be able to reach the detector, and would stay a constant distance away from it the entire time.

Forget time dilation – moving at light speed would make time appear to stop altogether! However, we know this is stupid because, again, distance is still being covered in a specific amount of time, by both the beam and the interference points.

It's all ridiculous. Let me put it into another context – one much easier to understand.

Usain Bolt runs along a straight path of indefinite length three times. The conditions are exactly the same in all three races. His movement and energy levels are exactly the same. His speed is perfectly consistent throughout the entire run. He covers the exact same distance in the exact same time,

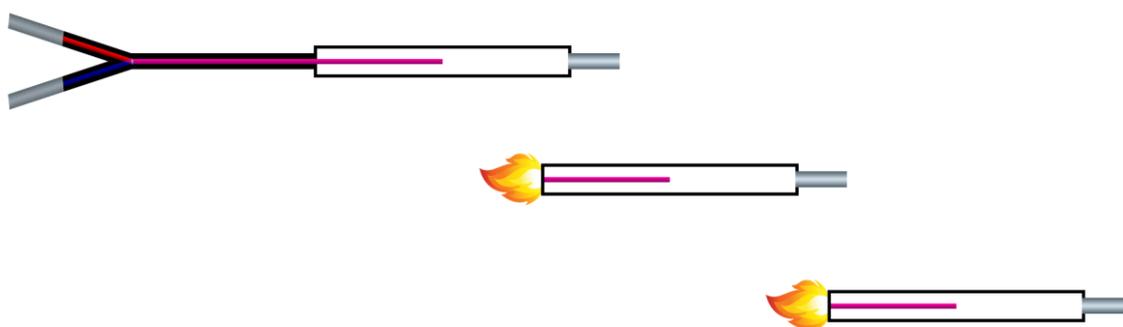
every step of the way. For the most part, it all appears as though you are watching a replay. There is one difference in each run, though – the finish line.

- In the first run, the finish line is 100 metres away from the start. It takes Bolt 10 seconds to cross it. I guess he's having a bad day.
- In the second run, the finish line is 100 metres away from the start, but, as Bolt starts running, two people grab the finish line and start running away with it, constantly remaining at half the speed at which Bolt is moving.
- In the third run, the finish line is 100 metres away from the start, but, as Bolt starts running, the finish line is carried away by two people on motorbikes. Not even in the wettest of dreams will Bolt catch the finish line.

The point to be understood here is that, as with the extending detector, the moving of the finish line doesn't matter. Bolt done everything the same in all three runs, so he still cleared the first 100 metres in 10 seconds. His speed and everything else was consistent, so he cleared an average of 10 metres every second throughout. You can't turn around and argue that, in a race declared as 100 metres, he ran slower in the second race, and didn't even manage to finish the third, because the finishing line was not in the same place, so of course it took him longer to finish the second run, and it was no surprise that he couldn't finish the third, but hey, guess what?

He still covered the exact same distance in the exact same amount of time, exactly as the points of constructive and destructive interference do when light is travelling through a vacuum.

Experiment #5



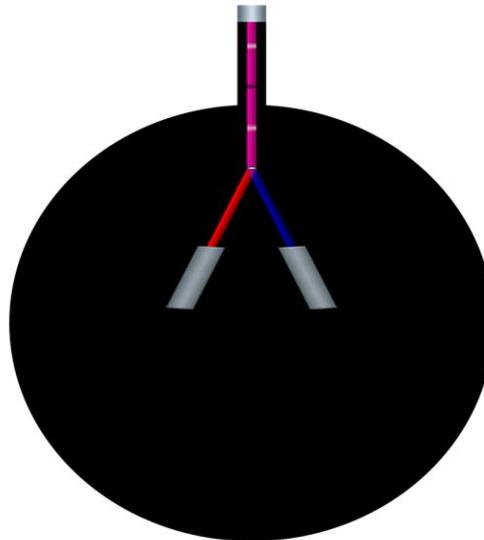
Last experiment and arguably the most important when it comes to understanding how to prove absolute time. This time, we first shoot a beam of light into the glass box, but before any photons are able to reach the detector, we launch the glass box at the speed of light. Again, time won't dilate, but the photons will never reach the detector. Why? Because photons do not move relative

to their surroundings – not even the movement of a celestial body – unlike matter, hence why they are able to be absorbed. If that beam of light was a magically extending beam of matter, it would reach the detector no matter what, in exactly the same amount of time as if the box wasn't moving, because matter can't pass through matter, so it would keep its precise position relative to the space within the box and continue to build upon the matter behind it, thanks to the inability to superposition. Photons, not moving relative to the box, only have an absolute position in the universe, so they move independent of the box's movement. When the box and the photons are moving at the same speed and in the same direction, it would appear as if they are not moving at all, relative to each other, and the clock could never tick. This is why, at the start, I stated that for this clock to work and prove absolute time, it is not allowed to move. Any tilt, any wobble, any forward or backward, side to side movement, and it will throw off the next tick by changing the distance light has to travel, even if only infinitesimally. The clock needs to remain in a single, absolute position in the entire universe. Is it possible? Technically, yes – one would need three things:

- 6 thrusters, where 2 opposing thrusters covered each dimension of space, attached to the clock (imagine if each face of a cube had a thruster – exact same fashion);
- A system to determine gravitational strength and the direction of pull; and
- A universal coordination and orientation system.

The system would need to determine the gravitational strength and direction of movement from whatever position the clock is sitting in, and then match the force but in the opposite directions, creating perfect resistance and keeping it perfectly positioned. The coordination system would help ensure it remains in the exact same location in space, and angled exactly the same way. Is it a lot more trouble than it's worth? Oh, in its entirety. Is anyone ever likely to go to this extent? Nope, but I feel sorry for the person who decides to. Would this be completely unnecessary? Yup. Regardless, does it prove that two CLL clocks of different altitudes and known wavelengths can measure time absolutely? 100% yes, without a shadow of a doubt.

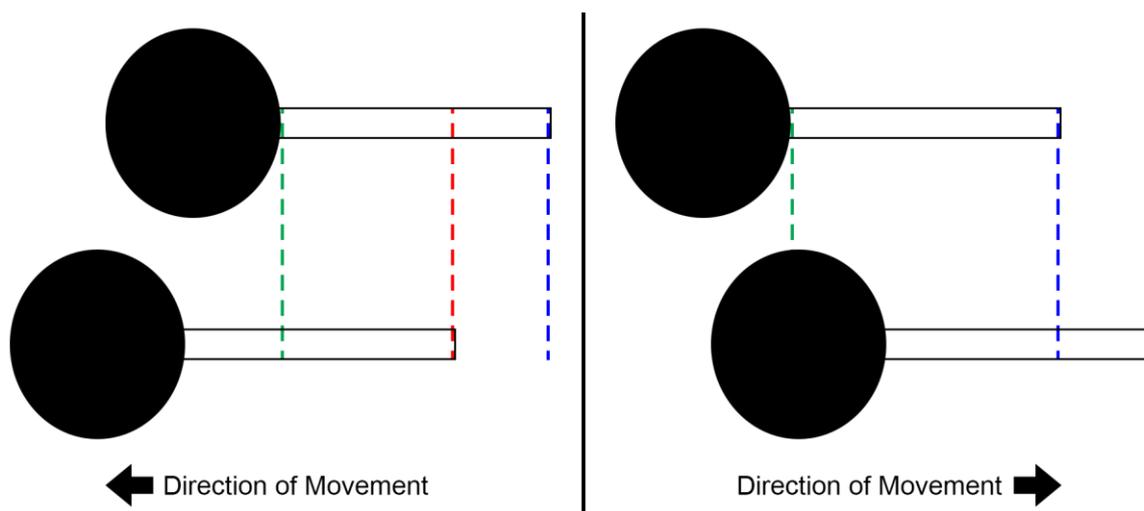
There is, however, another way to achieve verification using a simulation model:



What this rather bland image is supposed to represent is a CLL clock standing vertically right at the pole of the body – and I mean centered bang on the polar axis. Why? Because it prevents the clock from shifting in a sideways motion as the body rotates on its axis, as it will simply rotate in a fixed position. Let's imagine this body is earth.

Two issues arise due to the earth's orbit around the sun, but it can be accounted for with maths. The first is that the earth's poles are not at a 90 degree angle to the orbital path, which means, as it orbits, it moves very slightly towards and away from the direction of each pole, depending on both the pole's and the earth's positions in orbit. The second is that the orbital path is not perfectly circular, meaning there is no consistent change in position in terms of the pairing of the precise distances moved forwards/backwards and sideways. Together, what we have is a body creating a very slight distance variation between the emitter and detector every step of the way, which would cause time to be recorded incorrectly.

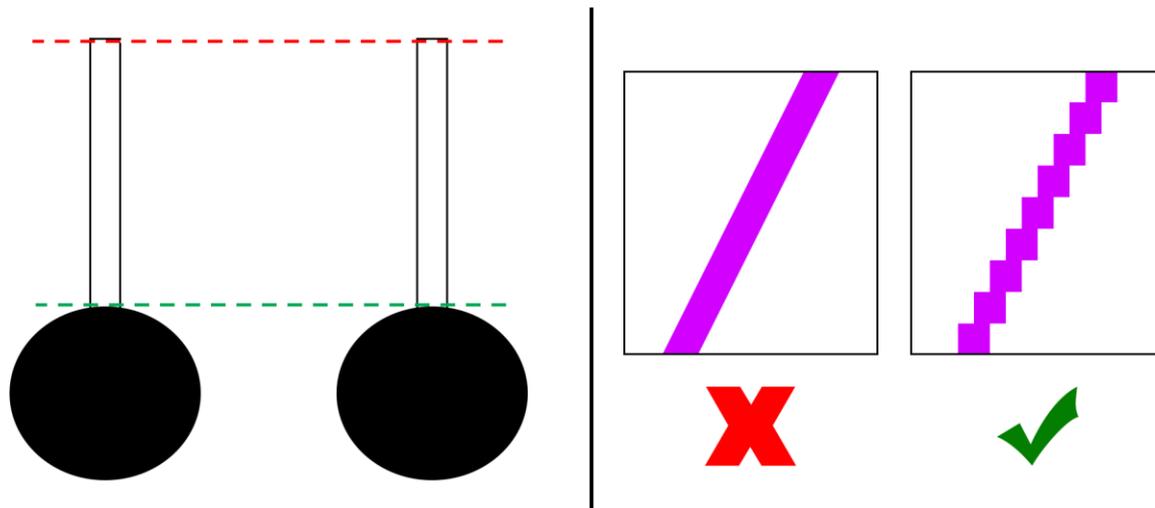
To account for this mathematically, we have to calculate the increase or decrease in distance either towards or away from the pole at which the CLL clock is attached that light has had to travel, calculate how long it would take light to travel that distance, and then add or subtract that time to the time on the clock based on whether the body is moving away from or towards the direction of the pole, respectively. This will confuse some people, and I know this because even I had to run it through my head a couple times to make sure it made sense, so I'll show you an example in picture form:



In each of the two images above, we have two instances of the movement of a body, where the top instance is the original position, and the bottom instance is the position after movement. We can either imagine that light is moving really slowly here or that the bodies are moving really fast – either is fine.

So, there are three lines in each image, and they stretch across each instance so you can easily see the distance light travelled versus the distance it should have travelled for consistency. The green line represents the emission position, and it is only relevant to the top instance. The red line represents the detector position, which is where, based on the direction of movement of the body, the light actually hits the detector, and is only relevant to the bottom instance. The blue lines represent where the light *should* hit the detector. In the left image, you can see that light hits the detector in a much shorter distance than it should, meaning it is going to arrive there quicker, while the opposite is true in the picture on right, where the light hits the detector later than it should. Because of this, the distance between the blue and red line needs to be calculated, and then we calculate how long light would take to travel that distance, and then if light travelled a shorter distance to the detector, we add that time on, and if it travelled a longer distance, we subtract time.

Obviously this is an extreme example since earth isn't tilted so that its poles are at a zero degree angle to its orbital path, but it was easier to depict this way. As the earth moves around its orbital path, it constantly varies the distance that light has to travel to the detector – a little forwards or backwards, and a little to the left or the right – because there is no consistent change in an elliptical path (only perfect circles provide such consistency), which will always throw off the ticks by different amounts depending on the body's current position on the path, but if you account for that, you can always calculate the precise change in distance, and you can always calculate absolute time.



If there was (or is) a body that isn't tilted, resulting in a perfect 90 degree angle between poles and orbital path, and, let's say, the orbital path is perfectly level (no incline/decline), the distance remains a constant, as we can see in the above left image. The then sideways movement as the body orbits wouldn't create a change in distance or direction, but light would reach the detector in a position not perfectly above the emission point, which is a result of the light and the body both moving in different directions at the same time. Light would appear to be moving diagonally, as shown on the left side of the above right image, but the image on the right (with the green tick under it) is a better depiction of what is happening. Imagining each square is a photon, as one moves forward, the next is released in a position slightly to the side of it due to the movement of the body (remember, photon movement isn't relative), creating a staggered visual.

As you can see, getting a perfect measurement of this in the real world requires perfect conditions – all of which may be possible in the whole entire universe aspect of things, but impossible on earth. Nevertheless, the clock has to work based on the laws of physics, and we can do a simulation of what has just been explained to prove time doesn't dilate. To set out plainly the requirements of said simulation in case any of the above was lost on anyone:

- A horizontally level orbital path – zero degree incline/decline.
- A 90 degree polar axis, relative to the orbital path, so the poles are perfectly vertical.
- Due to the two points above, the shape of the orbital path – circular or elliptical – is irrelevant, as there won't be any difference in distance light has to travel because the body isn't changing position in the direction of either pole to any degree. It would be very hard to mess this part up, but just for the sake of covering everything (because I know someone out there will do something to attempt to break the simulation), make sure there is enough space between the beam and the edges of the vacuum container through which it travels so

that, as the body moves sideways, the photons don't end up hitting the sides of the container and being absorbed before reaching the detector. I'm telling you, there would be some absolute doughnut who would run this simulation with a clock ten times the distance light travels in a second but with only a single millimetre of space between the 1 millimetre beam and the walls, and then come back to me and say that my simulation doesn't work when the clock is this long. *Yea, science or not, we all know of that one dumb motherfu...*

- A vertical CLL clock at each pole, each of different vertical lengths so that we can test the recording of time at different altitudes.
- Known wavelengths. They do not need to be the same for both clocks, as long as you calculate precisely how many counts of constructive/destructive interference points are required per second for each interference pattern, and set each detector count correctly. To prove this beyond a shadow of a doubt, it's probably better to use different wavelengths for each clock.
- Redshifting/blueshifting, as explained before, isn't due to gravity, but if you wish to include it, that's still fine. Nothing changes. Just make sure you only focus on the wavelengths at the precise point of detection because everything prior to that means nothing.

Remember, this isn't about how likely something is to occur in the real world, but whether or not absolute time can be measured without violating the laws of physics, and it does – without fault.

Still, with all we have now understood, we can do one last simulation, and it's extremely simple. Two standard CLL clocks at different altitudes in a horizontal position. Calculate the distance moved from an absolute position, based on the given altitude, remembering that the clock at higher altitude would have actually moved more due to the equal revolution speed but larger travel path. Add or subtract the time light takes to travel said distance, based upon the direction the clocks are facing compared to the direction of rotation of the earth and the direction of its orbit. You now have absolute time.

Once all of this has been tested and proven, we can simplify it beyond belief.

- Create a computer program that uses precise wavelength measurements and speeds relative to real life, or an equivalent.
- Find the points of interference.
- Determine the required count.
- Run the count.
- Synchronise the software on a global network of computers.

Congratulations, you now have a perfect system for unifying the passing of time anywhere in the universe, and you don't to worry about anyone accidentally knocking the clock over. *Kinda wish I thought of this first.*

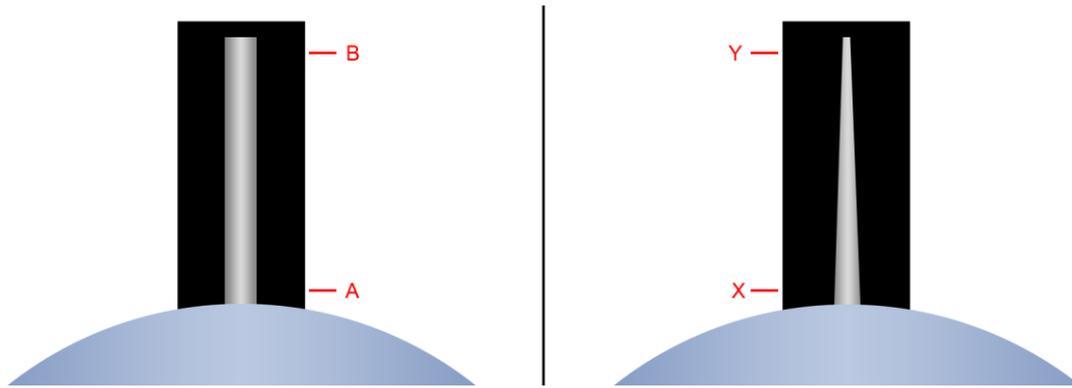
Anyway, there's a significant advantage to using computers for this, and it's based on precision. We know how far light travels in a second down to the mile and metre, but what about the centimetre? Millimetre? Micro? Nano? Where does it end because length can always be further reduced, due to the nature of numbers, even if it can be perceived at human-level? So, at least by using computers, we can set a fixed measurement and just use that, and there won't be any discrepancies because of what we've already learnt. All we needed to know about nature was that it was possible to create a single repeating pattern that was perfectly constant, and we have done that using multiple known wavelengths of light in a vacuum, so with one repeating pattern, we can use absolutely *any* repeating pattern that we want. All that matters is that we know the precise count of the repeating point required to tick off a single second, and we can easily find that by recording how many points of whatever pattern we use falls within the length of a second defined by the repeating interference pattern of light in a vacuum.

Oh, and for the people of NIST, BIPM, and any other international measurements standard organisation, the full, correct way to format a second should look like this:

1 second = X counts of _____ interference points using wavelengths Y and Z in a vacuum.

Change the X to a number and state whether the interference point type is constructive/destructive or both. That makes it simple enough for anyone to vary wavelengths Y and Z and still calculate an equivalent.

What's that crying I hear coming from afar? Is that the sound of physicists doing everything within their power to maintain the existence of time dilation? STILL you want more? Fine. We'll spend a little time looking at the space aspect of this dilemma, too.

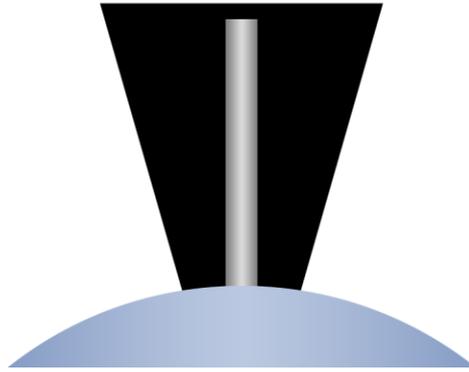


In the images above, we have a large vacuum container sitting on a body. Within this container, we have a metal pole. On the left, time dilation doesn't exist. On the right, time dilation does. We also know that light travels at a constant speed in a vacuum. Let's see what we can make of this.

In the left image, the distance between the sides of the vacuum container at point A is, let's say, 186,282 miles. This means light will take exactly 1 second to go from side to side in a perfectly level line. The pole is exactly a quarter of the width, meaning light will pass it in 0.25 seconds. This is consistent throughout, and a ruler would show you this, so it's exactly the same at point B.

On the right image, what's different? The shape of the pole? What if I told you it was exactly the same pole as the image on the left, but that the vacuum container was different? How is that possible, you ask? Well, if time dilation is real, then this is reality, and this is a perfect example of why this theory is bogus. The logic behind it is simple – light moves at a constant speed in a vacuum, so if time dilation is real, time passing faster at altitude **must** also mean that distances appear shorter – and I don't mean it being a perspective and vanishing point trick, I mean distances must physically be shorter, though they should obviously appear the same to anyone at the same altitude, right? After all, they would be experiencing the same time, so the space within which they reside would have been reduced as well.

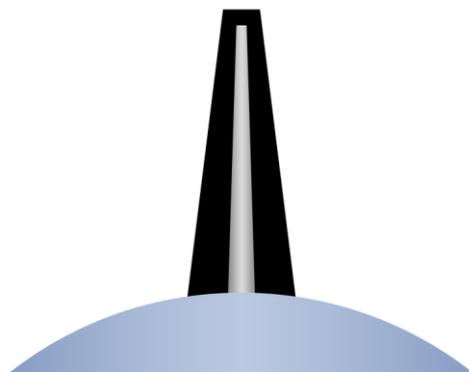
So, in the left image, time dilation doesn't exist, and so light will pass from one side of the vacuum container to the other, at both points A and B, in the exact same amount of time. However, in the right image, time dilation does exist, meaning light takes longer to cross the vacuum at point X than at point Y because the pole is exactly the same as the pole in the left image, meaning it is actually vacuum container that has gotten wider at the top. You'd probably have expected me to use this image instead:



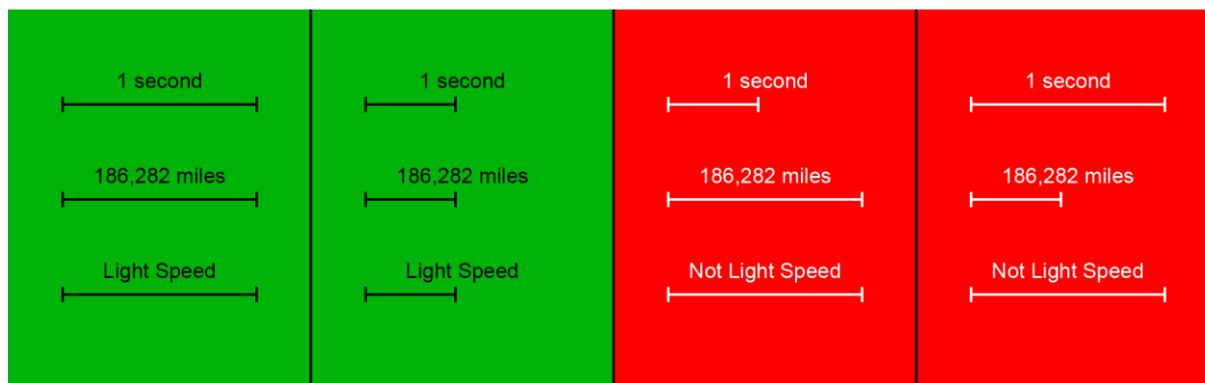
So, why didn't I? That's easy – because of the perspective from which we are looking. Imagine you are viewing the right image in real life. Your position isn't relative to the body, so you are viewing the container and the pole from an absolute position in the vacuum of space. This means that one of two things **must** happen:

- You, from a side view, should actually be able to see the effect of time dilation as space gets smaller, making the pole get narrower; or
- You should be able to view the beam of light taking longer to cross from the vacuum space at point X than at point Y.

The problem is... the species on that planet who built the vacuum container and the pole done so horizontally, in a factory, at surface level, and then stood it vertically. This means that it would end up looking like this in real life:



The principle here is simple: time and space are linked – light's constant speed forces this to be true and even Einstein agrees – so if one of them changes, the other **absolutely must**, too, because if time gets faster but space doesn't get shorter to match it, the speed of light is no longer a constant in a vacuum, so any object that is tall enough to span across the changing rate of time must also reflect the changing distance of space. It is physically impossible for one to change without the other, given that light is a constant speed, and this diagram depicts what I've just explained:



In the first two sections, regardless of the length of time, distance is the same, so light speed is maintained as long as the equivalence is maintained. However, in the last two sections, the equivalence is broken, so light speed cannot be a constant because light is not going to travel 186,282 miles in a vacuum within a second – it's going to be either more or less, depending on whether it is time or space changing, but since we are speaking of time dilation and not space dilation, light is actually going to travel at a slower speed. That's the problem with this theory – vacuums don't solely exist in space, so we can create one anywhere and the theory becomes FUBAR'd.

So, you want proof of time dilation? Let's build a very long pole that is uniform in width from top to bottom (we don't need to bother with the vacuum container), stand it up, and let the astronauts within the International Space Station give us a nice view of what they see. Make sure they are in a position where the top and the base of the pole are roughly equidistant from them, and they are looking directly at it from a perpendicular angle, just so no perspective tricks can be used. No dodgy visual distortion camera lenses, either. Give us that 1080p HD live stream! And leave David Copperfield, Penn, and Teller out of this – magic has no place in physics, despite it being the only thing that would save Einstein right now. Or some government could just use one of the video surveillance satellites already up there to show us. That would be easier, especially with their zooming capabilities. Borrowing such a resource wouldn't be too much of an ask if it helps us understand the universe, right? The US government is probably reading this and getting on it as I type this sentence. Don't try any cheap tricks, either, like suggesting use of a beam of light instead because it's easier – we know that cylindrical beams of light appear to get thinner as they fade away, but that's just an optical illusion. Yeah, I'm a conniving son-of-a-bitch, too, so I know the dirty tricks. We could take the easier route – use a much shorter pole of uniform width at top and bottom, stand it up, take a super high resolution photo of it using a camera in the same type of position as I explained the ISS should be in (perpendicular, equidistant top and bottom), and then examine it to

see if there is any discrepancy in the width at different altitudes when standing up compared to when it is laying down. I mean it's much easier to do the experiment this way, but it's so much less overblown and exciting. *Party poopers.*

Okay, I'm getting bored of this mockery and ridicule, so now it's time to put the final nail in the coffin of Einstein's Relativity legacy, and this is the best part.

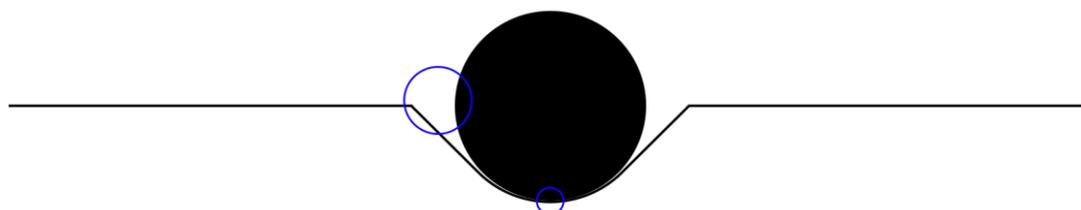
Some people would have taken issue with what I said earlier about light not reacting to gravity, citing some gravitational lensing nonsense – I'm glad they did, because that's what we are going to explore next.

Einstein stated three things:

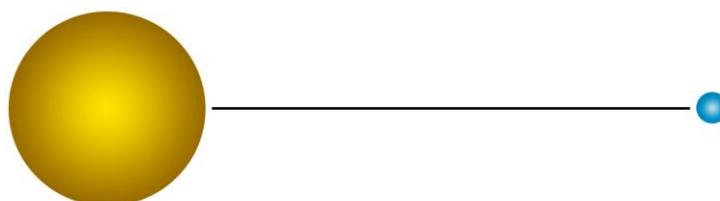
1. The speed of light in a vacuum is a constant;
2. Time dilates depending on altitude; and
3. Light bends due to gravity.

These are what I'm going to use to bury him once and for all.

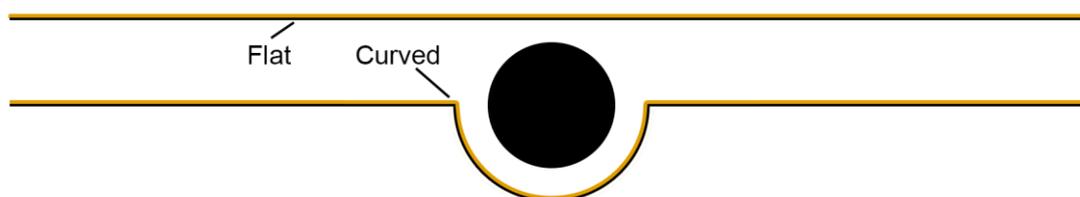
If gravity bends light, it can pull it – *Now stop right there, soldiers of the Relativity Defence League. Before you attempt to argue that gravity doesn't pull light, but simply bends spacetime, and light travels in a straight line that simply follows said bend, I'll briefly go over the model issue I discussed before, just so this section can stand alone for all you previewers. Let's begin, shall we. Look at this spacetime model diagram:*



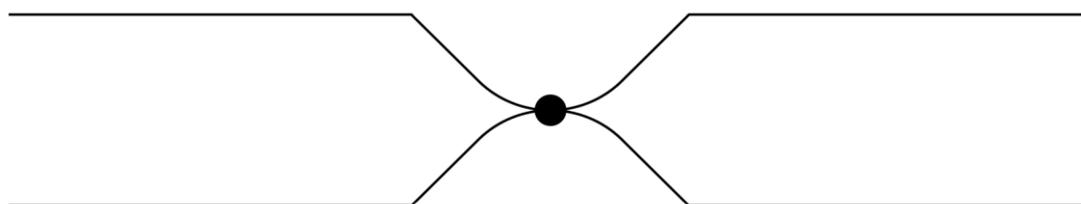
This model of spacetime couldn't be right, as gravity operates in all directions, generally equally, so the two areas between the body and edge of the gravitational curve highlighted by the blue rings have to also be roughly equal.



The body on the left is the sun. The body on the right is a planet. The line between them is, as it appears, a straight line path that light would travel.



If bodies "curve spacetime", and light simply travels in a straight line, it would appear as the flat diagram above appears when there wasn't a body present, and the bottom diagram when a body was present. Do you see the problem with this model? Light could only travel along the edge of a body's Hill sphere because **any** minor deviation towards the central body would constitute light bending in a vacuum – something that we all agree is impossible. A body such as earth would be left in complete darkness because the Hill sphere encompasses us from every angle, and we would require the use of artificial light or chemical reactions to see anything, but that wouldn't really be something we would need to concern ourselves with because, with no sunlight, we wouldn't exist anyway. Clearly, this entire model is entirely wrong, regardless of how it is designed.



So now we have to look at this model. Use your imagination here, but this model shows how spacetime would be curved to cause an object to fall towards a body and, hey, guess what? It allows light to travel in a "straight" line and actually make it to the central body, so we're on the right track, but that track ends here. See, the bending of spacetime is supposed to be caused by massive objects weighing down the fabric of spacetime, but it's **physically impossible** to weigh something down from multiple directions – especially opposing ones – and since gravity can be felt on any opposing positions on a body, the **only** way this is possible is by pulling, which means gravity would have to exist regardless of and prior to the "bending" of spacetime because it would need to be the cause of it. If you wish to argue otherwise, prove it. None of this "that's just how it works" bullshit. **SHOW US HOW!** Use any object and material you want, and then demonstrate it for the world. I will even allow you the largest margin of acceptability science has ever known, and still watch you fail. The closest you will ever come will be through the use of magnets and some sort of magnetic cloth, but it will still

*prove me correct because the model above would only be caused due to the magnetic pull. And, if you think "that's just how it works" is an acceptable explanation, get your candy ass out of this field. So, we now look at the logic of two extremes. If gravity can pull a massless object that doesn't physically exist (spacetime), and can pull massive objects that do physically exist (matter), with those being the two extremes, the middle **must** be pulled also – massless objects that do physically exist, and these, ladies and gentlemen, are photons. Well, any sort of energy, but in this case we are speaking of photons. It's a general rule of logic – take care of the two extremes, and the middle works itself out, so if you think it is possible for gravity to bend something that doesn't physically exist, as well as objects of mass, but not light, you need to sectioned indefinitely because you are definitely insane. Go ahead, tell me I'm wrong. I double dare ya times infinity. Oh, and for those dying to tell me "gravity can't pull matter", we can destroy that theory, too, with great ease. Let's use earth for this example. The fact that an object can fall perpendicularly towards the surface proves it. If gravity wasn't pulling it, objects would have to follow the curve of spacetime in order to reach the ground. If that was the case, every object would be forced to approach from an almost horizontal angle. Why, you ask? Because the earth's gravitational pull is so weak, it would never be able to create a curve that appears as a near or completely vertical drop – it wouldn't be anywhere close. For such a feat, based on the rules of Relativity, you would require the gravitational depth of a black hole. Look around you – how dead do you feel? I 'm pretty sure we aren't living within the confines of a 'singularity', and I'm pretty sure we would have been ripped to shreds by now if we were sitting on the lower edge of the 'event horizon'.*

*Neither model reflects reality, so stop bullshitting yourselves into thinking they do. Neither of them even explains how gravitational strength differs at different points on a body, and none of them possibly can. Not even pseudoscientific maths that physicists like to dream up can explain and solve these issues. Yet again, they bend the **VERIFIABLE** laws of physics as much as they claim spacetime is bent, in a desperate attempt to make a theory work – a theory that, mind you, cannot be tested and proven, hence why they tell you "it is impossible to recreate gravity". Oh, how convenient for them that is, but it doesn't mean we can't disprove this waffle.*

So, as I was saying before I was so very rudely interrupted by the statements you would dare to think, if gravity bends light, it can pull it. If it can pull it into a bend, then it can make it accelerate, given that maintaining speed in a curved line requires constant acceleration. If it can do both, then shooting a beam of light directly towards a gravitational body from a perpendicular angle in a vacuum means that light **must** accelerate, even in a straight line. Why? Because it would be facing an ever-increasing degree of force the closer to the body it gets. What happens when an object

accelerates in the same direction in which it is travelling? That's right, **the object's speed must increase**. You can't state that gravity can pull light from the side but not from the front – forces don't discriminate based on direction and angle, so it's physically impossible. Also, any force that operates at a distance in the way gravity does – magnetism, for example – when pulling an object which it is able to affect, causes the object's speed to continuously increase as it nears because of the strengthening of the force's pull. There's a very high probability that every single person reading this has tried this when playing with magnets – you nudge a magnetic object closer to a magnet to see how close it has to be to in order to be pulled, and the object starts moving slowly at first but then it gets faster and, at some point, quickly snaps to magnet; then you try to slide the object past the magnet and see what happens when it gets caught in the magnetic pull – we've all seen the curved path it takes. This is the exact same behaviours we would have to see if light could be pulled by gravity. Given this, if gravitational lensing was true, the speed of light would never be a constant because a photon, at any given point in space, would be subjected to different strengths of gravitational pulls (yes, even due to microgravity) from every direction, and so it would constantly be forced to accelerate at different speeds and change its direction of travel. **The speed of light could never be a constant, and light could never actually travel in a "straight" line.** What are we now to believe – that, like modern cars, light has a magic speed limiter that prevents it from travelling beyond what we know as "light speed"? Better still, it also has a magical speed increaser to prevent gravity from slowing it down when it is travelling away from a body! Sorry to burst this bubble, boys and girls, but nature doesn't work this way. Inanimate objects interacting with other objects react in set ways, and if anyone believes otherwise, I'm sure Lemony Snicket has more than enough UAVs to go around.

Now for the grand finale.

At this point, all I can do is laugh because I know there are a ton of physicists ripping their hair out right now, attempting to figure out a way to beat my logic because of the total significance of what I have done, but for those who haven't quite caught on yet as to why I explained everything in the manner in which I have, and why I went to the (relatively short) length of including the CLL clock invention, as well as the interference pattern table and chart, let me explain the beauty of it all, and it's something that no professor, university, moderator, or any other type of physicist can deny because the evidence has been laid out, and it can and will be tested and proven by any computer scientist, mathematician, engineer – basically anyone who understands how to count.

If anyone wishes to declare that my light clock principle does not work and that time is not absolute, **the only way they can now do so is by stating that light does not move at a single speed in a vacuum.** If they do that, well, they've just destroyed the constant that is C , and have fucked Relativity – and so much more physics – anyway. They've never been put in such a position, and it's a joy to behold.

(And if you dare mention 'virtual particles', I will laugh you out of this field.)

It's the perfect lose-lose situation, and the only way I was going to shut physicists down when it comes to this donkey-shit theory, knowing they would attempt to throw out equations using every available symbol ever known to man to explain something that isn't real. I haven't even bothered counting how many ways I've explained to prove it, but only one of them has to work to.

Luckily, they all do.

But it doesn't stop there.

Since time doesn't dilate and space doesn't bend, that means spacetime cannot possibly bend or curve because time dilation was supposed to be dependent on how much spacetime is curved by massive objects, and I've just shown that the bending of either is a fallacy.

But wait, there's more.

If spacetime can't bend, then Einstein's theory of gravity is absolutely false because it, too, was based on the bending of spacetime by massive objects.

More? Okay.

Black holes can't be what anyone thinks they are because they're believed to be the result of super massive objects bending spacetime to a degree from which light cannot even escape, but I've just proven time is absolute and spacetime can't bend, so "black holes" can't exist either.

Stephen Hawking, you're gonna need to find a new job once the world of physics reads through this publication in full.

Guess what? Worm holes can't exist either, so that ER=EPR bullshit that Susskind and Maldacena came up with just became a game-winning three-pointer into the bin.

C.H.E.C.K.M.A.T.E

For some, yes, you are thinking something along the lines of what many others are thinking:

"Holy-Fucking-Shit"

This is chaos theory at its finest – prove something as seemingly innocuous as absolute time and watch the House of Einstein fall.

There's a feeling many of the Relativity believers reading this are experiencing right now, and it's called cognitive dissonance. Their mind is begging them to disagree, and it's caused by the fact that they know the logic here is flawless, and that I am absolutely right, but if they dare accept that fact, then they also have to accept that most of the work done over the past few decades is useless, careers have been wasted, reputations have been tarnished, and that most of them have not had the foggiest idea of what they've been babbling on about. It's poetic, really. It's the kind of thing to make those threatened want to broadcast to the world that I am wrong, and attempt to demonstrate how – I dare someone to be so audacious. Please, bad mouth me. Let someone, or an institution, of stature in this field call me crazy; a crank; a lunatic; and not in an opinionated way, either. I will slap them with a defamation lawsuit and drag them to court for the sole purpose of pitting my science against theirs in a legal arena, demonstrating our logic, and ending with a legal ruling stating who is right, if need be. If you are someone thinking of doing this, let me make one thing clear: I can break my science down to basic maths and diagrams, and then explain it so any judge and juror with a secondary school level of education or higher can understand – I will absolutely fucking crush you into dust. It would warm my heart. So, before you dare do something idiotic, run the logic. Again, and again, and again. Run it until you are blue in the god damn face, and then run it some more, because unless you find a way to beat the interference point count without changing the wavelength or slowing down the speed of light in a vacuum, you are invariably fucked. Nevertheless, if you still feel as though Relativity is real, feel free to attempt to disprove what I have stated here – when it comes to matters of intellect, I am always ready to go to war, I am always in a destructive mood, and I will rampage through your piece of shit work much like I have done Einstein's. Do note, I will not be as kind to you as I have been here.

You know, there was a time when everyone knew time was absolute, and physicists convinced most people that they were wrong. All over the world they have used time dilation in their work for decades. Now you can really begin to see the scale and magnitude of the shit show one man got started in the September of 1905, and most physicists have perpetuated ever since. I've seen people complain that others have not studied Relativity properly from a mathematics point of you. So, what do they say now? Do they value the nonsensical formulas this crackpot put together more than the reality of what is in front of you? The whole point of this was to show that Relativity is a theory so moronic that physicists would be embarrassed to dare use it again. Time has never relied on matter because matter doesn't have a constant, so shitty clocks – any clock relying on matter, such as the "ever-so-precise" caesium atomic clocks – dilate under the difference in gravitational force acting upon the particles of matter inside them, but time remains absolute. Physicists never actually

separating a clock from time itself is so damn ridiculous. The only real question left to answer is how on earth no one managed to see such a glaring flaw sooner, and the answer is simple: physicists never took their heads out of the maths books or turned away from the white boards to actually engage with the physical world – you know, this 3D physical plane that physics is actually supposed to be based on. Then, they filled the heads of students with so much bullshit that they haven't even been able to think for themselves and do basic real world logic that anyone in their mid to late teens should be able to do, and yet four years minimum of university and they still couldn't come up with this shit. **Relativity is a paradox that destroys itself.** It took PhD level mathematics to create time dilation, and the maths skills of a pre-pubescent child to take it down. Who would've thought that this theory was so weak that destroying one part of it would see it crumble, yet physicists have worshipped at the altar of Einstein for decades. *Pathetic.* It's no wonder he so poorly accounted for time – it was the one factor to destroy them all. I mean, come on, people, the man gave you a universal constant that consisted of both time *and* space, yet it was never used to prove absolute time. As long as one constant in the universe exists, time and space are constant, too. That is a scientific fact. This is now scientific law. He played you all this entire time – 112 years. Honestly, I cannot believe these apparently "world class" minds let this persist for so god damn long. Einstein's work is a paradoxical failure in its entirety and the biggest load of shit I have ever come across, yet no one was able to prove this until now? Such simple logic and no one was able to piece this together for over one hundred years? I weep for this field. The funniest part about all of this is the amount of people who convinced themselves that they understood time dilation, Relativity, and physics in general, which is... 99% of the people who have ever studied this? Shocking, but that sounds about right. People believed this shit because a bunch of other people – "Top Scientists" (you can imagine how much my sides are splitting as I use that phrase and laugh) – who couldn't even prove Einstein's work for it to become scientific law, told them it was true, and then fabricated every piece of evidence mathematically necessary to make it appear to be, and now they are going to have to bury every mathematical framework they have ever built that is based on this. That is satisfying down to the depths of my soul. They did not, for any moment in their lives, think that basic maths was enough to derail their fantasy. Congratulations, you've been lied to for decades. Is it any wonder why I go and investigate all these scientific claims for myself? I don't trust any of these delusional dictators who control what is and isn't declared "real" science. They all talk shit. None of them are as smart as they think they are. They definitely aren't smarter than me. They won't beat me at the logical mechanics, ergo, they will not beat me at physics. They are **not** in my league. Yes, I am an egotistical bastard – something of which we will explore later, relative to all of this – but my work speaks for itself, so I don't care what you think of me or that statement. I'm not here to be liked, I'm

here to be right, and I won't tone it down simply because physicists and the shit they have been pedalling in honour of this German lunatic for so long deserves to be ridiculed until time finally says "fuck it" and puts us all out of our miseries. More than anything, though, this speaks volumes about the people who are or were supposedly "the greatest minds of mankind", with their support for his work and all, but there's no need to worry because I'll speak on them soon enough.

SPOILER ALERT

It's a god damn bloodbath.

How did Tesla put it?

"The "Theory of Relativity" wraps all these errors and fallacies and clothes them in magnificent mathematical garb which fascinates, dazzles and makes people blind to the underlying errors. The theory is like a beggar clothed in purple whom ignorant people take for a king. Its exponents are very brilliant men, but they are metaphysicists rather than scientists. Not a single one of the Relativity propositions has been proved. Today's scientists have substituted mathematics for experiments, and eventually build a structure which has no relation to reality."

That was in 1935. It may have taken 82 years, but the man has been vindicated. I do question why he dared call them "brilliant men", though. How can one be so brilliant when one's work is so wrong? Guess he had respect for his colleagues, i.e. isn't anywhere near as big of an arsehole as I am. Good on him. He is an inspiration. I am devastation.

Oh, and please don't start celebrating the possibility that nonsensical quantum theories such as string theory may now be proven true because, somehow, physicists have managed to make string theory – a theory that is even more ridiculous in nature than Relativity – be taken seriously, and I spill the blood of this and many other quantum theories/phenomena, too, when the time is right. When I think about just how much of physics is incorrect, I really cannot comprehend how we have been allowed to reach such a disastrous point in the field, but it's about time someone corrected it and knocked these people off of their high horses once and for all.

Physicists. Burn this field to the ground and start over from scratch.

Or die in a pool of your own ignorance.

Did you see that, Mr Emerson? I aimed at the king... and I blew his god damn brains out.

Past, Present, Future: To Witness or to Travel

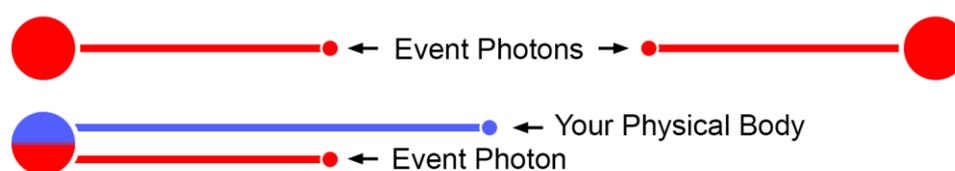
Not part of Einstein's work on Relativity, but, since we're here...

Based on how light travels, I can see the logic in being able to see the past over incredible distances. For example, since light travels at 186,282 miles per second, if you stand 186,282 miles away from an event that is within your line of sight (something not possible on earth since the planet's curvature would have long removed the event from view), there would be a one second delay between the event happening and the light carrying information about said event to reach your eyes. Apply this over distances of light years and you see how we are witnessing past events – this all makes sense.

If you ever managed to travel faster than light, though, time for you would be manic – not time in the sense of duration, but time in the sense of happenings. Depending on the exact path travelled, you may not witness past events in chronological order. Objects could have moved in and out of a photon path, blocking some, causing there to be gaps in the "story". Information would be coming at you from so many different points in time and places in space that you would have absolutely no idea what is actually going on anywhere, at any time. Though everything we see now is, technically, the past, at faster than light speed, nothing that you see is of any use to you because almost nothing you process is actually happening where you are at the time you are there. You aren't travelling to the past, only living in it, and you won't be able to interact with anything that you see.

Because a second is the standard base unit of time, let's say the present for any person includes everything that happens within a single second. Travelling forwards, your present would be everything that has happened within at least 186,282 miles, and you would have to process every piece of information you came across in that time. Then, if by some act of God you managed to process it in the brain, you would've gone past the point where the information was even of any use anymore. If you wish to compare that to real life, think of high speed driving. Imagine driving a car at 200 mph. That is equivalent to 89.4 **metres** per second. Now, think of all the information you would have to process while travelling at that speed – traffic lights, other cars, turns, changing gears, braking, and so on. Most people could not process this information fast enough – most people could not adequately process this information while travelling at half that speed – so imagine trying to take everything into account at a speed greater than the speed of light. I'm sure many are thinking that there's not really anything in space that you would need to process that fast because, let's be honest, you aren't travelling at such speeds on earth, but then we have to think about what is happening inside the spacecraft I assume you are travelling in. Let's say something very important

breaks to the right of you. What do you do, fix it? Sorry, you can't. You'd never know it was broken. Travelling faster than the speed of light, the photons from the break would never be able to reach your eyes. Guess what? The loudest and brightest flashing red warning sign behind you wouldn't even come to your attention. Photons don't move relative to anything, so they'll get reabsorbed before they can ever come to your attention. You would only be able to see everything that was happening directly in front of you when facing the direction in which you are travelling. You couldn't even look down and see your own body because the light emitted from one body part would be intercepted by a higher part before it reached your eyes. If you turned to face the opposite direction of the direction in which you are travelling, it would be black because you'd be outrunning any light coming at you. At best, you'd have the worst peripheral vision known to man, only being able to see the photons that your eyes manage to catch from a perfect 90 degree angle. It would all look something like this:



There is one cool side effect, though – the light you emit from any position, once it reaches someone else, will simply be a hologram of your past. Needless to say, someone like me would have immense fun with this, seeing as you would be able to intercept your own photons and see yourself coming at you. Unfortunately, however, this means that, if any particle could ever travel faster than light, such as the hypothesized "tachyon", scientists wouldn't be able to study it because any time they would think they saw it, it would be long gone from that position in a different direction to the direction in which its hologram appeared to be travelling because it would outrun and end up reabsorbing all photons that it emitted in a forward direction, and only the ones emitted to the side and behind it would remain to be visible. This reason also means that the particle couldn't be seen by someone positioned in front of it until it was way too late. If it was travelling towards your eye (and the eye was able to detect it), you literally wouldn't see it until the point of impact with your eyeball. Think about that when two spacecraft are travelling on a crash course towards each other at a speed faster than light – both outrunning and reabsorbing their own photons, they couldn't see each other until they were both playing kissy face. Yea, they'd be dead before they ever knew what happened. Anyway, back to the particle. Since it naturally moves faster than light, it would have to be a form of energy and not matter. Since it's a form of energy, it would either be absorbed by matter or pass straight through. Scientists could attempt to slow it down by freezing to almost absolute zero a

particle that has absorbed it (if that happens), but, without knowing what that form of energy does to a particle when absorbed, as well as not knowing what to look for, where would they even begin? Prayers would be said in hope of some obvious behavioural or characteristic change before the particle was emitted, and if the particle simply passes through matter, well, scientists would have the options to either quit or spend their lives chasing ghosts.

There's one more thing that bugs me, and it isn't actually about the past, but about the future. Some people – and I seriously cannot wrap my head around this – believe that if an object travels faster than light, events can be witnessed before they've actually happened. I remember reading an article that was talking about data transfer beyond light speed, and that people would "be able to receive messages before they are even sent". Just let that sink in for a moment – **you will be able to perceive the result of an event... before the event has even taken place.** This is a degree of stupidity that is so incomprehensible, I only wish a significant degree of human evolution happened today just so natural selection could take them tomorrow.

No matter how fast you travel, you can only affect how long it takes you to perceive an event. Time can't be undone, redone, or viewed before it has actually happened, and you can't have any effect on it whatsoever. The past, present and future do not exist simultaneously. You can't bend the universe on itself to time travel, but if you really, desperately, want to find a way to do so – to the past, at least – then find a way to have an object pull all of the energy it has released between now and the point in time in which you wish to travel back into itself, regardless of where it has travelled and what it has been absorbed by, and then figure out how to do this for every object in the entirety of the universe. And no, I don't simply mean filling an object with different energy, I mean the actual photons it has released must now moonwalk their way back into the object. Let's leave all of this to Barry Allen, and if you're not a DC fan, think Cable and Bishop.

Light Moving Faster Than Light

To disprove a final myth about any object moving faster than the speed of light, we'll look at the "moving source" experiment, which basically states that if someone takes a light source – torch, laser, or what have you – and waves it across the sky, then, in principle, light has moved faster than the constant speed of light because, however million or billion miles away you wish to calculate the start and end points, light travelled between them much faster than light should be able to travel.

There is no principle here – none whatsoever. This is so wrong that whoever came up with it should be shot. If they are dead, dig up their bones so you can kick them off a cliff.

As an initial comparison, imagine you are firing an automatic machine gun. The machine gun itself represents the light source and the bullets represent packets of photons. As fast as the gun shoots, you are letting out a stream of bullets and, as you are doing so, you partially rotate to spread bullets around. Now, you shoot the first bullet at an angle of 0 degrees, and you shoot the last bullet at an angle of 60 degrees. That first bullet is already heading off in the direction it was facing when fired, and it has no effect on, nor any relation to, the last bullet fired. The same is true for light. A photon stream is a collection of particles which can be broken up into individual pieces in the same way bullets are fired. All you have to do is use a mechanism to continually interrupt the stream, such as a shutter, which we see used for cameras, or you can even just keep moving your hand in and out of the stream's path to achieve the same effect.

For light to move faster than 186,282 miles per second in such a situation, the light beam would have to be connected, rigid, and unbreakable. This can be simulated with a stick – by waving it around, the tip is covering a greater distance than the base, but this only happens because the stick is a rigid solid that moves as a single unit. You can't pass your hand through the stick so that the top half of the stick remains in one position while the bottom half moves off somewhere else, nor can you change the direction of the base without changing the direction of the tip, but, with light, the furthest photon is not attached to the one just released. Only a rigid, solid body can achieve the feat of one end moving faster than the bottom end when waved about. Any flexible or non-matter body will either simply change shape or can be broken into numerous streams heading off in slightly different directions. Some people will bring up something akin to attaching an object to a string and swinging it around – the implication being that the base of a flexible string is moving slower than the tip. In this case, the body of the string only takes on the appearance of a rigid object because of the tension caused by the ball's orbiting, but I invite you to introduce an object into the path of the string and watch how quickly you are reminded of its flexible nature.

A stream of light acts similar to a flexible body in the sense that the apparent shape of the beam reflects the movement of the base, and nothing like a rigid one, given that the entire beam doesn't move with the base. If you don't believe me, I invite MIT's Camera Culture Group to test this using their camera that can capture the movement of light. Use a laser beam and record from an aerial view – you'll see what I mean. You can even do a test at home that conveys exactly what is happening, and it's very simple:

- Take a garden hose, but make sure it doesn't have a sprinkler head on it or anything. This is the light source.

- Turn the hose on. The stream of water is light.
- Hold the hose in a single direction. The stream is a beam of light with a non-moving source.
- Now rotate at a 90 degree angle. Do you see how the water that was already emitted continued in its direction, and, as you rotated, the water that was being emitted is what was actually being streamed in a different direction? This is what happens with light.
- Now, continuously wave back and forth. The water stream is now creating a wave pattern. This is exactly what light does when you wave it around. The water at the end of a stream continues in the direction in which it was originally heading, and this applies to all water particles being ejected from the hose. Together, as you move, the water particles at the end of what would be multiple individual streams form the pattern that makes it appear as though the water is all taking a curved path, but we know this is not actually happening, and the exact same rule applies to light.
- Finally, if you begin to change the stream direction faster than the water is being ejected, the wave pattern will be broken because the water can't keep up. The same thing will happen with light from a source if the source is being waved about at a rate that is faster than the emission of light can keep up with.
- You can also test what happens when you break up the stream just by moving your hand in and out of the way.

Gravity: Unrequited Love

Newtonian gravity states that all objects have gravity. This has led many physicists to believe that it is created by an elementary particle referred to as a "Graviton" – a particle that has never been seen, but is hypothesised to be the fourth and final particle of fundamental forces of the universe.

The curvature of spacetime creating gravity was an idea supported by an experiment performed over a decade prior to Einstein's work on Relativity, called the "Cavendish experiment", which in turn was supported by Newton's work that claimed all objects had gravity. The thing is, there are things for consideration that have been ignored throughout the accepted derivative theories that just don't add up, so we need to look at events both past and present to fully understand why it is wrong:

- Newton stated all objects have gravity when he created the Law of Universal Gravitation. He couldn't possibly have seen any object attract any other object other than objects that are falling towards the earth, moons orbiting planets, and planets orbiting the sun. So, he threw some mathematics together and used "inductive reasoning" to state that all objects have gravity and must pull each other equally. Let's go over that part again. **He never saw**

gravitational attraction between any two objects where one wasn't a celestial body, but managed to inductively reason that EVERY object – from individual particles to the largest possible object they can collectively form – has gravity. *For humour purposes, we'll call this Particle Stereotyping. I guess that makes us all guilty of Atomic Profiling.* The only way such reasoning could logically be made would be to witness, say, a car attracting an apple, a boulder attracting even a single droplet of water, and one atom attracting another – human and atomic scale objects displaying exactly the same behaviour that we see with celestial bodies. So, why couldn't it be witnessed between human-scale objects or those smaller? Why, the objects were apparently *too* small, of course. Amusing, since every other force – fundamental or other – can be seen throughout the scale to which they apply. Gravity was "special". The fact that maybe only one object needed to produce gravity in order to attract others was never considered viable. Newton never could explain why, so people went looking for answers.

- In 1798, a scientist named Henry Cavendish devised an experiment which has been claimed to prove gravity between objects. Without going into the technical aspects of the contraption used, what it basically did was measure the apparent gravitational force between two stationary and two non-stationary spheres, where the stationary spheres were larger and heavier, causing the gravitation of the smaller spheres towards the larger while attached to a beam hung on a torsion wire. You can find depictions of this on the internet. Since this is the experiment to be refuted, I'll finish these points before I start going into detail.
- No one had been able to provide an explanation until Einstein's work on Relativity. Much of his work appeared to be correct, so everyone accepted it ***all*** as true. The issue here is that his work was based on the existence of gravity, which was never actually in question, so he just gave a reason that could never be proven – bending spacetime. If we remove the bending of spacetime from his work, gravity still exists without a reason for it given, and the rest of his work will still appear to be correct *because* gravity, and many, if not all, other behaviours still exist, so the bending of spacetime is irrelevant to all results in his own work, since they would be the same anyway.
- No elementary particle has been found for gravity – one of the four fundamental interactions (forces) of the universe. In comparison:
 - Weak Nuclear Force – W and Z Bosons. Theorized in 1968. Discovered in 1983.
 - Strong Nuclear Force
 - Gluon – Theorized in 1962. Discovered in 1978/79.

- Meson – Theorized in 1935. Discovered in 1947.
- Electromagnetism – Theorised in 1864. Proven in 1887. Photon discovered in 1900(?).
- **Gravity – Discovered in the late 1500s by Galileo. Original mathematical theory published in 1687 by Newton. Current theory published in 1915 by Einstein. "Graviton" particle theorized in 1930s. Particle still not found. Gravity only "seen" in one difficult to precisely perform and confirm lab experiment. Never knowingly seen between non-celestial objects in nature.**

So, time to begin the investigation into the Cavendish experiment. Now, it took a solid two days and a bit of a third of research and thinking for me to put together what is happening here, in a way that makes sense, because I didn't have the resources to accurately recreate the experiment and run different tests. Therefore, I'll explain it all step by step so the thought path is easy to follow.

1. **Recon** – Information gathering, the natural first step. Wikipedia, a Scientific American article, and numerous other science websites provided what needed to be known in terms of the explanation of the experiment. YouTube provided videos of attempted recreations performed by university students and home scientists alike. There was enough information between all of these to begin dissecting the method.
2. **Environment** – Cavendish didn't have the resources to create the perfect environment, so he done the best he could to reduce the possibility of other forces interfering with movement, such as air drafts, by performing the experiment in his shed, with the contraption placed inside a wooden box which was two feet thick. He didn't want the gravity of his own body to interfere, so he observed from a distance. We can assume this was pretty much secure, ignoring the fact that the gravity from the wooden box would have interfered with the experiment anyway. As expected, the small spheres moved towards the larger. In recorded attempted recreations of the experiments, the apparatus was simply in a room without any safeguards to prevent unwanted forces besides the walls of the rooms themselves. An exact replica of the contraption wasn't used, but very simplistic versions of it were, which featured objects such as weights and dumbbells, apples etc – whatever could be found near, it seems. As expected, the smaller objects still moved towards the larger, but all seemed to do so faster and to a greater degree than the original. How? Cavendish's moved only 4.1 millimetres, and he had to use a trick involving a mirror and light, observed at a distance, just to be sure that the spheres actually moved, while some of the recreations had objects moving more than an inch.

3. **Sizing** – I looked into the size of the objects used. No one used objects as large/heavy as Cavendish did, who had large lead spheres of 12 inches in diameter, weighing 158 kg each, and small spheres of 2 inches in diameter, weighing 0.73 kg each. If the strength of gravity is based on the size and mass of the objects involved, the gravitational pull in Cavendish's experiment should be much greater than in any of the recreations – enough so to negate the difference in size and mass of objects used. So, how were the objects in the recreations able to move so much further and faster? This is clearly an indication of mass involvement, where lighter objects can be more easily moved – a general principle in everyday life. This goes against the theoretical calculation of gravity as Newton stated it, as the 158 kg spheres should have had a much greater gravitational effect on the smaller ones, pulling them by a greater distance than what we see in the recreations.
4. **Magnetism** – Clearly something isn't right in all this. I started to look at the materials. In the original and all the recreations I had seen, metals were used, and I thought maybe they could have become magnetised by the earth's magnetic field. A quick google had the internet screaming at me that lead, the material of spheres used in the original, was "diamagnetic", which basically meant not magnetic, as opposed to "paramagnetic" (slightly magnetic) and "ferromagnetic" (strongly magnetic) – all terms new to me. Wasn't surprising that the idea was shot down, though – it would've been too easy.
5. **Static** – I considered the possibility of attraction caused by static build up around the spheres, since I didn't read that they were grounded beforehand. Again, the internet disagreed, and I had to as well. I don't think enough static energy could have been built up to move objects in both the original and recreated experiments, especially over the distance the objects move in the latter. Possible, maybe, but unlikely.
6. **Observation** – At this point, I had to turn to nature. If all objects had gravity, surely there must be an example of it in the natural world – I mean, we can see every example of physics in the natural world, somewhere, so if all objects did have gravity, there has to be a clue on a scale visible on earth. Since gravity was said to be based on size and mass, the obvious thing to do was make observations around the biggest natural objects we can find on earth – mountains. Unfortunately, there aren't any of those in or near East London, so, again, I turned to Google and Wikipedia. Luckily, what I had planned didn't require my physical presence at the scene, only observation and explanation:
 1. Sailing Stones: Not sure why these popped into my head. These are stones that appeared to move across valley floors by themselves. The mystery was eventually solved – it was a prank by nature – but the method of movement wasn't the point of

interest, the tracks left behind were. Given the location of such happenings, I wondered if the gravitational pull of surrounding mountains would cause any weird and immediate, yet only temporary, angled cornering deviations in the tracks towards the nearest mountains, as if a stone sidestepped but continued moving forward in the same direction. Of all the pictures I've found, no such manoeuvre can be seen. All changes of direction seem to follow large or small curves, as opposed to any sort of sharp angles. Given the conditions under which these rocks are able to move, the gravitational pull of a mountain should be able to influence the course of said movement, but the rocks seem to simply follow the direction in which they are being pushed.

2. Plants: Specifically, those which grow on the mountain itself, especially at the base and around the middle. Plants have a very interesting ability called "Geotropism" – they detect and respond to gravity, with their roots growing towards it and their stems growing away. Now, scientists are yet to figure out exactly how this works, but the function of the mechanism isn't important here, only the result. So, if all objects naturally have gravity, then one of two things should be seen in this situation, and they are both what I call "leaning fields". Either:
 - All plants should detect the gravitational pull and lean *away* from the mountain; or
 - Plants either do not detect or ignore the gravitational pull of the mountain, and all lean *towards* the mountain, based on the pull of the mountain they continuously experience as they grow.

Neither of these can be seen. If this phenomenon existed, it would have been observed from the beginning of human existence, and botanists would have written about such a thing millennia ago. Even when large amounts of grass and flowers grow in the same direction, due to factors such as wind and the need to fight for sunlight, the phenomenon of the "leaning field" isn't seen. You always get the stubborn individuals or patches that do whatever it is they choose, which is something that can't be so if gravity has either effect. Surely this is physical, natural proof that gravity can't be present in all objects of mass just because they exist, or are we to ignore nature's own gravitational detection system in order to be able to accept the work of laboratory scientists?

3. Trees: Here, we care about the branches and the leaves.

- Branches – To help understand this, you can view naked illustrations of trees, such as those found here: natureinstitute.org/pub/ic/ic14/trees.htm. However, you don't need really need to if you are familiar with trees at all. You'll notice that, in any tree, all or most of the branches grow towards the sky, going away from the gravity of the earth. Again, this is an example of geotropism. What we don't see in any images – or in real life, for that matter – are branches of trees on mountains growing in, or towards, a single direction. Surely the gravity of mountains would fool the tree, causing branches to grow away from them, no? Even branches growing on the side of a tree facing a mountain should visibly, as they grow, change direction. We already see this behaviour with branches that are growing towards the ground, so why not in this situation?
- Leaves – Hanging, as they do, the twigs and branches from which they grow provide resistance equal to that of the pull of gravity, just like the wooden beams suspended on Cavendish's contraption, and, though the branches don't rotate, leaves themselves are rather flexible when healthy. Why do we not see all leaves on the half of the tree facing the mountain pointing somewhat towards it, and leaves on the half of the tree facing away from the mountain appearing as though they are being somewhat pulled back?

If all objects have gravity, there should *literally* be mountains of evidence, so why the absence of any whatsoever? Going by what has been accepted in science, we are to believe that a torsion fiber is able to magnify the gravitational pull of everything from lead spheres a foot wide to dumbbells and apples so much so that it is visibly greater than the natural gravitational pull of mountains on plants. *Seriously, some wire/string?!*

7. **Conspiracy** – I wasn't buying the fiber versus mountain outcome, so I decided to see what people online had to say about this. I came across the site of a man who goes by the name Miles Mathis. Now, he's regarded as a conspiracy theorist, so you always have to be as suspicious of their work as they are with everyone else's, but it's possible for even the dumbest person in existence to surprise you with a logical argument at least once, so it's better to observe and then judge. To cut a long story short, he concluded that all objects emit a repulsive electromagnetic field composed of photons, and all the objects in the vicinity of the experiment that were being ignored were actually causing the smaller objects to move, while the larger, stationary objects were used to block the photon emissions from all the other objects. Now, the obvious thing to think next regards the emission of photons

from the larger objects, which would essentially mean the actually blocking is made redundant, and the emissions from the large objects would even have a greater effect since they were closer to the small objects, at least in the recreated experiments. So, overall, it didn't make sense, but the logic of "blocking" did stir a curiosity in me.

8. **Invisible Forces** – Assuming Cavendish blocked/regulated all forces that he could, there are only three possible forces that could still exist in that box, and they are all caused by the earth – gravity, magnetism, and rotation. Gravity, relative to the earth, only operates vertically, so it couldn't be that. The rotation of the earth, since it is constant, would either cause the bar holding the smaller spheres to never stop moving or have no effect at all, so that wouldn't make any sense. I had no idea how the magnetic field of the earth would come into play, so I was at a loss. I decided to go back to the beginning and jumped on YouTube for videos of attraction, repulsion and diamagnetism – seriously, this site is a godsend. I needed to know more about it, and, since I was starting over, static force wasn't something I was willing to rule out permanently. These are the results I watched that are most important to what comes next:

1. "Electrostatic attraction and repulsion" by user Mr Guay Hansen; and
2. "Diamagnetism and Paramagnetism" by user Michael Melloch.

I didn't know what to expect at all, but was interested in what I saw. What we want to focus on here is the movement.

1. In the first video, what we want to pay attention to is the rotation of the ruler on the column during repulsion, based on the position of the repelling object.
2. In the second video, we want to pay attention to the diamagnetic glass rod when it is within the magnetic field.

These were the first two clues to what I believed was really going on, but I needed to understand one more thing, which I probably would've already known if I had paid more attention in science lessons. How exactly do magnetic fields work? A quick search yielded the results I needed, and I was able to put the complete theory together.

9. **Principle** – The first thing I'm going to explain is what I call the "Shadow Principle":

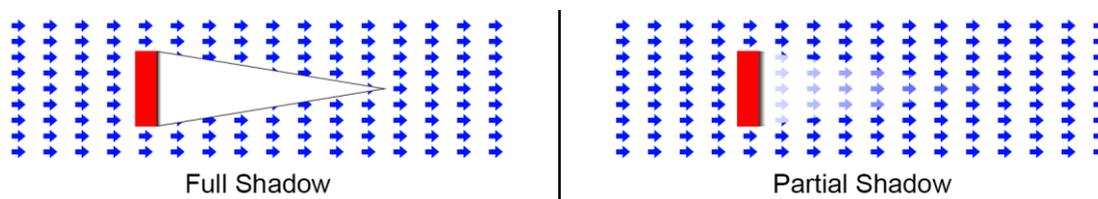
When a blocking object impedes a flowing object which is moving in a single direction at a given point, a "shadow" is cast behind said blocking object, which is the area in which the flowing object is in a lesser state than normal.

This may already go by another name – I do not know – but it can be seen with any flowing object. Four examples of this we can see, and probably have seen, are:

- Light – This is the typical type of shadow we are familiar with. When light is blocked, a literal shadow is cast behind the object where light is unable to reach, or reaches in lower quantities.
- Flames – Most people would have seen this in movie scenes involving explosions and a person hiding in the "shadow" of some sort of pillar, wall, or a table laying on its side, in order to survive.
- Water – Easily seen in any river containing large rocks that sit on the riverbed and rise above the surface of the water. The water directly behind the rock is flowing slower than the water to the side of it, and, sometimes, there's even a slight dip in water level right behind the rock, too.
- Air – As with all the above, the flow of air is no different. When air is blocked by an object, it is whipped around and continues flow on the other side, with a shadow of lower air flow.

The reason I've selected these is to show that, given such different natures of the particles involved in each case – energy, plasma, liquids, and gases – it is reasonable to infer all objects that flow in such a manner create a shadow when impeded by another object.

Here are two example diagrams that depict the two types of shadows:



Blue arrows indicate the direction of flow; red objects are blocking objects.

The difference between the two depends on whether or not the flowing object fills the area directly behind the blocking object.

- Full – If the area behind the blocking object is completely free of the flowing object, this is a full shadow. Full shadows generally continue until the point in which the separate paths converge back into a single path.
- Partial – If the flowing object occupies the area behind the blocking object, this is a partial shadow. The object within the area of the shadow still flows, but, since it is essentially being carried along by the object flow on either side, it does so at a slower rate, gradually increasing using momentum and continued force until it is

equal to the surrounding rate of flow. In the diagram, the lighter the arrows, the slower/more impeded the flow.

In either case, the length of any converging shadow is determined by the speed at which the object is flowing – the faster the flow, the longer the shadow – but the difference in length is always relative to the object itself, as properties of said object will also influence the result, so there's no universal measure that can be applied to all flowing objects based on their speed. Also, the shape of the flow and shadow depends on other factors such as the shape of the blocking object (image search for "air flow around objects" to see examples) and the properties of the flowing object. For example, if a flowing object only really moved in a straight line without much deviation sideways – something very high in viscosity, I would imagine – the shadow is unlikely to converge, but could instead continue on indefinitely, with the object now continuing to flow along two separate paths. I guess we can call this area of division a "permanent shadow".

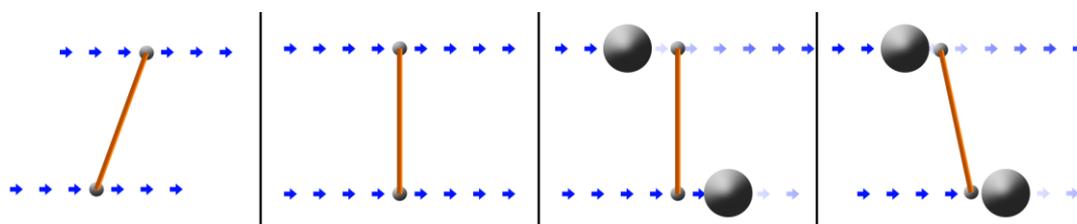
10. **Theory** – The mistake everyone makes is ruling out magnetism because the objects used in the contraption are diamagnetic when, in fact, this is the key to the theory. The earth has a magnetic field – this is common knowledge, even to me. What I didn't know until now was that magnetic field lines *flow* from the North Pole to the South Pole externally. Now we can put it all together:

1. When setting up the experiment, the non-stationary beam holding the smaller objects is left to spin into a natural rest position... or what appears to be. Remember the second video with the glass rod? Diamagnetic materials within a magnetic field attempt to turn to a perpendicular position of the flow of the field, as a way of getting its whole body as far away from the field as possible. In an ideal world, it would be perfectly perpendicular, but, in the real world, a few things influence how much and how easily the beam can turn – the mass of the objects on each end versus the differing strengths of the magnetic field, and the natural torque on the torsion fibre itself.
2. Once at rest, the large objects are placed next to the small. These become the blocking objects, and this is where the shadow principle comes into play. Since one blocking object is in front of one sphere while the other is behind, only the smaller object behind the blocking object is affected by the shadow.
3. With blocking objects now in place and the magnetic field flowing, the smaller objects are being hit by the magnetic flow differently. The small object in front of the blocking object is being hit head on with full force, while the small object behind the

other blocking object is sitting in its shadow and experiencing an impeded flow, creating a state of imbalance.

4. What now appears to be attraction is actually just the smaller object in front being pushed harder than its counterpart, causing the rotation towards the blocking object behind it. The small object behind the blocking object, sitting in the shadow, has to move towards the blocking object because the beam it is attached to moves as a single unit, and, since it is facing less resistance than its counterpart is feeling force, there isn't anything it can do about the situation.

And a diagram to make it clear (designed for understanding, not accuracy):



Yes, the smaller objects would also create a shadow, but it wasn't necessary to show it here.

We can see something we are all familiar with if we remove the blocking objects and use ferromagnetic objects instead of diamagnetic ones – we call it a compass, and it behaves in a very similar way, with the differences based on the difference in magnetic properties.

Whereas Cavendish's experiment causes objects to turn to a (near) perpendicular angle when left to stabilise while setting up the experiment, the compass simply rotates to follow the flow of the magnetic field, pointing north on one end and south on the other. The magnetic field of the earth exerts a torque on the compass pointer, but, since it isn't a torsion wire used, the needle point isn't forced to stop as the horizontal beam in Cavendish's experiment is, and can just continuously rotate around the center point.

This also explains the major differences we can determine between the original experiment and its recreations, i.e. why the recreations using lighter objects had objects moving faster and further than in the original experiment, rather than the opposite which would see the larger objects moving more, which is what should happen according to Newton. It's also worth noting that the beam in the original experiment never stopped moving once the blocking objects were positioned, which can be explained based on numerous factors, such as:

- The torsion fibre attempting to reverse the applied torque so it can return to a true natural position; and
- The differing strength of flow experienced by the smaller object within the shadow of the blocking object – every measurable distance (such as a single millimetre) of difference in position of the smaller object experiences a different flow strength, so, as it is moving back and forth, it is experiencing negative and positive acceleration, respectively.

A state of perfect equilibrium can never be achieved under such circumstances, and so the bar will forever constantly oscillate.

11. **Acceleration** – Cavendish reported seeing the smaller spheres always accelerating towards the larger – easy enough to explain. Once the smaller objects begin to move, momentum exists, and when a constant force – the magnetic flow – is applied to an object that has momentum in the general direction of said momentum, acceleration is created.
12. **Experimentation** – We can test this theory using the same setup with any object that flows, and a torsion fibre isn't needed, only a central point upon which a beam can turn, given that the force exerted can be made significantly stronger using the most common flowing objects, such as water and air. All the evidence suggests that whatever is happening in this experiment is a result of something in the realm of fluid dynamics and the shadow principle, not gravity.

For those with the resources, we can run a test to really have a better idea of what force is at play, and there are only two conditions required for the perfect setup:

- A vacuum room to prevent any air flow interference; and
- Magnetic shielding from all angles (including above and underneath) to redirect the flow of the earth's magnetic field around the contraption.

A vacuum room isn't an absolute requirement, but one must be careful without it. To ensure the magnetic flow isn't interfering, place a magnetic compass inside – if the compass stops working, the shield is.

So, yea, there's a very good (almost certain) chance that Cavendish made the world's most useless compass. The funniest thing is that Cavendish's work didn't provide the same result as what is considered the correct gravitational constant of the earth, and work had to be done just to bring formulas in line with what is considered correct today. Even then, the answer was still incorrect, but was accepted based on the 'degree of difference'. I know science doesn't always have to be certain,

but the mathematics used in science still has to be perfect when all the values are known, so I don't understand how or why it was ever allowed.

If we want to solve this puzzle, we have to start creating a theory from the beginning, and we'll use everything we know and can prove to get us to the finish line.

When it comes to gravity, here is what we know for sure:

1. Gravity is considered a fundamental force.
2. Natural gravitational strength is based on at least two things – mass and size.
3. We can create a measurable sense of artificial gravity by accelerating objects to certain speeds.

Now we look at principles that would apply in this case:

1. Fundamental forces cannot be reduced to more basic interactions.
2. Fundamental forces are all mediated by elementary particles.
3. Any force whose strength is determined by the mass of an object creating it must also rely on movement for its creation.
4. The strength of a force determined by the mass of an object creating it also depends on the speed at which said object is moving. Everything that depends on mass depends on movement and speed. Mass is useless without it.

We can see proof of such principles all around us:

- For principles 1 and 2, we have the elementary particles previously mentioned – W and Z bosons, photons, gluons and mesons.
- For principles 3 and 4, there are a myriad of examples in everyday life:
 - If you get punched in the face, the force exerted depends on the mass of the fist and the speed at which it moves through the air.
 - If an object falls on you, the mass of the object and the speed at which it is falling affects just how much pain you are to experience.
 - If an object compresses a spring, the mass of the spring, in combination with the speed at which the spring rises, determines how much the object resting upon it is pushed.
 - If you fan yourself with two sheets of A4 paper of two different masses moving at the same speed, the heavier paper would blow air harder.

- On the contrary, electrical and magnetic forces only rely on the presence of an electrical charge in a particle and the velocity of said particle, respectively. Neither relies on mass.

Now, let's look at the behaviours and characteristics of gravity:

- Gravity passes through matter. Contact forces can't pass through matter; they can only cause matter to exert force on other matter. For example, if a person is standing on one side of a wall, and a car crashes into the other side, knocking the person to the ground, the force created by the car was exerted on the wall, and the wall, as it was pushed, exerted force on the person.
- All forces weaken over distance, but contact forces do not have an infinite reach, unlike gravity.
- Gravity can travel through empty space. Contact forces can't.

And a couple more facts:

- We have never verifiably seen gravity being created by any object that wasn't spinning. **Never.** The only confirmation we have ever had comes from rotating celestial bodies.
- All movement must create some type of force.

For the record, at this point, the curving of spacetime is a complete fallacy. As ridiculous as I proved it was before, it doesn't and can't account for the above, and there is no proof that gravity is so special it does not have to follow any other universal principles. Therefore, scientists will need to find the graviton particle, but, to do so, they first have to understand gravity in the right way.

So, what if the above is all we needed to know to understand gravity? Here's how I see it:

Gravity is a pulling force (clearly), but not in the way we imagine. It is a vortex of energy solely created by the rotation of a single body. We know that it is emitted by matter rotating together as a single body, and that bodies of different masses create gravity of different strengths, so it's logical to assume individual particles of matter emit the energy individually, with the energy increasing in strength collectively. Surely no one is to believe it is a universal coincidence that every object we can unequivocally confirm has active gravity is a large, rotating celestial body. Hell, even stars are said to form based on rotating clouds of matter.

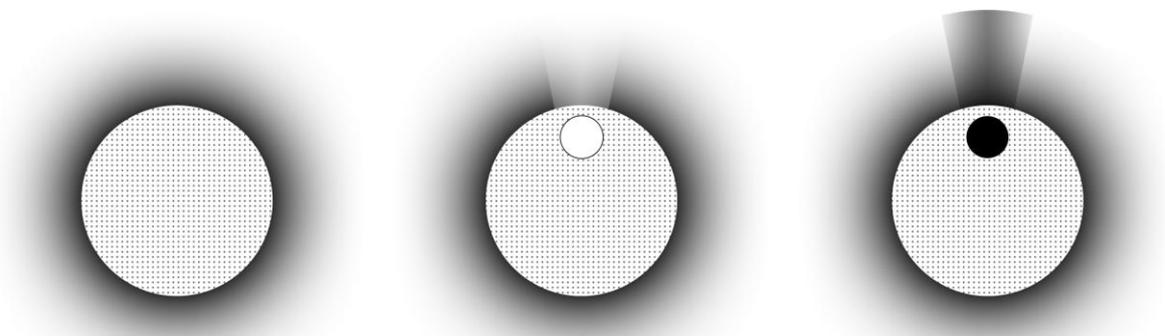
As for how the factors which affect gravitational strength do so:

- Speed – As with any vortex, the faster it spins, the more powerful it is.
- Mass – Given that gravitational energy works as a collective, the more particles there are producing said energy, the stronger it is.
- Size – Larger objects create larger vortices, naturally. When thinking of size differences between vortices created by bodies of different sizes, it would be equivalent to comparing whirlpools to maelstroms. Sure, a whirlpool *could* create a force equal to a maelstrom, but it would have to be spinning much faster than one would normally expect in order to do so.

Those 3 factors affect the gravitational strength in general, but there's one more that plays a more specific role.

- Density – Not the average density, as that's too simple, but the density in specific regions between the center and surface. Areas of higher density are going to create noticeably higher gravitational strengths on the surface directly above it, while lower areas of density are going to cause a lower gravitational strength.

This may be easier to explain in full using diagrams and tables, so that's what I shall do. Here are three celestial bodies:



- Body number 1 has a uniform particle density throughout.
- Body number 2 has a pocket where there are little or no particles (shown in circle so it is easier to see), creating an area of lower density.
- Body number 3 has a pocket where there is a large quantity of particles, creating an area of higher density.

Let's imagine all particles are the same.

Body #	Particle Distribution										Total						
Body 1	1	1	1	1	1	1	1	1	1	1	1	10					
Body 2	1	1	1	1	1	1	1					1	8				
Body 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16

The above table, as indicated, shows the distribution of particles for each body. As we can see, each body has a different total number of particles, representing the mass, and each have areas where the particle population density is different from the others (highlighted in yellow).

Average Gravitational Strength Within Section											
Body 1	1	1	1	1	1	1	1	1	1	1	1
Body 2	1	1	1	1	1	1	0.33	0.33	0.33	0.33	0.33
Body 3	1	1	1	1	1	1	3	3	3	3	3

Here, we can see the average gravitational strength within a section. By knowing this, we can easily see how it differs based on the population density of particles, and how easily it can create different surface strengths. Of course, in the real world there are other factors that will affect the overall surface strength, such as the mass of a particle, its energy emission rate, emission intensity and so on, but you get the general picture, so the above table would only remain so clean looking in a perfect world.

Now, the reason this is significant (and a major part of the reason I brought it up) is because of a natural phenomenon that Relativity, yet again, can't explain – the missing gravity in Canada. The Hudson Bay area reportedly has lower gravitational strength than other places on earth, and, unless we again attempt to accept that the apparent curving of spacetime creates gravity but doesn't control its strength, then Relativity is useless here. Scientists have come up with two theories to explain this – one involving convection of the earth's mantle, dragging the continental plate down in one particular spot, and the other theory concerning an ice sheet that was so thick and heavy it indented the earth. I can't speak on the truthfulness or accuracy of either, but I do know two things of my own:

1. Particle population density and distribution are the obvious causes. (I use "population density" instead of simply "density" as not to have anyone assume it is to do with weight.)

2. Scientists should stop saying it concerns mass, and should, for scientific accuracy, use population density, as mass simply refers to the total number of particles, while we actually need to know how many particles are within a specific area.

Really and truly, there are a number of reasons why the gravitational strength around the Hudson Bay area could be lower than the norm – literally anything that could affect the composition or structure of any part of the earth between the core and the surface. It could even simply be something that occurred when the earth was formed, for example, if a significant air pocket remained.

Let's take a quick trip back to black cores and neutron stars – they have immense gravitational strength, so physicists assume it's because of how dense they are, completely ignoring the fact that these objects rotate at the most incredible speeds known to man. As previously stated, some say there is a black core which spins at near light speed. To find one not spinning would be to find one with no atmosphere. With no atmosphere, there wouldn't be any redshift. With no redshift, infrared radiation could be observed. With observable radiation, the black core wouldn't appear black at all – at the very least not to an infrared detector.

Oddly enough, one of the things I am most curious about is how this energy is detected by plants. It is all rather interesting in comparison to humans. People wonder why we don't feel gravity, but that all seems rather obvious, and it's based on the principle of constant force. It's something anyone reading this will be familiar with – you put on a pair of earrings, a weighted vest, a watch, or a rucksack, and you initially feel the added weight, but, as time goes on, you completely forget it is even there. You don't feel it unless it moves or adjusts in some way. This is the "law of constant force" in action. When a continuous force that is constant in all of its properties acts upon a body, it is initially registered by the conscious mind, but, over time, is ignored due to – yet again – subconscious filtering. Similar behaviour is seen when there is a constant smell, and, after a while, our brain blocks it out, or when you are in pain and it appears to subside, but then you touch the area and you learn a valuable lesson. We register gravity the moment our brain has developed enough to be able to detect it in the womb, and gravity never really changes throughout most of our lives, but there are some times when different gravitational strengths come into play. Travelling to the poles, for example, where gravity is supposed to be strongest because of the shape of the earth. Would we feel the difference? Highly unlikely, as gravity is such a weak force that the increase isn't registered. It would be as if someone was bench pressing 100 kilograms, and then decided to press 100.1, expecting to feel a change. I couldn't tell you what the margin of imperceptible change is, but

it exists. When the change is outside of said margin, though – in either direction – two other laws come into play, and they are the "law of increasing force" and the "law of decreasing force". The law of increasing force is very straightforward – when a force increases, you feel it increasing. The law of decreasing force works a little differently, as you don't actually feel the force decrease in strength, but rather your body increase in resistance. This is a direct result of the law of constant force – once the force is constant, your body adjusts to its new weight, so when the force is reduced, your body literally becomes lighter, making it easier to move. These are both natural reactions to the adding of something that wasn't there and the removing of something that was. I suppose our body would (and does) have other mechanisms for detecting gravity and gravitational force that we wouldn't really notice ourselves without proper examination. The pumping of blood upwards within the body of an individual standing upright, for example. To maintain the required circulatory rate to get oxygen around the body fast enough, the heart has to adjust how hard it works based on the strength of gravity it has to fight against. It's not something that we would need to be made aware of as there is entirely nothing we can do about it – it's between the logic neurons of the heart and those of the brain – so it never need be processed by our manual control system. There's also the fact that we are too used to it – we've been experiencing, and most of us continue to experience, roughly the same strength of gravity since life on earth came into existence, so we subconsciously filter out the feeling because it is always there. Only significant changes force a conscious acknowledgement of it because we actually feel the difference, hence why astronauts need adjustment periods.

Let's test the vortex theory to see if it can be used to explain things we have already witnessed:

- Atmosphere – Particles that make up the atmosphere orbit the earth at a faster distance per time speed, but at the same rotational speed – just as we see with vortices where the fluid moves like a rigid body. This also further helps us understand gravity and microgravity better – the point where the atmosphere ends and space starts is the point where gravity no longer has the strength to maintain the rigid body rotation, and particles are free to do as they wish.
- On a side note, there are multiple theories given that attempt to explain why the atmosphere moves at the same speed as the body to which it is attached, and I hate them all, so let's disprove them immediately:
 1. Friction – Friction between the earth's surface and the atmosphere. *Bollocks*. As previously mentioned, there is empty space between particles, meaning the earth's surface only rubs against the lowest of the lowest gas particles that just so happen

to bounce against it. Because the empty spaces exist, the friction imposed on one particle does not transfer to another particle. Not no way; not no how. **Impossible.**

2. Bumping – Parts of the earth, such as mountains, apparently bump into the atmosphere to keep it moving. Sure, maybe this would be believable if the atmosphere was a rigid solid, instead of a collection of gases, and a giant wall existed and extended from the North Pole to the South and was high enough to reach outer space, but let's not give Trump any ideas. There is no way for parts of the earth to keep the entire atmosphere moving with it just by bumping into it. How would the highest of the highest mountains keep the particles above it moving? Again, **impossible.**
3. Conservation of Linear Momentum + Gravity – CoLM keeps particles moving forward, gravity holds them down. **IM-POS-I-BLE!** That's not a typo; I wanted the Spanish pronunciation. Gas particles move in all different directions as they bounce off each other. This bouncing off each other would have killed CoLM a long time ago because said bouncing exerts an external force from one particle onto another, and linear momentum can only be conserved as long as an external force is not applied. For CoLM to keep the particles in motion around the earth, the particles would have to either:
 - Form a single body in the form of a solid or liquid, move in a uniform direction from the start, and never touch each other whatsoever because the knock-on effect would quickly result in chaos, and particles would end up moving in all directions as they do now; or
 - Be aligned in perfect rows, move in a uniform direction, and create a never ending domino effect, which sees one particle hit a particle in front of it into the particle in front of that one, at the perfect angle to not disturb any other particles in any other rows, but keep the motion going all around the planet forever and ever.

The fact that particles bounce in all directions, yet still move in a uniform direction as though they were a single body, even though empty space exists between them, means that something else entirely is driving their orbit around the earth. Think of it like this: 10 people are on an escalator that is going up. No matter the direction in which they wish to walk, they will always be moved upwards as long as they remain on the escalator. Sure, they can run down the escalator faster than it moves them upwards, but, unless they actually step off it, it's going to move them back up again.

These people are particles and the escalator is the vortex. You could do a similar experiment where you replace the escalator with a rotating platform. People walking in all directions, bumping into each other, but they'll still be moving in a uniform direction. One can be a smart arse and run against the platform if they so choose. They'll lose energy, tire, and the platform will have its way with them, just how a vortex will have its way with particles that try to move against it for too long.

Interesting, yes? We'll continue.

- Flight Paths – Planes take longer flying from east to west. The Earth spins from west to east. If you race two objects around a vortex in opposite directions, where both objects have all the same properties and use the same amount of power to move, the one travelling against the rotation is always going to reach the finish line slower.

Common sense. Not really even interesting, but it supports it, so was worth the mention.

- Polar Jets – These jet streams are known as "polar jets" because they are always emitted from the poles of the emitting object, but why? Why never from an equator or any other random possible points on the body? Now, this is interesting, but many may wonder what this has to do with vortices, and we can thank Hollywood disaster movies for me even being aware of this because it's something most people probably don't even pay attention to. So, in many a disaster movie featuring bad weather – storms, to be precise – you'll hear someone refer to the "eye" of the storm. This is the calmest part of a storm, can be found in most, if not all, vortices (especially large ones; even if not clearly defined, it's always in the center of it all), and is very important to this part of the theory. Now, there are a few important principles to know about the type of vortex in question, and they both explain why polar jets are, well, polar, and behave in the manner in which they do:
 1. The pressure gradient force (PGF), which moves from areas of higher pressure to areas of lower, pushes inwards towards the eye where the pressure is the lowest.
 2. The PGF and vortex rotation combined creates a spiral travel path towards the center.
 3. The eye, being the calmest, is the point of least resistance, as this is where particles move the slowest and the least violently.
 4. Though the calmest, it does not mean they are motionless, as they, too, rotate with the vortex.

Going back to what was explained about polar jets in the black cores section, matter is compressed within the center of the core to the point where an explosive reaction occurs.

As for how we know this is a process that happens within the center:

- These jets are always seen streaming through both poles simultaneously. If the point of the reaction was somewhere between the centre and the surface, the plasma would only move upwards towards the surface; it would never do that as well as moving downwards, through the center, and then ascending towards the surface in the opposite direction.
- The center is the point where matter is being compressed from every possible angle, so it's the point where the reaction would happen before it could possibly happen anywhere else.
- Forget everything you hear about polar jets being something to do with the accretion disk, an event that happens on or just outside of the event horizon, blah blah blah blah. Seriously, just take a moment to think to yourself – what are the odds of the exact same event happening at the exact same time, directly on the poles of a body, when the cause would have to be two events that happen independent of each other? Oh, is it magnetic forces? That's hard to imagine, given that magnetic forces only attract, repel or form barriers. I haven't witnessed everything in the world, I admit, but I've never known a magnetic force to be able to draw a column of particles from one point, allow these particles to pass through the field, and then expel them away. There's also the fact that magnetic flow lines go from north to south, so, if magnetic forces played any part in the creation of such an event, we would also see evidence of matter dispersion along the magnetic flow. I wouldn't be surprised to hear a theory along the lines of *"the magnetic field or accretion disk shrinks and tightens very fast, putting great pressure on the body and forcing it to expel matter until it reaches a state of equilibrium."* I must admit, that would stand perfectly in line with a lot of the other illogical theories (*read: stupidity*) we have gone through already.

Anyway, explosions, when movement is restricted, are forced to travel along the path of least resistance. Now, we can't say which direction the path of least resistance is based on structural factors because there's no way for us to determine that entirely, but we can say that the eyes are always going to be the path of least resistance based on the nature of vortices, so plasma simply follows the paths of the two eyes, which would be northwards and southwards of the center of the core where the reaction happens, and because of the

inward spiral path of travel, any matter trying to deviate would simply be forced back into, and contained within, the eye.

Once the surface has been broken, streams are seen to rotate as they exit, widening in diameter the further out they get. This also abides by the principles of vortices, as the eye is always somewhat conical in shape (wider at the top), and the particles within it rotating. The increase in diameter of the jet stream will be based on the speed at which the stream is travelling – the slower it moves, the longer the rotating gravitational vortex has to disperse particles into the shape of the eye itself, increasing the circumference over altitude. Any stream, if witnessed travelling at 99.9% of light speed as has been claimed, is not going to be seen widening in diameter unless it is over millions of miles.

And, finally:

- Polar Vortices – I did say the eyes of the gravitational vortex are over the poles, and polar vortices confirm this. Like the gravitational vortex, polar vortices are persistent and also rotate in the same directions the gravitational vortex should, based on the rotation of the earth – counter-clockwise at the north pole and clockwise at the south. It's worth noting that this hasn't only been witnessed on Earth – more than half the planets in our solar system have them, and even Saturn's moon Titan does. This doesn't mean that every other rotating celestial body is missing them, as they can only be seen when clearly visible matter is present so the rotation can be witnessed. Clouds over the poles are the easiest way to see them.
- Accretion Disk – Always seen rotating in the same direction as the body they are orbiting.
- Formation of Stars – Based on current theory, rotating clouds in space is how it all begins, creating a minor vortex. Explained in a series of events: the vortex attracts particles, the mass increases, the volume increases, the gravitational strength increases, the volume decreases, the density increases, the pressure increases, the energy increases, the speed increases, more particles are attracted, and the loop continues until the point where nuclear fusion occurs.
- Wind – How is wind created? Pressure differences appear and air flows from one area to the next until things are equalised, but pressure differences in what, exactly? Air particles can't magically detect pressure changes at a distance, and particles only move unaided in a wind-like manner when rushing to fill empty space. I know people will be quick to mention air temperature, but within that explanation lies a major flaw:

We all know hot air rises. As it does so, cooler air rushes to fill the space that the rising hot air creates because, if it didn't, we would have vacuum pockets, and nature does not like vacuums. The air that was once hot eventually cools and falls back down to the surface. This is the cycle of what we think wind is. However, everyone seems to be overlooking one very simple fact – there is always going to be colder air at higher altitudes because the atmosphere is warmed more from the body of Earth than it is directly from the energy of the sun, and, given this, if this simple cycle is how wind worked, the wind could never stop blowing, anywhere, ever, because the existence of the temperature difference is persistent, and the cycle would forever have to continue uninterrupted. There could never be a place above the surface where there wasn't wind at any given time. The only way for there to be no wind in an area would be for a column of air from surface to the Karman line to be the exact same temperature – how likely is that? Well, it's actually impossible, because air higher up is further away from the dominant heat source. Oh, but the problem doesn't stop there. We don't generally experience vertical wind (unless you are standing within a column of heated air), but wind blowing across the surface, meaning that even if we did manage to achieve a column of air of equal temperature throughout, air outside of said column would still be of different temperatures, meaning the pressure differences would still exist, meaning wind would still be experienced. To put it simply, to experience even a slight moment where the wind was not blowing, the *entire atmosphere* would, essentially, have to be equal in temperature, and we don't need Rain Man to calculate the odds of that happening. Oh, how could I forget – there's also the fact the wind blows horizontally and not vertically. If temperature differences of the atmosphere was the cause, we would feel wind blowing upwards in the same way as when you hold your hand over a flame and feel the heat rising. This can even be tested using a large room with heated flooring. I'll be honest, I've never naturally felt the wind indoors, no matter how large a room. Better yet, let's look at the largest building in the world – the Boeing Everett Factory. This building is so large and tall that rains clouds are able to form inside it, so we *know* it is high enough to establish a significant altitude temperature difference, yet I've never heard of wind ever being an issue, and, given the amount of damage wind in such a place would cause, I'm sure it would have made the news along with everything else.

It's blindingly obvious that there has to be an underlying, uninterrupted, governing pressure system, and the one thing physicists did get partially right is the uneven heating of a body's surface, but it isn't solely the sun involved in the situation, nor the surface. Bodies like Earth have their own internal heating system which also affects surface temperature, and then we

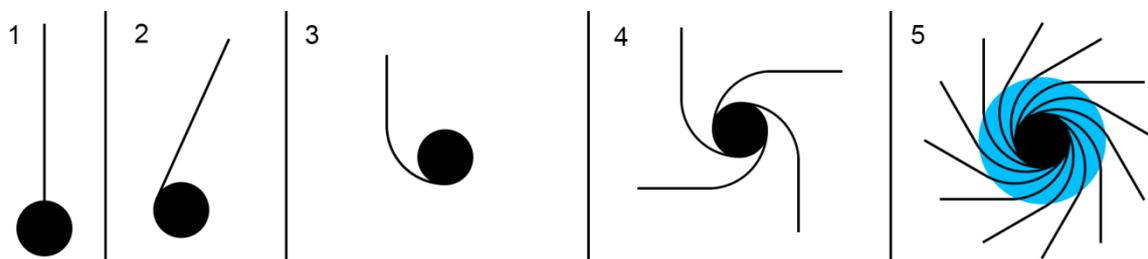
have to take into consideration heat produced by people, animals, and all the things we do. Yea, plants too. Okay, anything that can expel heat into the earth's surface is a contributing factor, and this includes all heated material below the surface, such as magma and gases. With that out of the way, we go back to the vortex. As the earth itself is unevenly heated, it's particle density changes – only slightly, and not enough for a change in gravity that we would feel, but enough to begin to destabilize the vortex it is creating (something I explain in much more detail later when explaining the mechanics of it all) by creating two areas of different pressure, and, as the vortex equalises itself, as a vortex will always do, air is forced along. If the body was to stop rotating, we wouldn't experience winds moving at 1038 mph because the vortex would no longer exist and the particles of air would stop moving.

Oh, and by the way, the fact that the wind blows in different directions also rules out the conservation of linear momentum as a reason for the atmosphere moving with the body. One hurricane would destroy the whole system.

- Escape – Escaping any vortex requires one thing – opposing pressure continuously greater than the gravitational strength at current altitude. Any object with enough thrust to leave the surface of a gravitational body can escape the body's atmosphere as long as the pressure created by the thrust continues to be greater than the gravitational pull at the current altitude, and this holds true for objects escaping any type of vortex. Any object aiming for escape without continuous or continual thrust must be subjected to initial pressure greater than the total sum of the pressure created by the resistance it will be facing because, once they both equalise, the object has no way to increase its thrust, and it's all downhill from there. Again, this is true for any object trying to escape any other type of vortex.
- Artificial Gravity – Many, by now, would have been screaming that my vortex theory is simply describing this, but they need to understand that the term was only coined because of the belief that everything naturally had gravity for no reason other than its own existence. Dispel that belief and you have the same condition required for the gravity we see with celestial bodies and the "artificial" variant that we have with theoretical space stations – rotation.

So, it can be applied to everyday observations – very well in fact – and it follows all the physical laws we've already come to know and love. So far, so good. However, there's an even more important observation that is very, *very* convincing, and it has to do with absolute versus relative positioning.

This is going to seem weird at first, but such is the way of the world when doing this on paper rather than using fancy computer simulations. Imagine we have a very long rod attached to a body that can only be bent by gravity.

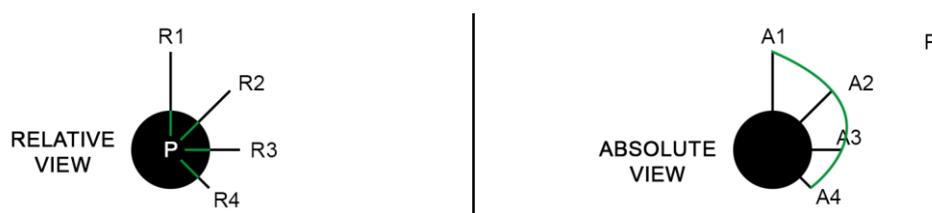


1. With the body not rotating, there is no gravity, no atmosphere, and the rod would remain a straight, vertical line from the ground to the sky, as shown in figure 1.
2. Upon initial rotation, the first thing that would happen is the rod would lean – let's imagine, for now, to a 90 degree angle of the original position, since that is the furthest it can move without any bending against the surface when the base is stuck to a fixed point on the body.
3. With rotation happening, gravity is created. Now, since the rod isn't vertically in line, gravity of any point on the ground is able to pull the point of the rod directly above it towards the surface. With the weakening gravitational pull over altitude, however, each point of the rod is pulled by a different degree of strength, causing the rod to curve. At some altitude, the curved line essentially appears straight (though it never is). This point is, in fact, the Karman Line, and it is where gravity ends and microgravity begins – something we learn more about in the mechanics section.
4. When you picture multiple rods from multiple surface positions, a pattern begins to emerge...
5. ... And, with enough rods, the full Karman line around the body can be mapped, while the (apparent) straight end of the rod continues indefinitely, through the rest of the atmosphere and into interplanetary space.

Now, as strange as that explanation seems, it is actually a very accurate depiction of what would happen, but, more to the point, what we see when we use multiple beams – as in picture 5 – and rotate the body, is a perfect example of what a rigid body vortex looks like from an absolute position.

Another thing to note here is that, though the image may seem to make it appear as though the atmosphere curves (or will curve), it doesn't, but, like a rigid body vortex, the travel paths of objects moving towards the center does, as we'll now see again.

Imagine an object falling from the Karman line to the surface of a body:



You are standing at position P. We are also removing factors such as wind from this. The only things involved are you, the atmosphere, the body, the falling object, and gravity.

- In the relative view, P is positioned in the most absolute position possible – you still move with the body, but, since you are at the center, your movement simply involves rotating on the spot. Because both you and the object are rotating with the body and atmosphere, the object always seems to be falling in a straight line directly towards you, as is indicated by the black lines which show the falling object path from different positions during rotation, perfectly aligning with the natural line of sight of position P. As long as you don't manually adjust your position in any way, the object always seems to be in the same position relative to you.
- In the absolute view, P is positioned in outer space, but, let's say, from a viewpoint pretty much equal to your current one in relation to you reading this. You are in a fixed point in space. You cannot move from said position, nor can you adjust yourself in said position. You have zero momentum and no force can be applied. The object is dropped. As the object falls and the body turns, you see the object take a curved path as it moves with the body, getting closer and closer to the surface until it lands.

Yes, this is the same explanation we went over when looking at curved paths of matter when destroying relativity.

This is the thing to realise. On any normal day, most of us are not unlucky enough to witness a fully observable vortex from a relative position because, to do that, one would have to be inside it, moving along with it, and I don't know how many people get caught in whirlpools, cyclones, or tornados, but I'd imagine the figure was pretty low, even on a global scale. Being within the atmosphere of a gravitational vortex, however, rotates us with the body and the atmosphere, and so we witness everything happening within the atmosphere from a relative position. The sun and the moon, on the other hand, don't move with us, and so we witness them from an absolute viewpoint, and what makes them appear to move across the sky is the fact that we are rotating while observing

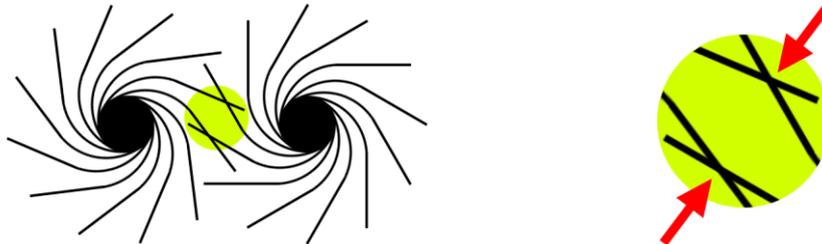
from an absolute view. It's not possible for us to observe anything outside the atmosphere from a relative view, and the same goes for us trying to view anything within the atmosphere from an absolute view.

The last thing to note is that you wouldn't see curves to the degrees depicted above here on earth because its rotational speed is far too slow and objects fall too fast, so it would look much like a straight line. For faster rotating bodies, however, the curve could equal, surpass, and even spiral, depending on the exact speed of rotation and altitude of the Karman line.

Moving on. Let's talk about Gravitational Waves. Notoriously difficult to detect energy waves... well, energy ripples, to be precise, if they are even what have been detected. *(By now, it's clear it has nothing to do with any "ripples in spacetime", and if, even at this point, you believe anything along those lines, just quit the field of physics altogether. Physicists will never be able to explain how physical ripples are created in something that does not physically exist. Just wait until they start measuring the miles between the numbers 3 and 4, or how many people you can fit between the letters A and B!)* Some events that are theorised to create gravitational waves are the circling and merging of black cores and supernova explosions. We know black cores can't merge in the way science attempts to explain, so that's immediately ruled out. To rule out supernovas, a small amount of reasoning must first be applied. Gravity exists at all times, so gravitational energy particles are always flying around, yet we haven't discovered a way to detect them yet. They can't be detected prior to a star going supernova, so what about a supernova makes them detectable? When a supernova is taking place, what happens? Volume increases, mass stays the same initially but decreases over time, rotational speed decreases, density falls off a cliff. These property changes, regardless of whether you wish to use the current theory of gravity or my vortex theory, would result in the reduction of the gravitational strength. We can't detect any ripples from objects of a larger size or smaller gravitational strength at any other point in time, the force of the explosion cannot reach earth because there's nowhere near enough particles of matter for it to travel through in an unbroken line, and energy waves simply pass through each other, so there's no way anything other than light from a supernova is going to be detected on earth unless we end up holding hands with a star before it occurs... in which case we'd all be dead long before a supernova could happen. So, as for what the ripples really are (or logically could be), we can explain using the vortex theory and a behaviour scientists already believe to have witnessed – the circling orbits of multiple bodies.

- We start off with two separate bodies. They each rotate and create their own gravitational vortex.

- Picture this vortex energy pattern – curved lines protruding from all angles of a circle, rotating with said circle.
- Individually, these bodies aren't special, but once you bring them near enough to overlap the vortex lines within the atmosphere, you begin to get an interference pattern where the lines cross over each other, as shown in the images below.



Of course, vortex lines in real life are not spaced out like this, and you wouldn't be able to see any spacing between them whatsoever, but for illustration purposes, the above is acceptable.

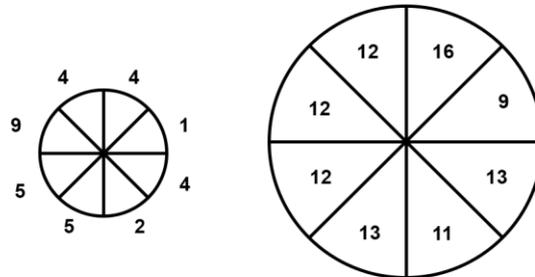
Now for the boring part – the explanation. It's easiest to first look at a few other things because the answer is hidden in nature's principles:

- To detect any sort of matter, we can see it and we can feel it. Matter can't pass through matter, so it can interact via touch, meaning matter can affect other matter.
- Sound isn't really energy in itself, but is created when matter vibrates, and travels as vibrating matter interacts with other matter, causing it to vibrate, too. Because sound requires matter for transport, sound waves can be interfered with simply by interfering with the matter through which it is travelling, and this is achieved by sending sound waves through the same particles of matter.
- Light interacts with matter, and matter can alter properties of light, but, unlike sound, light is actual energy, meaning it isn't dependent on matter for travel. This means interference patterns can be created by overlapping light waves, creating constructive and destructive interference.

Following the patterns of behaviour, matter responds to gravity, but it cannot alter it. Gravitational energy passes straight through matter as if it wasn't there, meaning matter can't cause any interference. Following the clear to see rules of interference, it takes the same type of wave or energy to cause disruption – enter the two bodies. With two vortices now within the effective gravitational range of each other (say, the point where their atmospheres meet), the inward

pressure created by one affects the other, and this is where the interference pattern begins. From here on in, it's a numbers game entirely, and this is how it works:

Below you can see two bodies, and they have each been divided into sections based on the surface strength of gravity within a region.



Let's first imagine that we live in a perfect world in which these two bodies have the exact same rotational speed. They both rotate towards each other. Gravitational strength above the surface is a fixed number until it reaches the Karman line. This is the resulting pressure pattern for a single rotation:

Small Body	1	4	4	9	5	5	2	4
Large Body	12	12	16	9	13	11	13	12
Pattern	11	8	12	0	8	6	11	8

These pressure differences create the interference patterns that are detected, but I do use the term pattern very loosely. Why? Well, let's now consider the real world factors of the situation:

Bodies rotate at different speeds, and differences in gravitational strength aren't the same for all bodies, so, at a single point, the body with the faster rotational speed is likely to go through many more pressure changes than the slower body in any given time frame. Here's an example of what I mean. Imagine the faster body rotates at three times the speed:

Time	1			2			3		
Slower Body	1			4			4		
Faster Body	12	12	16	9	13	11	13	12	12
Pattern	11	11	15	5	9	7	9	8	8

Next, there's the fact that the bodies orbit each other, or, at least, one body orbits another. This will throw off the pattern above – how much so depends on whether one body orbits another or both orbit each other, and also the orbital speeds.

Next, the decreasing distance between the two as they attract each other, combined with the increasing gravitational strength, so we'll look at examples of the pressure patterns created at different distances (we'll forget about orbital speed, different rotation speeds and time for now, otherwise this gets a whole lot more complicated to write out on paper).

	Distance 3X							
Small Body	0.33	1.33	1.33	3.00	1.67	1.67	0.67	1.33
Large Body	4.00	4.00	5.33	3.00	4.33	3.67	4.33	4.00
Pattern	3.67	2.67	4.00	0.00	2.67	2.00	3.67	2.67
	Distance 2X							
Small Body	0.50	2.00	2.00	4.50	2.50	2.50	1.00	2.00
Large Body	6.00	6.00	8.00	4.50	6.50	5.50	6.50	6.00
Pattern	5.50	4.00	6.00	0.00	4.00	3.00	5.50	4.00
	Distance X							
Small Body	1	4	4	9	5	5	2	4
Large Body	12	12	16	9	13	11	13	12
Pattern	11	8	12	0	8	6	11	8

Just by looking at the changes in the patterns above, we can explain exactly what the patterns will look like using whatever detection tool physicists' desire:

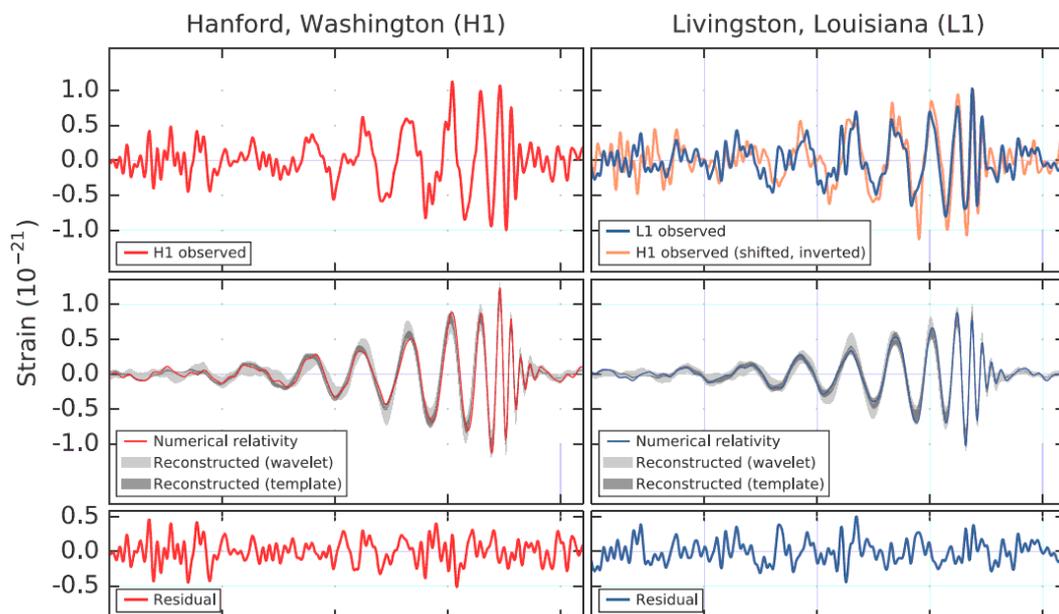
The bodies start off as far away from each other as possible for gravitational waves to occur, and gravity is going to be the weakest at this point, so the amplitude of the waves of the interference pattern is going to be small. They won't follow any standard wave pattern – up, down, up, down – as gravitational differences can't be accounted for in such a manner. The "wavelengths" will also be the furthest apart at this point, as the orbital path will be the longest. As the bodies draw nearer, the gravitational strength of each at the effective point increases, which will generally increase the amplitude of the wave. The orbital path will

shorten in length, so the wavelength will decrease, too, because the frequency of change will increase.

The last remaining real world factor that I didn't mention before is the angle of orbit, which could result in the wave patterns being broken as one body passes in front of the other. This is pretty much guaranteed to happen, at least partially, unless, from the angle at which we are viewing the event, the orbital paths are perfectly in a top-to-bottom orbit with no diagonal degree of variation. Highly unlikely, but who's to say this isn't possible?

The final pattern, well, imagine looking at an image of the full electromagnetic spectrum. Decrease the height of the radio wave end and increase the height of the gamma ray end evenly above and below the vertical midpoint, so that you have a nice widening gradient. Next, while keeping the general gradient shape, adjust individual wave heights so that they aren't so organised by size. You can probably make it so that a wave goes up or down twice before doing the opposite.

Ah, hell, why not just show you an image of what is apparently a gravitational wave:



This is an image of two gravitational wave readings by the Laser Interferometer Gravitational-Wave Observatory (LIGO). As you can see, they perfectly support my explanation of what gravitational waves are and the predicted pattern. *Fun fact: I had not seen a gravitational wave pattern before I started describing one. I can take a polygraph to confirm this.* The point at the end where the waves immediately fizzle out lets us know that

the event is over, but what actually happens depends on the strength of the force and the strength of the body, and it has nothing to do with a "merging" in the way that we are led to believe. Chances are that the overall weaker body is torn to shreds, and its matter is added to that of the stronger body.

Another interesting fact is that light could produce a very similar pattern as the event is occurring. As the bodies get closer and the atmospheres combine more, light that passes through it has to pass through more and more particles, meaning any light that we detect should continuously increase in frequency and decrease in wavelength until the event is over and everything is generally stable again.

I didn't need to defy the laws of physics in the slightest to explain this, so there's no pseudoscience whatsoever. Ripples in spacetime? Pull the other one. We don't see any physical objects ripple in spacetime, yet we are supposed to believe that spacetime itself does. You haven't woken up early enough yet to be able to get away with this as far as I'm concerned. There are very few physically possible ways in which something can be expelled and the result is attraction. Magnetic force is one way, vortices are another, and vortex theory fits perfectly.

On a side note, Japanese meteorologist Sakuhei Fujiwhara deserves some credit for this, as his work on what is known as the "Fujiwhara effect", which is the interaction of two vortices to the point where they merge, played a part in the completion of the gravitational wave framework.

Since celestial bodies that spin in place do so at a fixed speed, the gravitational force in any given area is generally a constant (it *could* change due to events beneath the surface, but we can't account for that). If the earth, let's say, started to spin faster, the positive acceleration would increase the strength of the gravitational vortex we experience, and it would become harder to move. If the earth slowed, the negative acceleration would make movement much easier. If the earth stopped, everything not fixed to the surface would simply float off into space, including the atmosphere.

At some point, someone will bring up what I said about gravity solely being the product of bodies rotating, and state that all objects must have gravity because all objects move at a speed that is at least the same speed as the body on which they reside, and it's physically impossible to move slower. However, there is a very obvious problem here – we are not rotating on our own axis, but are orbiting on the earth. Given our orbital length – the circumference of the earth – and the speed at which we are travelling – 1038 mph – we are not moving anywhere near fast enough to create any independent vortex of our own, and this is why we do not attract objects ourselves; why we

never observe the "leaning fields" of grass and flowers that I described earlier; why we only see gravity when observing celestial bodies. It's entirely plausible that all the bumps and such of the earth – mountains, hills, valleys – contribute to the creation of the vortex of the earth, as we shall see soon, and it's possible, but not really plausible, that people and such could contribute to the same vortex, but people and all other objects having their own gravitational fields? Nah, not buying it, and there is zero evidence to support such a theory. There is literally not one bit of evidence in the existence of all things man has ever discovered or simulated that supports the theory. Come on, Newton said an apple could pull the earth. An apple. It wasn't a special apple. It wasn't an apple the size of Jupiter. Just your run-of-the-mill Granny Smith. (*I know they are Australian, but I don't know what kind of apple tree the man had. I'm not even a scientist, so only a fool would bet on me being a historian of the pomological variety.*) Much of Newton's work is very credible, but he can fuck right off with that one.

For a universal law of gravitation, the correct thing to say would be,

"All matter-based objects have the potential for a gravitational vortex, but the force of the pull created depends on the mass and size of an object in relation to the speed at which it is rotating."

If Newton never stated that objects had gravity simply because they have mass, it is unlikely that we would be in the position we are in today.

This is the trouble with derivative work. If one person gets it wrong, people continue to get it wrong. The only reason the maths has checked out all this time is because maths is precise, whereas assumptions are not, and can very often be baseless. This is the difference between an assumption and an educated guess. If I was to state that gravity wasn't a force created by the bending of spacetime, but was a special type of electromagnetism, which:

- Didn't require not-like charges to attract, but was a fourth and very weak type of single-state charge that simply attracted all other charges of its type;
- Was the natural result of having at least one particle that has mass;
- All particles naturally had in the tiniest of quantities;
- Since it is a single-state charge, it couldn't be observed in the same way normal electromagnetic charges are;
- It would take an object the size of a celestial body to really see it in action; and
- Its wavelength was so long and frequency so small that it couldn't be detected by today's technology because we are yet to invent an instrument with the required sensitivity;

and then spewed out a bunch of mathematic equations featuring all types of symbols and trigonometric abbreviations that eventually equalled a number within the margin of error range of what is accepted as the gravitational constant, who could tell me I was wrong? I would even have an easier time "proving" it:

- Magnetic fields of the earth and parts of the earth, such as mountains, can interfere with objects such as compasses. I could then go on to say that, since all objects have this electromagnetic type of gravity, this is the reason why we all fall toward the earth – magnetic attraction between the earth and objects with mass in the same way magnetic fields interact with a compass. This makes sense, given that all atoms have an electric charge (even if equalised) due to the particles they contain, so it wouldn't be a million miles away to presume that a special type of charge exists for gravity (even if this single-state charge can only ever be said to exist in this manner and was impossible to recreate), since we have an established basis for charges to, at least, be present.
- We can prove the earth creates a magnetic field as much as we are sure it produces gravity, since we know the core of the earth is made of iron, which is what is said to be the cause of the field.
- Gravity, as we know it, is theorised to have an infinite range. We know electromagnetic waves have an infinite range, hence why we are able to see light from the great distances, and electromagnetic gravity would explain how the sun is able to keep the solar system in orbit at such distances. We can't prove current gravity, as Relativity defines it, is infinite because objects from other celestial systems do not orbit our sun, but we can see the light of other galaxies, meaning that we can unequivocally state that electromagnetic waves – and, therefore, electromagnetic gravity – can travel equally as far or further than gravity.
- Gravitational waves that are "ripples" in spacetime? Maybe electromagnetic gravitational waves that, due to unusual or extreme gravitational events, produce abnormal electromagnetic gravitational interference wave patterns, which essentially sees multiple waves from two different sources being observed together and creating weird interference patterns.

This electromagnetic gravity theory is a hell of a lot more convincing than the bending of spacetime. Is it so farfetched that the world be governed by two types of nuclear forces and two types of electromagnetic? Maybe I've accidentally stumbled upon... *who am I kidding?* I know it's gibberish. While being so much more logical and plausible than Relativity, with an actual basis for establishment the likes of which we don't have with many – especially the leading – theories of

gravity, it doesn't even adhere to the major points I used to discredit said current theories. Besides, no magnetic force with only a single pole has ever been observed – no, not even the "simulation" using cooled rubidium atoms – so, if gravity was magnetism, a change in orientation of our bodies while airborne would literally drag us to the opposite half of the earth, or expel us into space, given that we are within the earth's magnetic field. When someone is desperate for answers, it becomes so much easier to convince them that what you are feeding them is true because they are so willing to overlook certain things in order to continue their work.

So, the vortex theory. If the 'graviton' particle is ever to be detected, the experiment for such a thing is simple enough to perform when compared to proving the bending of spacetime. Simply spin a spherical object very, very fast. A lead ball akin to the larger ones used in the Cavendish experiment should do, but the bigger the better. Depending on the sensitivity of the detection device, scientists may need to skim the surface to get any sort of reading.

A particle accelerator isn't going to reveal the particle because the required condition is not being met, and that's the exact reason why no one has ever found it. What science needs is a particle rotator and to study the behaviours of bodies in rotation, not just bodies moving through space. However, rotating individual particles really is a waste of time for the most part, so the larger scale option is the better choice.

A second experiment I can think to perform if the graviton cannot be found is similar to the first, but should help detect gravitational wave patterns instead. What we need is two spheres, neither of which have anything that can be considered a consistent density throughout from center to surface. Here's what needs to be done:

1. Have each sphere on a rotating vertical axis, and, at first, position them very close to each other. Then, rotate them as fast as possible at the same constant rotational speed – direction doesn't matter. What we want them to do is each create their own vortex that is at least wide enough to engage with the vortex of the other. This will create the required pressure differences, and should give us a consistent wave pattern that repeats itself continuously on any g-wave detector.
2. Next, rotate the spheres at different speeds. This should create a wave pattern that, though will eventually repeat itself, is much longer than the pattern produced in point 1.
3. For the third test, vary the distance between the spheres as they spin. Common sense dictates that, based on the size of the objects, the furthest distance shouldn't be miles away. We're probably looking at a few millimetres to centimetres, and the movement towards

each other should be slow, as not to cause the wave pattern amplitude to jump ridiculously in a single moment because the change in distance is going to cause the amplitude of the waves to change.

4. Finally, have them orbit each other on a horizontal axis in order to achieve the broken patterns caused by body blocking.

Precise replications of g-wave patterns should now have been achieved. It may take a few tries – building a fast enough rotation device, the right distancing, sensitive enough equipment – but, eventually, it should happen. This could also be performed in a vacuumed room if there's any fear of interference from other known particles, but, in fact, it would be better to do it in a room with coloured gases or particles floating around so the vortices can more easily be seen and monitored.

I'm not the first person to come up with a vortex theory – Descartes himself, the man who I opposed at the beginning of this publication in the field of consciousness, also liked the theory of gravity as a vortex, as did Christiaan Huygens, though I don't back their talk about "aether" in the universe. Newton may have disagreed, and Einstein may have attempted to weave a spacetime vortex in his Relativity nonsense, but not one of them have ever been able to account for all the everyday observations and physical laws in such a manner. So, what does this mean for "gravity"? Is it an emergent phenomenon of the universe? Was Erik Verlinde right? Yes..... and 99% no, but it's not quite time to discuss why yet.

One Particle (Type) to Rule Them All

We know of the four fundamental interactions, and we know of matter, but there remains a series of questions which all lead to the very same answer, no matter what:

- What is required to create movement?
- What does all movement – linear, curved, rotational – lead to the creation of?
- What do we use to simulate gravitational increase?
- What do we use to oppose gravity?
- What do we use to create larger particles?
- What do we use to break down particles?
- What is required to form new elements?
- What creates sound?
- What does all physical contact register?
- What is the single most important thing required to know that an object physically exists?

One word: **Pressure**.

Mass or no mass, every particle creates it in one way or another, and it regulates every physical action that could possibly take place in the universe. Any particle that didn't create pressure would be impossible to perceive because nothing can be registered without it. It would be a concept or mental system, like numbers and words. No pressure would mean a particle would be massless and pass through every single other object unnoticed, as if it wasn't there – it would literally be a ghost particle.

All movement creates pressure. As we've already discovered, with absolute zero being physically impossible, no particle can ever come to a complete standstill. Energy travels continuously and indefinitely, and matter is always vibrating as energy knocks it around. Since neither of these can ever be stopped, pressure is persistent. It can be increased or decreased, but it can never be eradicated. It exists forever with no possibility of failure.

This is where the rollercoaster really begins.

Given that pressure regulates, well, *everything*, there has to be a particle that mediates it. I'd propose the name "Baron", based on the prefix *baro-*, meaning relating to pressure. *Yes, I know there is a particle type already named "Baryon", but it was a bad name, given that particles of this group are not the only ones that create pressure.*

If the baron is the particle that determines the existence of pressure, then, well, it's going to be a particle that exists within every single other particle that we can think of because, as I said, it is impossible to register the physical existence of something without it creating some sort of pressure. That would mean that this particle is *the* particle; the fundamental particle of elementary particles; the one particle that every single other particle is made up of; the root of both matter and energy. It would be the final subatomic particle that any other particle could be broken down into, and the basis of all existence. *It would be the one true "God" particle.*

Ah, but isn't the Higgs Boson supposed to own this name? Yes, and we'll get to that in a minute. Just stick with me.

It also replaces all theories of dark matter and dark energy, makes much more sense (read: *actually* makes sense), and is much easier to justify. Dark energy and dark matter were always nonsensical theories, no matter how one tried to spin it. The "weight of the universe", as physicists like to call it, is a highly inaccurate phrase, but, nonetheless, the *pressure* of the universe is simply a result of

barons being present everywhere due to the fact that photons occupy all space that matter doesn't – if they didn't, there would be positions in the universe from which nothing else was visible using any type of device, and where no temperature could be determined and absolute zero was the norm. How physicists managed to come up with these percentages of how much weight matter, dark matter, and dark energy contributes to the universe, though, is beyond me – I think they're just pulling numbers out of their arses again because that is an impossible number to calculate without being able to observe the universe in its entirety – something that, to be possible, would bring us back to the paradox explained near the beginning, which sees the universe have "walls" or a boundary, bringing about the question of what would this boundary then be contained in. Still, what is safe to say is that barons produce 100% of the pressure of the universe.

What this also means is that this was the first particle to exist, though how it came to exist is still impossible to determine.

Given that this particle makes up all other particles – some of which have mass and others which do not – two versions of this particle **must** exist. I guess they would be Baron 0 (massless) and Baron 1 (massive), because, you know, how would a massless particle create mass? And this brings us to the fallacy that is the pseudo-God particle known as the Higgs Boson, which I will now bring to its knees before gutting:

Let's not waste any time here – the theory for this particle is bogus, and physicists shot their load *way* too quick in claiming that this was 'proven'. Do I doubt that a particle was found at CERN? No, not at all. However, this Higgs theory is more than just a particle. It is supposed to be part of a pairing, with its partner in crime being the Higgs Field. This field is supposed to exist everywhere in the universe. As the bedtime story goes, particles pass through the field and are "given" mass via the boson.

Do you see the immediate, blinding problem here that has been overlooked in order to allow this shit to persist? If the Higgs boson gives a particle mass, the particle has to be massless beforehand. Anything massless is a form of energy. Energy cannot be converted to matter. *Never*. This was only ever allowed to pass because of the belief that $E=MC^2$ – or, in layman's terms, that energy was equivalent and could be converted to mass – but since I've already explained why that is false, and what is actually happening when hotter objects appear heavier, I ask anyone to please provide proof of this phenomenon. Don't worry, *I'll wait*. I'm just as excited to see this as they are. See, we *know* particles exist, so finding a new one isn't mind-blowing, but, tell me, how did anyone manage to prove that this particle gave others

mass? What massless particles did they begin with? Massless leptons and quarks – where and how does one find those? This is science, and in science you have to be able to replicate something continuously to prove it, so please, enlighten us and allow others to replicate your actions.

Next up – where is the proof of the Higgs field? Finding a particle is one thing, but a field? How was it detected? Did anyone at least see it interacting with a particle to infer its existence? I know this doesn't exist, so I cannot wait to see the proof of this one, either. **A field can never be seen**, so you can only prove its existence by finding particles that react to it. Again, where are the massless particles you started with and the massive particles created? What were they? It seems that more than one new particle would have been found if this was actually proven, so where are the rest? I smell **B-U-L-L-S-H-I-T**. Fucktard physicists just wanted to make an old man feel better about the fact he wasted his career on an impossible theory before they had to bury him.

And no, despite the 0 and 1 factor, barons are not bits, and we are not living in a computer simulation.

So, the two barons:

- B-Zero (B0) – The massless, which exerts pressure on B1s over distance, and is naturally in constant motion.
- B-One (B1) – The massive, which only exerts pressure on other B1s upon impact, and doesn't naturally move at all.

What a pairing. It would take B0 to get B1 moving, and B1 to get B0 to stop. A match made in heaven. This shouldn't even be surprising and, based on evidence we have so far, fits perfectly into the **real world** of physics. We know the universe is a balancing act, which is why we always find things in pairs – positive and negative charge, particle and antiparticle – and when an imbalance is established, somehow, someday, things find their way to a state of equilibrium.

What we can now do is use this to unify all forces and particles, because it is the particle type that creates and controls both. What does that give us? **The Universal Pressure Framework (UPF)**.

How would the UPF work?

- Start with particle models of B0s creating multiple types of interaction particles:
 - Positive Electric Photon (PEP) – For the outward electric force.

- Negative Electric Photon (NEP) – For the inward electric force.
- Magnetic Photon – For the magnetic force.
- Graviton – For the gravitational force.
- Gluon – For the strong force.
- Boson – For the weak force.

Don't question, just do it. When creating these models, base the number of B0s used on the energy contained in what would be a single unit of each particle – the higher the energy, the larger the quantity of B0s. This is all explained throughout this section.

- Create a particle model for electromagnetic photons (light). It's worth noting that I'll allow this idea of light/radiation as electromagnetic particles to continue for now, but we are really going to dig into this once we start examining waves.
- Now, we need to bind barons together in these basic arrangements using a force that is only effective on the smallest of scales. If current theory is correct, it can't be any forces we currently know of, as they are all mediated by larger particles, so this force can only exist on this scale. Because I'm not familiar with naming conventions (read: really couldn't be bothered), I call it the *baronic force*. Since energy particles do not interact with each other in space void of matter, the force would have to be governed via B1s, so the absorption of B0s by B1s would allow B1s to create the force needed to bond with each other.
- With B1s now bonding, create particle arrangement models for 'elementary' particles of mass – quarks and leptons – using B1s.
- Build a particle arrangement tree of elementary particles creating larger subatomic particles, and subatomic particles eventually building atoms, and then atoms building molecules. You will need to create different structures for each element, and they have to be specific. Each structure has to reflect the elements type (metal, non-metal), magnetic properties, ability to conduct electricity, and whatever other properties it may have. The easiest way to do this is going to be by creating specific individual structures for each property and then combining them based on the degree to which they can be found in the element. For example, when considering the degree to which an element is magnetic, the structure of the electrons will have to be specifically oriented in a way that reflects this degree.
- Now we have to bind all subatomic particles together, so implement the five interaction particles for the required forces – strong, weak, positive electric, negative electric, and magnetic.
 - The reason I instructed for the creation of different types of photons for the electric and magnetic forces, rather than one photon for what is usually the

'electromagnetic' force, is because of the existence of both electric and magnetic fields. Though they share characteristics, and both may exist simultaneously, the fact that both can exist individually and independently of the other, as well as them both interacting with matter under different conditions, forcefully implies that two different energy particles are actually what compose the two fields. This is also supported by the fact that there is no single "electromagnetic field", per se, but that an EM field is simply the existence of *both* an electric and a magnetic field within the same space. The two of them then interacting with particles of matter together causes matter to behave differently than when interacting with only a single field.

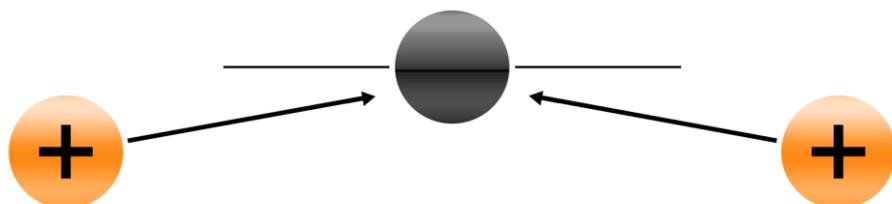
- The reason I instructed for the creation of different types of electric photons is obvious – different behaviours indicate different energy particles. Energy particles can't interact with each other, but the fact that they only attract matter particles of the opposite or no charge, and repel particles of the same charge, indicates that the particles are of the same type but still different.
- In addition to the above, there are some interesting deductions to be made here:
 - The fact that charged particles only attract other particles of a different charge type indicates that the energy particles do with unlike charges something that it doesn't do with like charges. If I was to take a stab in the dark, I'd think that the ability for one of the created energy particles to be absorbed requires the presence of the opposite type of matter that makes up the particle creating it, and when it can't be absorbed, it ends up pushing the matter particle away. Now, protons are positively charged, made of quarks, and absorb NEPs. Electrons are negatively charged, made of leptons (as opposed to being an elementary particle in itself – we'll get into why after the framework explanation when I explain the creation of different energy particles), and absorb PEPs. Neutrons have no charge, but absorb both PEPs and NEPs. Based on this, and what we know of electrons and protons, neutrons are very highly likely a composition of both quarks *and* leptons, rather than just quarks as previously thought. The quarks creating the PEPs and leptons creating the NEPs have equal total charge values and cancel each other out within a neutron, but incoming PEPs, while not absorbed by quarks, are absorbed by the leptons, and incoming NEPs are not absorbed by the leptons but are by the quarks, explaining how and why

a particle with no apparent charge can still be attracted to charged particles, regardless of their charge type.

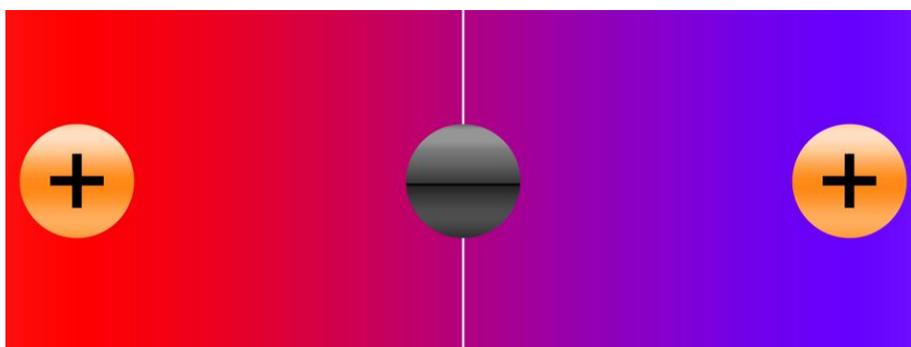
- Looking at what is stated about the field lines of charged particles to support the point above. Field line flow for positively charged particles is said to be outwards, while flow for the negatively charged is said to be inwards. Sure, one positive and one negative together makes sense, like a male-female interaction, and it makes sense with two positive particles, seeing as outward flow from both *should* appear to push each other away, but when we have two negatively charged particles, by following the same logic, we should arrive at a negative-negative coupling, rather than a rejection. In fact, two inward flows should create a stronger coupling than one inward and one outward, as we would expect from two objects pulling towards each other, rather than them pushing each other away.
- Current theory says electric field lines never cross. I say energy particles do not interact with each other, and therefore must cross. Physicists will show you diagrams of particles equidistance away from two positive field centers and say "Look at the particle that is perfectly in line between them. It is in a zone where the fields cannot touch, so it doesn't move. This is proof that lines do not cross!" Well, no, it isn't, and the simplest of explanations can reveal that. For the following, we'll assume that the charges are equal.



The image above is an example of a particle that won't move. It is evenly spaced between two positive charges and vertically level. This is the position where the value of the electric fields is said to be zero. This is wrong. In fact, this is the point where it is *effectively* zero because the pressure from each charge is perfectly equal, creating a *zero value difference*. The particle is being pushed equally from both sides, so it can't move.

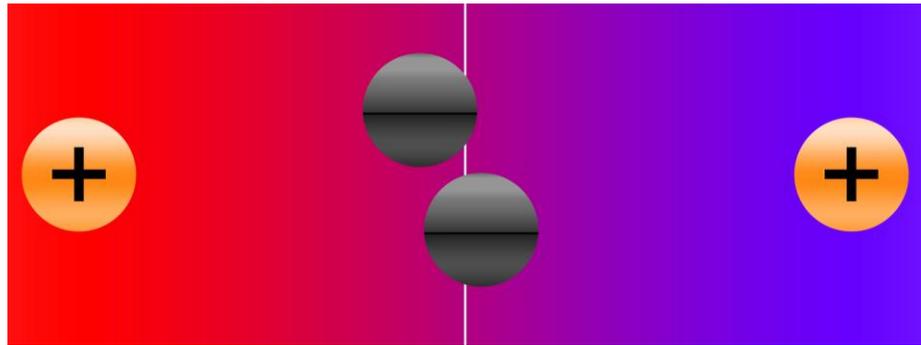


This position works differently. The particle is perfectly spaced between the two charges, so it won't be pushed to either side. However, it is not vertically level, and this explains why it moves vertically along the line of equilibrium between the fields. Because the particle is above the point of vertical alignment, field lines from the charged particles must travel at an upward angle to reach it. Any pushing force acting at an upward angle is going to push an object upwards upon contact. If the particle was below the point of alignment, it would be pushed downwards because the field lines would hit it at a downward angle. This has nothing to do with "field lines bending away from each other."



If you want to visualise the fields, this is a good way to. Bear in mind, I'm only explaining it in a horizontal direction, so I didn't bother including the fade to indicate weakening in any direction other than towards the other charge. So, the field of any charge weakens going towards the other, indicated by the fading, but because fields line cross, we see the colours mixing, and we would be able to use this to determine the dominant field in a position if we didn't have the middle line showing the point of equilibrium. It would simply require gauging whether the colour in a particular position was closer to the red or the blue.

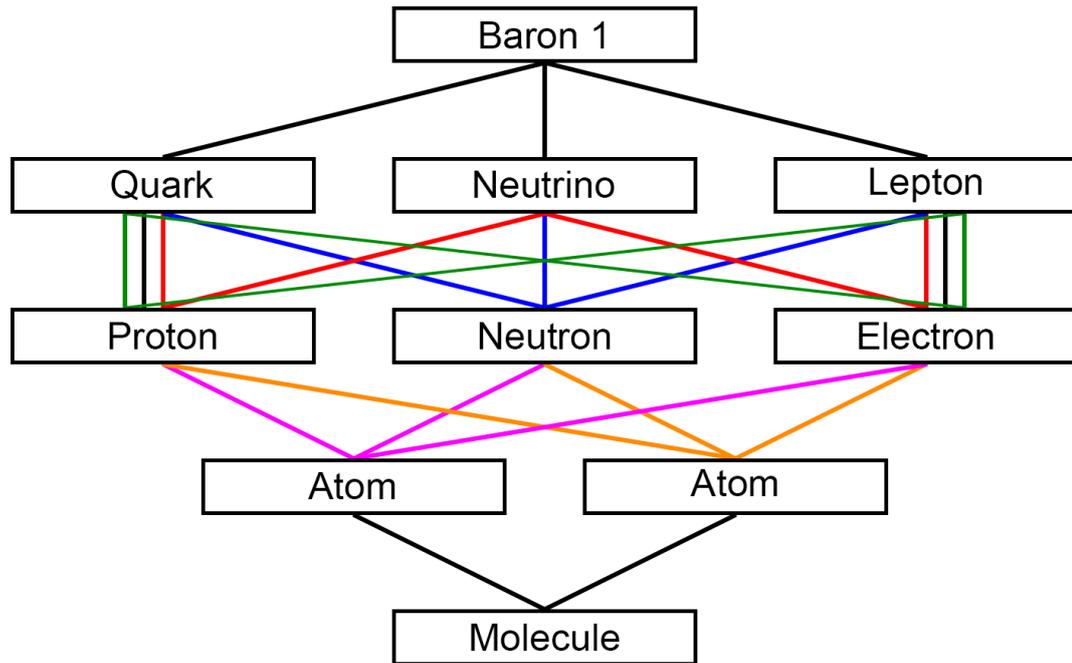
Does this mean that, at any point, an electric field is pointing in two different directions? No. Though they overlap, any point not along the line of equalisation is within one field's dominance, and that field is going to have the greater force because it is closer to its charged particle.



In the above image, the top particle is more to the left than the right, so it is within the dominance of the red field, and will be pushed to the right. The bottom particle is more to the right, and will be pushed to the left.

In general, whether or not you believe field lines cross won't change the end result, but for a true and complete understanding of physics, it is very important to know that energy particles do not interact with each other directly, and can only interact through matter, and we can do a very simple experiment to see whether or not I am correct. First, we put a particle next to a single charge, with no second charge present, and determine how fast it is moved by the electric field. Then, introduce a second field of the same charge type, making sure that it is close enough for the fields to overlap, if they in fact do. Now, introduce the particle in precisely the same position as its original starting point with the single field and measure the speed of movement again. If it moves slower by *any* degree, it is proof that fields overlap because, if they didn't, there shouldn't be any resistance experienced to change the speed of movement whatsoever. This overlapping fields principle can be used for any energy field – I already explained it regarding gravitational waves, and it's also why seas are rougher when the moon is closer, as the gravitational pull of the moon is stronger the nearer it is, increasing the resistance the sea is facing, but because the sea is still within the dominant gravitational field of the earth, it isn't pulled away.

- Having explained what I just have about protons, neutrons, and electrons, the particle arrangement tree for the most common matter particles should look something like this:



What a pretty yet tangled web it weaves. Explanation:

- Subatomic matter particles, other than Baron 1s, are mainly classified by their charge – positive on the left, neutral in the middle, and negative on the right.
- Combinations of elementary groups can create any type of secondary group, depending on the resulting charge:
 - Groupings of only quarks will create protons because they are all positive.
 - Groupings of only leptons will create electrons because they are all negative.
 - Quarks and neutrinos will create protons because a positive and a neutral create a positive.
 - Leptons and neutrinos will create electrons because a negative and a neutral create a negative.
 - Quarks and leptons, if the resulting charge is neutral, create neutrons.
 - Quarks and leptons, if the resulting charge is positive, create protons.
 - Quarks and leptons, if the resulting charge is negative, create electrons.
- In the tree diagram, the thickness of the green lines connecting to protons and electrons depicts the total charge comparison for each elementary group involved in the making of resulting particle.
- Protons, neutrons, and electrons make atoms.
- Multiple atoms make molecules.

Now, more deductions:

- Antiparticles – The definition of an antiparticle states that it is a particle of the same mass but opposite charge to another. Claims have been made that these have been observed – this does not need to be disputed. If travelling down the quark side of the tree gives us positive charges, and travelling down the lepton side of the tree gives us negative charges, all we have to do is take a bunch of leptons equal in mass to a bunch of quarks and voila! Equal masses, opposite charges.
- Decay – *This* tree explains why particle decay can create particles with charges different to the original. For example, beta decay which sees protons decay into neutrons. Here's why this makes more sense than current theory. If leptons are negatively charged and neutrinos have no charge (even by the Standard Model this is true), quarks must hold the positive charge. If a proton is made up of only positively charged quarks, how on earth can it then decay into a neutral particle? How can a positive particle comprised of three smaller positive particles lose a positive particle and become neutral? This is the equivalent of saying three minus one equals zero. With my model, a proton can be made up of something such as two quarks and a lepton, each of equal charge, giving it a positive charge, and then decay into a neutron by losing one of those quarks, leaving the remaining quark and lepton to cancel out each other's charges. I don't even need to ask you which model makes more sense.
- Once we have all the massive and massless particle arrangements completed, a link must be created between the two to show the force-at-a-distance interactions between massive particles using massless particles, based on the condition for interaction.
 - Gravity – All matter responds to it so it just has to be something that is present in all matter particles but not energy. Basically, the presence of B1s is the only requirement.
 - Magnetic – The alignment of electrons.
 - Electric Attraction – The opposite or neutral net charge.
 - Electric Repulsion – The same net charge.
 - Strong – The presence of quarks.
 - Weak – The presence of leptons.
- Then we link the field of each and every force with the condition required for creation.
 - Baronic – Movement of B1 particles.
 - Strong – Movement of single quarks.
 - Weak – Movement of single leptons.

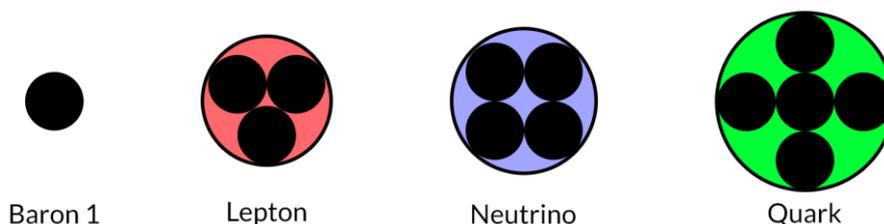
- Gravity – Rotation of an object moving as a whole.
- Magnetic – Orbital movement of electrons around an atom.
- Positive Electric – Collective movement of quarks.
- Negative Electric – Collective movement of leptons.
- Last of all, that which allows us to see. Electromagnetic photons are released from all matter particles with no required condition other than existence. EM photons, i.e. light, are not force carriers as they are not used for the purpose of bonding, hence why I separate them from all other types of force mediation particles, and made clear distinctions between magnetic, electric, and "EM" photons. Their primary purpose, if a single one can be determined and applied to all EM photons, regardless of wavelength, is to carry information about the transmitting particle to the receiving particle based on the associated behaviour or reaction, such as temperature, position, and density. Funnily enough, this is only of any actual use to living organisms and technological sensory systems, as matter, in any other composition or elementary state, can only react to stimuli automatically. It would seem as though "life" was inevitable, or at least the idea was catered for from the start. The plot thickens...

Some things to note:

1. Matter versus Energy – Now, some physicists get incredibly tight arsed when distinctions are made between the two, arguing that energy is simply something that all particles have, but that particles are not energy themselves. It's no wonder so many of them have failed to make any contribution to the field. Let's clear this up:
 - a. Matter – Particles of matter interact with each other. They cannot pass through each other at all. They cannot occupy the same space. They contain and control the release of energy. Matter can exert pressure and have pressure exerted upon it.
 - b. Energy – Energy particles do not interact with each other. They can pass through each other. They can occupy the same space. They are released from and absorbed by matter. They can exert pressure but cannot have pressure exerted upon them. **Energy particles do not "contain" energy.** They do, however, have an energy value.
 - c. Motion – Wrongly referred to as "kinetic energy", which adds to the confusion. Motion, as we know, is the movement of an object. Motion is **not** energy. It is a natural reaction; the result of pressure exertion which is greater than the resistance it faces. Pressure is required to start, increase, maintain, reduce, and stop motion. Funny thing is that motion is also required to create pressure. Motion begets

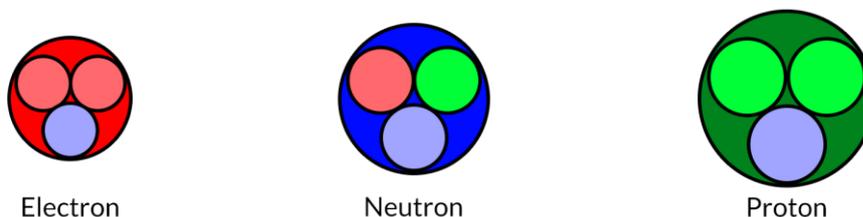
motion. We can also use this to understand why all energy has a single motion value – pressure cannot be exerted on it to slow it beyond light speed – and matter constantly has a varying motion value – pressure is always being exerted upon it. (And to those about to argue, don't worry, because I disprove the conservation law when we get into the mechanics of everything.)

2. Matter is not simply "bundles of energy". If this was the case, they would exhibit the same properties as energy. Matter is the bricks and energy is the cement. It is – very literally – the building blocks of life. I've already taken down $E=MC^2$ and the Higgs boson/field bullshit.
3. Forces – It's no coincidence that we see different force energies created by particles of different masses and groupings. The way I see it is like this:



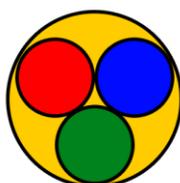
B1s naturally create the baronic force required to bond through the use of B0s. The type of elementary particle created depends on the number of barons bonded in a single particle. Because we have particles of different masses for each type, let's assume that there are baron quantity ranges for creation. So, for example, 2 - 5 barons create a negative charge lepton, 6 – 9 create a neutral charge neutrino, and 10+ for a positively charged quark. We could just as easily use three different types of particle formations – doesn't matter really.

With the elementary particles now created, individually, the barons create the baronic force to hold the elementary particle together, but collectively they create the force particles of higher energies associated with the elementary particle – strong for quarks, weak for leptons, and none for neutrinos.

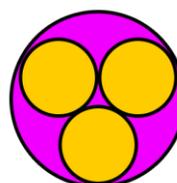


Once the elementary particles have been created, we have the three branches of the particle tree. Groups of these then bond to form the larger composite particles, and the same principle applies:

- a. The strong force holds quarks together as protons, and they collectively create higher energy PEPs.
- b. The weak force holds leptons together as electrons, and they collectively create higher energy NEPs.
- c. Neutrons, composed of equal charge quantities of quarks and leptons, and sometimes including neutrinos, are held together due to the attraction of opposing charges, and the attraction of one charge to a neutral charge. Because the presence of opposing charges cancels each other out, they are not able to create any higher energy particles.
- d. Since neutrinos have no charge, they generally cannot hold each other together to create neutrons, and so are used to increase the masses of protons and electrons without changing the total charge value.
- e. In special cases, a baron, though already part of a structure, may:
 - i. Bond with a baron from a different type of structure, allowing quarks and leptons to bond through the baronic force rather than the electric.
 - ii. Be shared with a second structure, similar to covalent bonding, allowing two structures to exist through use of fewer barons than required for both to exist individually.
- f. Charged particles – both electrons and protons – create magnetic photons when moving. Again, this would be due to the collective work of quarks and leptons, and there's an interesting theory as to why this happens, which I'll explain in a minute.



Atom



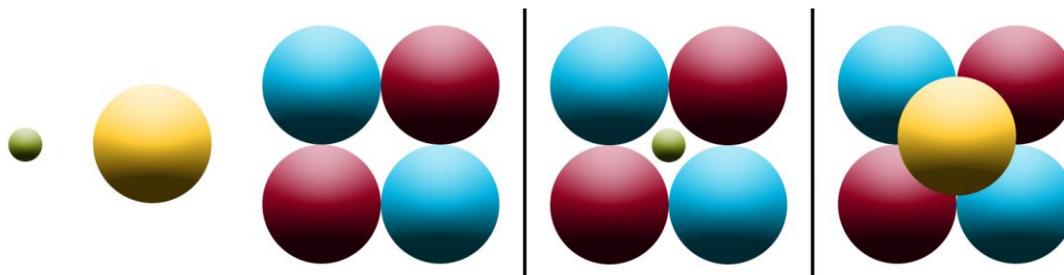
Molecule

Finally, protons, electrons, and neutrons bond to create atoms, and atoms bond to create molecules. We could even take it further and bring into play the bonding of atoms and molecules to create larger objects. Anyway, the question to be answered here is at which stage – atom, molecule, or larger object – are gravitons produced? We know that objects of higher densities produce stronger gravitational fields, so that can be taken as a basis of proof that particles working together produce gravitons, but, given that they are yet to be observed, and the fact that we have only ever seen gravity with very large objects of planetary size, we cannot yet determine which particle collective is required for production,

but we know where to start.

Also, given that all particles produce photons, it makes me wonder if, as is the principle of "use", light photons are the "waste" particles – those which are given off once energy is used for the creation of force particles. They would then be absorbed by any receiving particles, used for force particle creation, and again radiated for others to use. This would also be in line with why every single particle of matter produces infrared photons based on how much work they are doing, and why vortices, including gravity, are stronger the faster they – or the object of their creation – spin. This would again see the same principle repeating itself – that which happens on a macro scale also happens on the micro counterpart. Makes sense since all use must produce waste, and that emitted photons are always lower in value than the photons absorbed which caused the emittance in the first place.

4. Why haven't I classed electrons as elementary particles? They are able to generate the same higher energy particles as protons – magnetic photons and electric photons. We know these are generated at higher energies by following the pattern of strength at different scales. The strong and weak forces have short ranges, and we know those are generated at quark/lepton scales; gravity is generated at the largest scales and has the longest effective range that we have ever been able to witness; and electric and magnetic forces fall between the two, being generated at proton/electron scale and having an effective range much longer than the strong/weak forces, but much shorter than that of gravitation. There's no way that elementary particles are going to generate high enough energy to produce the same forces that are effective on the same scale as proton composite particles, all of which are also larger in mass. The amount of work required for a single particle at such a size would be exceptionally large, if not unfathomable.
5. Matter cannot pass through matter. Matter can pass between matter. In the same way you can walk through a doorway if the space between the doorframe is large enough, matter can pass between composite particles if the space between the particles is large enough. For example, imagining all particles are perfect spheres:



As you can see on the left, we have a small particle, a large particle, and a group of bonded particles. In the middle, we can see that the small particle is small enough to pass through the gap created by the formation of the particle group, but, on the right, we see that the larger particle is too large to fit. There is one other requirement for the smaller particle to pass through – speed. If it encounters a field that would cause it to be repelled, it must be moving fast enough to create a pressure greater than the pressure of the force it is fighting against, and maintain a large enough pressure long enough so that it can push past the center point before the force field reduces its motion to a speed where its pressure is not greater than that of the field in its current position and it is pushed back out. If a particle encounters fields that cause it to be attracted, entrance into the particle grouping isn't a problem, but escaping is. The attractive forces will help increase the incoming speed of the particle, allowing it to build pressure, but, beyond the center point, it has to play by the same rules as an object trying to escape a gravitational pull – the escape velocity has to be high enough to keep the pressure generated by the particle greater than the force of attraction at every point of its escape path, otherwise it will be pulled backwards. If both the particle and particle group are neutral, well, passing straight should really be a non-issue.

6. Dump all the shit regarding existence of a field being relative to the movement of observers or whatever. One field is not going to exist based on anything an observer does. Its existence is solely dependent on the particles creating it.
7. A "changing electric field" does not produce a magnetic field. The changing of the charged particle creating the electric field would produce a magnetic field.
8. Physicists say that magnetic and electric fields are mediated by photons. I think this is a gross naming error. How and why would a single particle display four completely different behaviours – outward electric field, inward electric field, magnetic field, and all types of radiation? We have actually seen evidence of energy particle behaviour differing based on the direction of fields (magnetic from north to south, positive electric outward, negative electric inward, and light photons have no field but continuing on forever), so it's a clear indication that these are set behaviours of different types of energy particles themselves. I've called them all photons here, for now, just to prevent confusion at this point, but, later on, they *will* be renamed.

Eventually, we reach a point where we can begin predicting new forces, particles, and elements. Matter is easy – we can just throw combinations of subatomic particles together to create other

subatomic particles and elemental atoms. Force, however, is different. If a force particle higher than a graviton does exist, the first thing we'd need to do is create a larger, single composite particle structure. Next, we'll have to get the particle performing the correct type of work – linear movement, rotation, vibration etc. All things considered, if neutron stars are what physicists claim them to be (actually made of neutrons), and higher energy forces are possible, our best chances of finding them would be there, as the work they must be performing – something we can determine based on gravitational pull and atmospheric altitude – is off the charts compared to anything other than black cores. How we'll manage to pull off such a feat on a human scale, however, is probably something not capable with the technology of today, but I suspect it will involve a nuclear fusion device and a substantial electricity bill.

For now, all that matters is one thing: the baron is the one particle type to rule them all.

Continue on, adventurers, to eventually find out how we will find B1s and B0s using a new method of particle splitting.

The Mechanics of the True Cosmological Model of Spacetime (& Some Other Shit)

Ah, the model. This could probably go on for days, so I'm going to give you the quick and condensed version because, after everything we've been through by this point, I won't need to write out full blown explanations.

Before we begin – the speed of light. Is it a constant? Yes. Is this the speed limitation for movement? Yes. Can matter ever travel as fast as light? No. Why? Because pressure cannot be exerted upon light, but it can be and always is exerted upon matter, so while light moves freely without anything to possibly reduce its actual speed, matter will always face pressure from oncoming photons, at the very least, so there will always be *something* pushing it backwards – no matter how small a push – that prevents it from having the freedom of movement that light, and any of types of energy for that matter, are able to enjoy. Matter will be able to move at 99.99999 – with as many more 9s after the decimal point that one could possibly add – percent of the speed of light, but as long as there is pressure, 100 percent can never be realised. It's physically impossible.

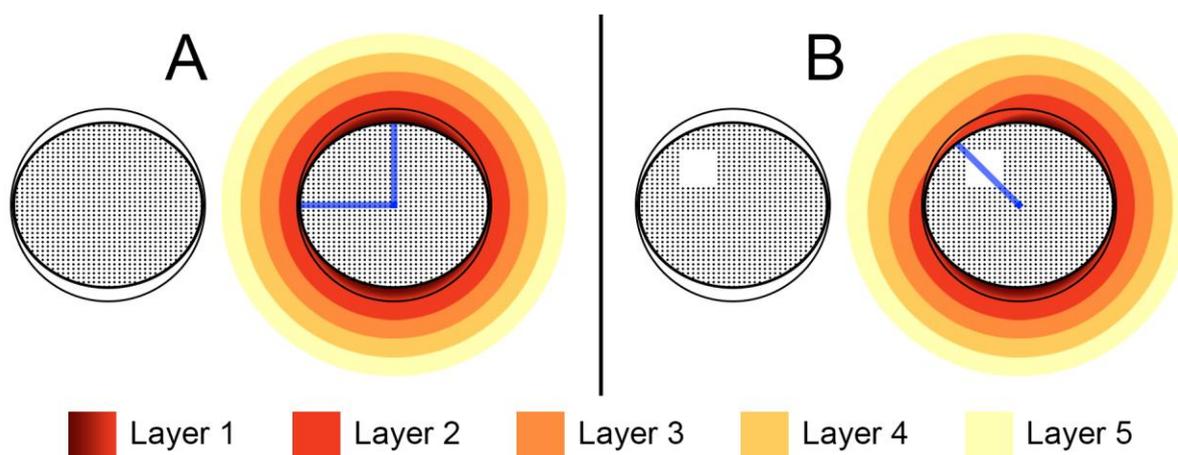
So, we'll start with the vortex that is gravity. The first thing to do is establish a basis, and we'll use earth for that. It's important to note that I'm just going to use figures I can find online, regardless of accuracy, because we really don't have anything better. Should we ever get more accurate figures, it can all easily be adjusted, as this is more about understanding the mechanics involved than being super accurate.

Mass (e)	EQ Circum (miles)	Speed (mph)	Vortex Force (vf)	Karman Line (miles)	G-Constant (m/s ²)
1	24,901	1038	25,847,238	62	9.8

Some things to note:

- As previously stated, mass is the number of particles of an object, and we sure as hell don't know the mass of earth, no matter what physicists say. This is backed by the fact that mass is always given using a unit of weight – usually kilograms – which really doesn't make sense whatsoever. Besides, weight of a celestial body depends upon gravitational strength, and gravity comes before weight, so anything to do with weight can't be part of the formula to determine gravity. For that reason, I've just given mass the value of 1, and we'll call it 1 earth mass, with the unit 'e'.
- I used the equatorial circumference of the earth, rather than another property such as volume, because only the circumference corresponds to the speed at which the earth rotates and the rotational direction of the vortex, and in the creation of the vortex, the defining factors are the circumference of the object creating it and the speed at which it rotates. The rest of the shape above and below the equatorial line affects the strength of the vortex you experience, based on your distance from what would be the core of the vortex. (Images and explanation come after this.)
- The vortex force value is the mass, circumference and speed multiplied by each other. I multiplied the values using the formula $(Mass \times Circumference) \times Speed$, as mass and circumference must exist before speed can even be a factor, and speed cannot exist if either mass or circumference is zero.
- This is earth's vortex force value at 100%, and is what we'll use to determine the values for other bodies by comparison of vortex force values.

Now, as promised, the explanation behind using the circumference.



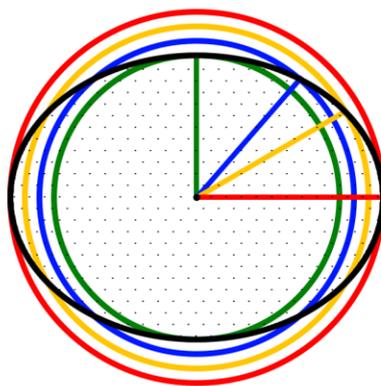
On the left of each picture above, we have an oblate spheroid within a sphere (let's use our imaginations here). The spheroid represents a celestial body – I exaggerated the bulge so it is easier to see – and the sphere is the size the body would be if the polar radius/diameter/circumference was equal to that of the equatorial bulge. On the right of each picture, we have the sphere and spheroid placed on top of coloured rings. These rings represent the gravitational force around the body – the darker the colour, the stronger the force. I also chose not to use gradients between most of the colours so that it is easier to see exactly which layer I am referring to.

Picture A is the perfect world. I've drawn two blue lines over the spheroid – one vertical and one horizontal. The same number of particles are present from center to surface for each line, but, because the equatorial circumference is wider, the density of particles for the horizontal line is less. For this reason, we can see that the surface strengths for each line are different, and vortex theory explains.

If the polar circumference was the same as the equatorial – creating a perfect sphere – and the densities were also equal, the gravitational strength at the poles and equator would be the same – Layer 2 – and we can see this based on the outline of the sphere. However, since the polar circumference is shorter but of equal mass, you experience the strength of a vortex created by a smaller body of the same mass but higher density. This is what we'll call the **Vortex Equivalence**. The principle here is:

Wherever a person is standing on the surface of a body, they will feel a gravitational pull equal to the equatorial surface strength of a vortex created with the same mass, density and equatorial radius as that from the center of the body on which they stand to their current position on the surface.

This can be shown with a single diagram:



Pretty, no? Here, the black oval outline represents the actual body. Again, the black dots represent particles, and the mass between the center and any point of the surface is the same, but the densities are different. Now, four coloured lines emanate from the center of the black oval to four different points on the edge. Coloured circles are then drawn with a radius equal to the length of their corresponding line.

The reason we have to use circles in this way is both geometric and factual. Gravity is radial and always points towards the center of a body, so, using lines of a length equal to the distance from the center to a specified point on the surface, going in any and every direction, a perfect circle (or sphere, when dealing with the third dimension) is going to be created, and, all things being equal, the surface strength of any two points must be exactly the same, given that gravity is said to follow the inverse square law, meaning that it has to weaken by an exact amount over a specific distance. Even if the inverse square law isn't the correct formula to use, gravity, being an energy, only has to diminish by any specific amount over a specific distance every single time for this to still hold up, and there's no evidence to suggest that gravity can diminish at different rates based on any factor or condition.

So, how does this fit into vortex theory? Vortices like equality; balance. As they rotate, they try to balance themselves out. In a world where particles are equal and the mass from the center of a body to the surface is the same, you get what is essentially the perfect radial gradient of gravitational strength, as seen in picture A, and, just like with any vortex, the closer you are to the center (without actually being in a position where you are being equally pulled in all directions, resulting in zero force), the stronger the force is that will act upon you. I'm sure someone will come up with an equation to determine how much the density differences based on the distance from center to surface changes the gravitational strength one is to feel, but it won't be me.

Of course, the world is not perfect, and picture B shows this. It's much like picture A, except the body has a large chunk of mass missing, which significantly lowers the mass and density of the area through which the diagonal blue line passes, resulting in the dent in the gravitational gradient that has caused layer 3 to be representative of the surface strength at the tip of the blue line. This is obvious and already known, but it raises a question relative to what I mentioned before: is it simply the total mass within an area from centre to surface that controls surface strength, or does the density distribution matter as well?

Imagine that, in picture B, there is an area of high density along the blue line, as well as the area of low density. Would the area of higher density compensate for the low?

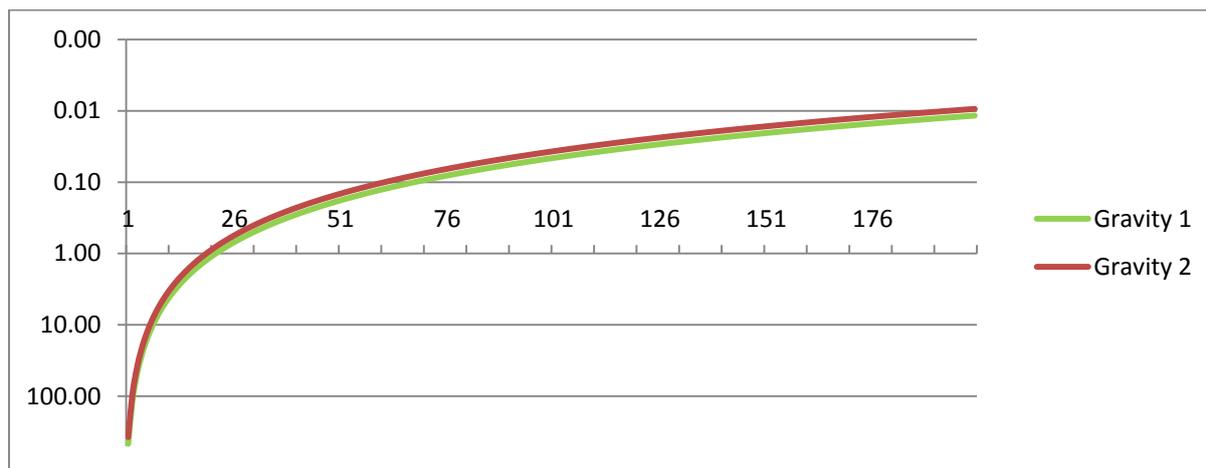
Mathematically, it is possible, but the exact density requirement would depend on the precise position and volume of the mass. However, vortices are very different in real life than equations can easily try to tell you on paper. As previously mentioned, vortices like equality and balance. In most cases, it's the only way they can survive. The next time you are draining water down a sink or your bath, stick your finger anywhere in the vortex once it appears. You'll see it destabilise, sway, and, depending on its size, strength, and the degree/duration of the disturbance, it may implode, often reforming in an equalised state. To answer the question again, yes, density distribution does matter because nothing means more to a vortex than equalization and stabilization, and any density differences in the creating body decreases the chance of this being achieved.

Theoretically, what is seen in picture B should only be seen to such a degree with solid bodies. Unlike in normal situations in which a vortex is seen – whirlpools, tornados etc – the vortex can't implode because its source – the solid body – continues to spin, keeping it alive, but it can't equalize either because it can't easily shift the positions of the matter creating and controlling it, so, though it is not equalized, it is able to remain in a state of persistent unequal stability, only changing as mother nature decides to restructure the body through natural disasters such as earthquakes and sinkholes, or when we humans decide to play real world war games. For gas and liquid bodies (if liquid bodies even exist), however, picture A should be very nearly, if not entirely, possible, within a less than one percent margin of difference from the expected gravitational strength in the radial gradient, and very much the norm for these types, as the fluid nature of the particles making up said bodies can much more freely be rearranged under the force of the vortex as it seeks to balance itself out as best it can.

Oh, and now the wind makes much more sense to you, doesn't it? *Vortex equalisation, FTW!*

The beauty that is gravity makes what comes next so much easier, because it is what links everything together. I'll try to do this in as logical an order as I can.

Assuming the inverse square law is true for gravity (I haven't tested it), there's one thing that I noticed when graphs with different initial gravitational strength values are plotted based on this rule – they all make the exact same pattern.



Here's a graph showing the decrease of gravitational strength over distance for two bodies. I used a logarithmic scale and curved the plot lines because it looks better and is easier to read. Though Gravity 1 has an initial value of 467 and Gravity 2 a value of 375, it's clear to see that the line shapes are exactly the same, but with one positioned higher than the other. There are three significant things that this means:

1. We can use values of earth to determine gravity-based values for other celestial bodies.
2. Gravity-based values can be used to determine other values for celestial bodies.
3. We can define a breaking point between gravity and microgravity.

As an initial example, we'll look at earth's moon:

- It has a circumference of 6,786 miles.
- Given the circumference and the fact that it takes near enough a full 28 days to do one full rotation, it has a rotation speed of around 37 miles per hour.
- To get the mass, I used what is stated online – that the moon is about 1.2% the mass of the earth.

This produces the following results:

Mass	EQ Circum (miles)	Speed (mph)	Vortex Force (vf)	Karman Line (miles)	G-Constant (m/s ²)
0.012	6,786	37	3013	0.006	0.00098

With a vortex force of 3013, which is approx 0.01% of the vortex force of earth, the Karman line of the moon should average around 0.0062 miles, or 9.97 metres. With an atmosphere that short, it's no wonder people thought the moon had no atmosphere, but it perfectly explains why objects are still attracted to the surface once they are close enough. The VF value also indicates that the moon should have a gravitational constant of approximately 0.00098, based on a mass of 0.012.

Let's quickly look at certain stated "facts" that science currently believes because this seriously irks my brain:

- Earth has a gravitational constant of 9.8.
- Mars has a gravitational constant of a supposed 3.71.
- The Moon has a gravitational constant of a supposed 1.62.
- Earth and Mars have easy to determine atmospheres, while the Moon barely has one to speak of.
- There is no wind on the Moon, but Earth and Mars experience storms.

Okay, so the gravitational constant of Earth is said to be approximately 2.64 times that of Mars, and that of Mars approximately 2.3 times that of the Moon. The Moon is much smaller than Mars – 3.8 times smaller in area, approximately. So, if the difference between gravitational constants is smaller than the difference in area size, shouldn't the atmospheric compression of the Moon be higher than that of Mars, given that what should be the atmospheric density at a constant of 1.62 has to be crammed into a much smaller volume, relative to that of Earth and Mars? If this is confusing anyone, I'll explain it with numbers (distance and volume are in miles):

Body	Volume	Avg Radius	Karman	Total Vol.	Atmospheric Vol.
Earth	259,875,899,220	3959	62	272,327,079,503	12,451,180,283
Mars	39,105,779,648	2106	50 (49.7)	41,979,269,682	2,873,490,034
			55 (54.7)	42,272,011,098	3,166,231,450
Moon	5,254,089,413	1078.457	0.006	5,254,172,886.189	83,473

Okay, so, the explanation of the numbers above:

- First, we need the volume of the body.
- We use that volume to calculate the average radius.
- We then use the Karman line altitude and add it to the radius so that we get the full radius from the center of the body to the edge of the atmosphere. The reason there are two Karman line values for Mars is because I couldn't find any specific altitude. I've seen somewhere say that the entry altitude was 125km, while the actual Karman line was 88km or 80 km (I used the measurements in miles). All the things science apparently knows, yet they can't determine this, so I just used both. As you'll see, it really doesn't matter anyway, because my point will still be proven by the end of this.
- We now use the new radius to calculate the total volume of body and atmosphere.
- We then take the volume of the body away from the total volume so that we are left only with the atmospheric volume.

The reason we need the atmospheric volume is because, to determine the atmospheric compression, we need to know how much space a given amount of atmosphere has in which to exist, so it's not actually the volume of how much atmosphere there is, but the volume of the container within which the atmosphere can be held.

That was part 1. Now, part 2:

So, the amount of atmosphere a body has is, as far as we know, based on its gravitational strength, and since the correlation between all things gravity-based must exist, based on the inverse square law, that means each degree of gravitational strength accounts for a specific change in how much atmosphere a body should have. This allows us to run test cases for every gravitational body:

Test Case 1 – Linear: Let's say for every metre per second in gravitational strength, we used an average atmospheric value of 1000 atmospheres per cubic mile.

Body	Container Volume	Constant	Atmospheres	Average Compression
Earth	12,451,180,283	9.8	9,800	0.0000007871
Mars	2,873,490,034	3.71	3,710	0.0000012911
	3,166,231,450			0.0000011717
Moon	83,473	1.62	1,620	0.0194074731

Here, we can see the moon has the highest compression value, at an average of 0.019 atmospheres per cubic mile. That definitely can't be right, right?

Test Case 2 – Squared: Let's say for every metre per second in gravitational strength, we used a square law, where the atmospheric value is equal to a base of 1000 multiplied by the square of the constant.

Body	Container Volume	Constant	Atmospheres	Average Compression
Earth	12,451,180,283	9.8	96,040	0.000007713324987
Mars	2,873,490,034	3.71	13,764	0.000004790028793
	3,166,231,450			0.000004347155354
Moon	83,473	1.62	2,624	0.031440106381704

Yea, so, that's a fail.

Test Case 3 – Cubed?

Body	Container Volume	Constant	Atmospheres	Average Compression
Earth	12,451,180,283	9.8	941,192	0.000075590584877
Mars	2,873,490,034	3.71	51,065	0.000017771006823
	3,166,231,450			0.000016127946363
Moon	83,473	1.62	4,252	0.050932972338361

Getting closer; still not even in the same league. One last time, shall we?

Test Case 4 – The god-damn ridiculous. Let's try the constant to the power of itself.

Body	Container Volume	Constant	Atmospheres	Average Compression
Earth	12,451,180,283	9.8	5,176,253,555,080	415.723926361232000
Mars	2,873,490,034	3.71	129,532	0.000045078297918
	3,166,231,450			0.000040910477286
Moon	83,473	1.62	2,185	0.026173891714490

Ah, so we finally have earth with a significantly higher compression than the moon... but then Mars let's it all down again.

Yea, so that constant of 1.62 is pretty much (read: undeniably) a bust. Here's the interesting thing, though:

Body	Container Volume	Constant	Atmospheres	Average Compression
Moon	83,473	0.00098	993	0.011898860674343

Even with my calculated constant – 0.00098 – the compression on the Moon is still higher than Mars, significantly. This means that something, somewhere, is wrong. If the Karman line of Mars is 50 or 55 miles, then either Mars is much more dense than currently thought, or the Moon is much less dense.

It does not matter what linear or exponential rate of increase formula is used, it does not work – never has, never will, and that means the numbers being used are wrong. Physicists may as well have just plucked random values out of thin air because none of what they state makes any sense whatsoever, unless you bend and break any and every rule you need to until you get to a point where every celestial body has its own gravitational formula, in which case, the inverse square law for gravity is bullshit. It's physically impossible for them to have it both ways.

Bear in mind, the Karman line and atmospheric compression are what they are because, given that gravity weakens based on a formula, bodies that produce lower gravitational strengths are going to reach the point at which gravity has become too weak to hold an atmosphere at a much lower altitude than bodies with higher strengths – this is axiomatically true, otherwise there couldn't be physical laws concerning gravity, and it would all, essentially, be based on random number generation – and the higher the Karman line, relative to the volume of the body, lowers the atmospheric compression with every degree of increase in altitude. If physicists attempt to deny this, then it means we can never calculate any value that affects or is affected by gravity, for any celestial body, without actually being on the body and taking actual measurements, so, either way, physicists are admitting that the values they have previously given are just imaginary numbers that sound nice, and that they were making it all up based on bogus mathematics all along, or they deny this paragraph and are forced to accept that we can't know without being there, which still means they led everyone down bullshit alley. *Win-win!*

Given that gravitational patterns have to be exactly the same based on three things in total – the inverse square law, the radial behaviour, and the fact that gravitational energy, unlike electromagnetic radiation, is unaffected by objects in its path – which, in turn, means values based on gravity also have to correlate **always and at all times**, it is physically impossible for the inverse square law to universally apply to gravity, and for the Moon to have a gravitational constant of 1.62 with almost no atmosphere and no pressure conditions whatsoever, while Earth and Mars, with a

much larger difference between their gravitational constants and atmospheric containers, can both experience extreme pressure conditions, even though Mars' atmosphere is much thinner than Earth's. We all know about Earth's weather, but if you google "storms on Mars", you'll get a page from the Caltech university website that states, "Mars is famous for its large, planet-wide dust storms." You can also google any question relative to why the Moon doesn't have an atmosphere (even though we know it does, and even the NASA website states it), and you'll always see something along the lines of the moon not creating a gravitational force strong enough to hold onto one. Well, Earth is able to hold one at 9.78, and Mars is able to hold one at 3.71, which is a difference of 6.07, so, surely, the moon should be able to hold one that would **at least** have always been visible/detectable at a constant of 1.62, which is a difference of 2.09, right? I mean, come on, there should be *some* evidence of even a *slight* breeze at some point, or an atmosphere that was always as detectable using instruments that aren't the naked eye. For the Moon to have its current properties – almost no atmosphere, resulting in not enough gases to create wind or other pressure conditions – the gravitational constant, using current figures, **must** be significantly smaller than 1.62. To be honest, it should barely be above zero – just enough to have some of the heavier gas particles linger. We may not be able to determine the actual constants of Mars and the Moon, but we can say for certain that the figures currently given for one absolutely proves the other incorrect. This isn't a matter of opinion – it is a verifiable scientific fact, backed up my mathematics, as shown.

For a subject that is supposed to be so heavily based on mathematics, isn't it ironic how many things actually do not add up?

Conclusion: Physicists have never had a damn clue of what they were talking about in this matter.

For fun (almost), let's take a look at the black core we previously spoke of, Sagittarius A. Only two values can even be approximated at this time, and we need at least one more to make any sort of complete determination about all of the rest, but we'll see what we can do.

With a Karman line of 15,000,000 miles, it is 241,935 times higher than that of earth, so we should be looking at a gravitational constant of 2,370,963, and a vortex force of 6,253,351,525,530.

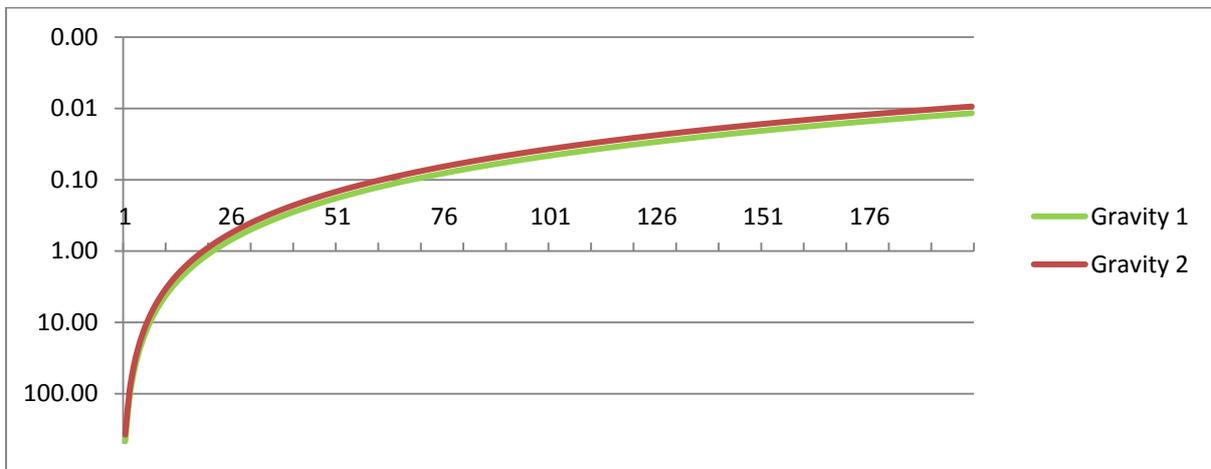
Mass (e)	EQ Circum (miles)	Speed (mph)	Vortex Force (vf)	Karman Line (miles)	G-Constant (m/s ²)
	94,247,779		6,253,351,525,530	15,000,000	2,370,963

We can also use a Karman figure where the altitude is larger than the diameter. Let's say 90 million miles. At 1,451,613 times the height of earth's, we get the following:

Mass (e)	EQ Circum (miles)	Speed (mph)	Vortex Force (vf)	Karman Line (miles)	G-Constant (m/s ²)
	94,247,779		37,520,186,694,894	90,000,000	14,225,807

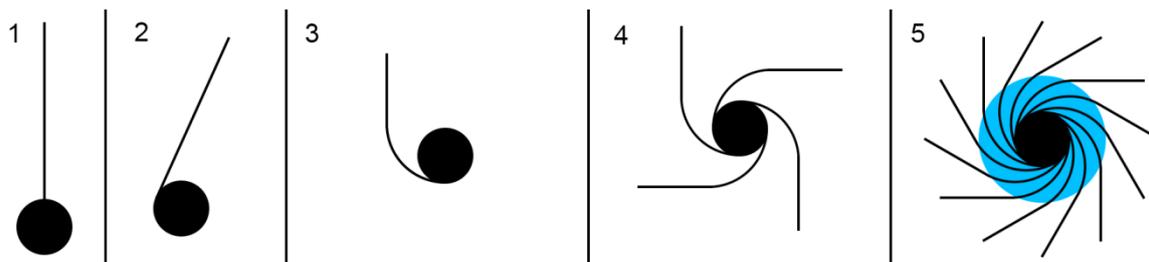
If astrophysicists ever manage to home in on a more accurate figure – or at least portrayal – we can revisit this, and, since we can never actually measure the mass, all they need to do is determine the rotational speed of the body, and we will then be able to calculate the mass. This shouldn't actually be so hard to do. I was also going to do the figures for neutron star PSR J1748-2446ad (catchy name) because it is the fastest spinning object every observed, rotating at a speed of nearly 161 million miles per hour with a circumference of 62 miles, but there aren't any images that give even a hint of what the Karman line would be, so for now, I can't do that one. Physicists need better optical instruments.

Going back to the graph showing the inverse square law in effect, let's refresh our memory:

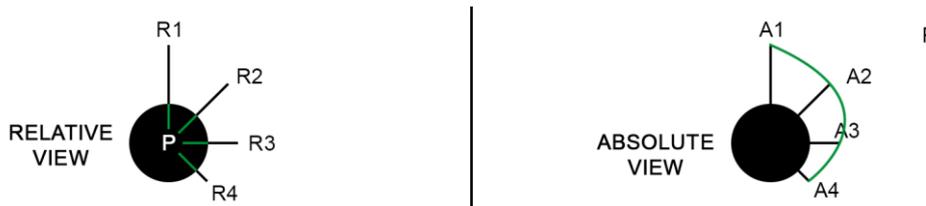


Wait... haven't we seen this *exact* same shape pattern before? Oh, yea...

In this image when we were looking at how the weakening strength of gravity would bend a rod at different points:



And again when looking at the shape of the path of falling objects:



Rigid-body vortices, graphs, rods, travel paths... are you *really* going to believe that this is all just physics' most amazing coincidence?

Back to the graph. The next thing this pattern allows us to do is determine an absolute value for the end of gravity and the start of microgravity. There are two ways to attempt a determination – both of which I'll describe – but only one actually makes sense, and we are going to use the magic found between the numbers one and zero to do it.

First, the magic:

The reason gravity extends infinitely is because it can never hit zero. This is the result of continuous division – you always get stuck between one and zero, with evermore zeroes being added between the decimal point and the first non-zero number after it. This will always be the straightest part of any gravitational curve diagram, and it will eventually reach a point where, though it does still curve, it will be impossible to determine without the most sensitive instruments man could make.

Fun fact: This is also why light travels forever, though the intensity continuously lowers.

Now, the methods:

- 100 Base (Relative) – Because the patterns are the same, it may be tempting to use a 100-base system (any number base could be used but, you know, why not 100?). It would see us set the surface strength with a value of 100, and then count off equidistant points until a certain number of points have been counted – in this case, 100 – at which point, "microgravity" is declared. This is based on the inverse square law formula, which requires a

set distance between each point. However, this is a terrible idea because it would solely declare microgravity relative to an individual body, and it would do so very badly. For example, if one body has a first point strength of 100, after 99 more points, its strength would be 0.01. However, if a second body had a first point strength of 100,000,000, it would have a strength of 10,000 at point 100. The flaw here is obvious – the strength at point 100 of the second body is greater than the first point strength (and, obviously, the surface strength) of the first body. Gravity could be declared "micro" in relation to the maximum strength of the body, but it couldn't be a universally applied value, making it pretty much useless. It was worth mentioning because someone would likely have come up with the same or similar idea, and I've just saved them the time and trouble of finding out that it won't work.

- Fixed Strength (Absolute) – So, the obvious way of doing this is simply to determine a gravitational strength at which microgravity must begin, and the simplest way is to set that strength as a '1' measurement – 1m/s^2 , 1cm/s^2 , 1mm/s^2 , $1\mu\text{m/s}^2$ – whatever floats your boat, but the smaller, the more accurate, and, to be honest, there's only really going to be one suitable measurement, given the degree of difference between each. Beyond the 1 measurement, it's all zero-point values, and, as pointed out, it will never hit zero, so it will extend infinitely, forever getting weaker.

Beyond the Karman line, things get a little more interesting because of the nature of vortices at this point – influence without dominance.

Some physicists of the past attempted to discredit the gravitational vortex theory because "objects in space do not always orbit in the same direction as the body they are orbiting spins," and this is 100% true, but they overlooked such a simple happening that we can see with any vortex, and we can go back to the bath tub (or a sink, if you wish, but a bath will be better) for the demonstration and explanation.

Many ideas come to me in the bath – I guess Archimedes and I have something in common other than an understanding of the universe, though we definitely do not share a love of mathematics.

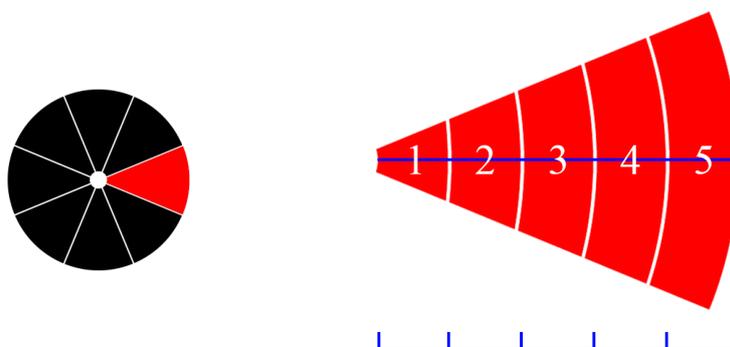
When you are draining a bath, what happens? The vortex forms. What should you notice once it appears? **That the entire bath/sink *doesn't* become a vortex.** You see the edge of the vortex where it meets the level body of water? That is, essentially, the liquid equivalent of the Karman line, and the level body of water is the equivalent of space. Now, the vortex still sends ripples through the body of water simply because it exists, causing rotational energy to be dispersed, and those ripples

weaken over distance. So, imagine there are two objects in the body of water – one as far away from the vortex as possible, and one very near it. What happens now? The closer object wobbles and bobbles its way towards the vortex until it falls in. Are we to assume that this is because of the water draining, pulling the object in? Well, that can't be the case because the object further away either moves towards the vortex much more slowly or not at all. It also can't be ripples bouncing back off the end of the bath and towards the vortex because they would be weaker than the ripples coming directly from the vortex, losing that battle.

We can also look at tornados to see the exact same behaviour. If you are close to it, you can feel it pulling you, but if you are far enough way, all you really experience is the feeling of a strong wind blowing. Go far enough away and you won't even notice it.

This is the exact same behaviour we see with bodies in space. Within the atmosphere, we are pulled towards the body at a noticeable speed, but, beyond the Karman line – the vortex boundary – things change, and the further away from it we go, the less we are pulled by the energy the vortex is creating, hence the phrase "influence without dominance".

This then brings us to needing to understand exactly how the rotational pressure created by vortices works, and it's very easy to explain and understand using a pizza slice:



Okay, so, because gravity is radial, any neighbouring intersecting lines of division will always get further away from each other as they extend, as is shown in the left image. When we extract this slice (slices can be any size – the principle still holds), as shown on the right, we then divided it into equal width sections based on a straight line, as shown, because each section has to be an equal increase in distance from the center. With the shape we now have, divided into sections, it's easy to see how pressure is built outwards.

The last remaining question here is: why do things move from areas of high pressure to low pressure? There are two ways to look at this – both of which can be taken as correct, but it depends on the type of particles involved:

1. The first way is a straightforward battle of strength – the area of high pressure versus the area of low pressure. Since the area of high pressure creates a stronger force, it simply overpowers the area of low pressure and is free to impose itself on the territory. However, this can only apply in matter versus matter situations because pressure cannot be exerted upon energy.
2. The second way is the path of least resistance, and this can be applied in situations of matter versus energy. Imagine an object positioned anywhere in space. Though gravity from all rotating bodies anywhere in the universe is pulling on the object, the object is going to be subjected to the inward pull of the body of the Hill sphere (*the area around a rotating body where said body's gravitational pull is the dominant gravitational force*) within which it sits because the gravitational forces from all other bodies combined that would be pulling the object away aren't strong enough over such vast distances. (*Don't worry, those whose nose tips turn up in protest. We will get to how objects move away from bodies, despite the Hill sphere, soon.*) Given this, the pressure build up behind the object caused by the Hill sphere body is going to be stronger than the pressure from any other angle, especially in front, and the path of least resistance is going to be towards to body of the Hill sphere.

On a side note, an interesting logical deduction can be derived from the superpositioning of particles and the resulting behaviour to explain intensity versus pressure, which is the basis of the inverse square law, relative to the dispersion of energy, and the equivalent of a bodybuilder versus a thousand children:

When energy is closer to the emission source, it is much more concentrated, and particles are much more superpositioned, making it stronger. As it moves further out, the particles are much more dispersed, decreasing the degree of superpositioning, but increasing the spread of the pressure it creates, and, as stated, this is the equivalent of a bodybuilder versus a thousand children.

This is a game of equivalences. Imagine the following:

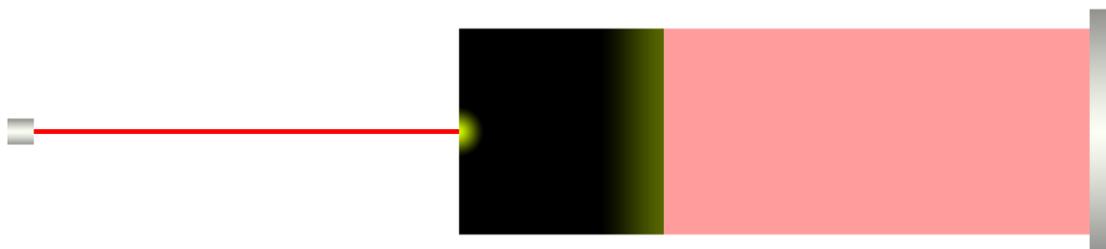
- Each child has $1/1000^{\text{th}}$ the strength of the body builder, which we will say is the equivalent of the intensity of an energy packet weakening at X distance.

- Since energy does not have a mass, regardless of the dispersion/concentration, we have to use the equivalent, meaning each kid has the exact same mass as the body builder. *Yes, the obesity crisis is prevalent even in thought experiments.*
- Over distance, energy weakens in intensity as it disperses, but does not vary in actual quantity unless red/blue shifting, so we're going to place all 1001 individuals in a vacuum room and give the bodybuilder and every kid the same amount of individual energy.
- Lastly, each child needs to occupy the same volume of space as the adult since, to make sure this is fair, the energy packet sizes would also need to occupy the same volume of space. Just to have a little fun with it, we'll use a team of Eric Cartmans on the Weight Gain 4000 mixed with Violet Beauregardes after she eats the three-course dinner gum and turns into a human blueberry. In case the references are unfamiliar to you, the kids are going to be as wide as they are tall.

Now, we can (thought) experiment:

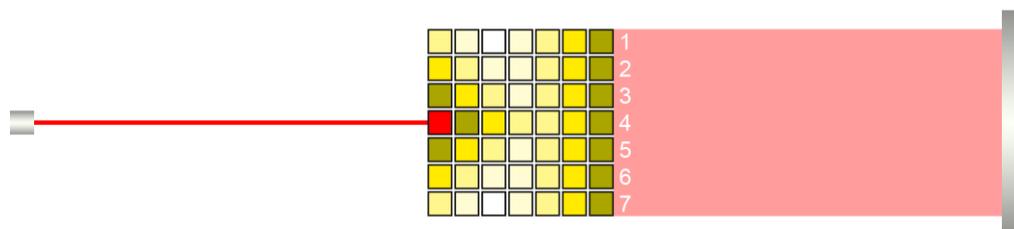
- In a battle of strength, a single volume of energy closer to source is going to be stronger in intensity than the same volume at any further distance, so, one on one, the bodybuilder is going to whoop a kid's ass.
- However, when it comes to pressure, one versus one thousand, weaker strength means nothing – a thousand kids creating a human dog pile will end such a situation with great ease.

Fucking weird, I know, but what this illustrates is that, if we have two groups of the same number of particles occupying different volumes of space, volume for volume, the group with more superpositioned particles is going to be stronger in terms of intensity – brightness for photons, pull for vortex pressure – but the group with less superpositioned particles is stronger in terms of created pressure. An actual experiment can be done to test this and explain why, too, and it looks like this:



Here, we're shooting two laser beams at a square object – one concentrated beam, and one as large as the face at which it is aimed – in vacuum room. The concentrated beam is representative of 100% intensity, while the large beam represents diminished intensity. What's going to happen? The concentrated laser is likely to burn through the object, while the laser on the right pushes the object to the left. The 'why' contains multiple factors:

1. The Dispersion of Energy – When photonic energy alone is used to move an object, the created kinetic energy must first be dispersed throughout the object, which occurs as an atom nudges the one in front, pulls all other atoms it is attached to, and emits energy to all those which surround it. If this dispersion doesn't occur, bonds can be broken, and the object breaks. In the above image, the energy dispersion is represented by the colour yellow. This is also a great way to understand how "kinetic" energy works – energy disperses, particles are nudged, particles are pulled, and an object moves and/or breaks. The object moves in the direction energy disperses in fastest, but can move in multiple directions, i.e. diagonally, if the two fastest directions are not in opposition.
2. Dispersion Time – How long it takes for kinetic energy to disperse to a degree that gets an object moving can completely vary the end result, regardless of the size of the beam. This one is simple – the energy has to disperse and get the object moving before the atoms in contact with the beam heat to a temperature that causes them to melt or sublime. Should note, this can still happen even if the object has been set in motion. Also, this factor can lead to breaking, too – if the energy is dispersed too quickly, the process essentially becomes violent as atoms viciously pull away from each other, causing bonds to break.
3. Concentration – How concentrated the point of impact of a force upon an object is controls the distribution of pressure created. The concentration of a beam, in a situation such as the one we are exploring, is relative to the overall width/height of an object, but not length. Why it's important is because the distribution of pressure, relative to the width/height, affects exactly what is pushed, when, and by how much.



In the above image, I've divided the object into multiple equal blocks, representative of atoms. The colour of any block represents the amount of pressure they experience – darker colour equals higher pressure. Because the concentrated beam only hits one block, the pressure acting upon that single block is responsible for moving every single block to the right, but since energy and the resulting pressure decreases as it travels through matter, the pressure from the laser on the left is too concentrated for the particles to move in unison equally, and so the red block that the laser is making contact with is going to be pushed more than the surrounding blocks, eventually resulting in it breaking bonds and actually being pushed inwards (if it doesn't heat up enough to change state first). From the right side, however, the blocks would move in unison equally because they are all being put under the same amount of pressure by the large laser. It goes without saying that all particles are assumed to be equal here. The end result of this factor for the image above can be determined simply by looking at the colours of the blocks on the ends of each row:

- Rows 1, 2, 6 and 7 will move to the left because the pressure from the right is stronger.
- Rows 3 and 5 will not move because the pressure is equalized on both ends.
- Row 4 will move to the right because the direct pressure from the concentrated laser is stronger.

It's now easy to understand why a laser can knock away an atom in an atomic fountain, but will happily burn through a wall... and many other everyday objects.

4. Particle Density – The object shown, based on the particle division shown in point 3 above, has a uniform particle distribution, so the same conditions are provided for the lasers on each side. In the real world, it is less than likely the conditions will be so perfectly the same on both sides, but, depending on the object and elemental composition, it is entirely possible. What's more likely, though, is that the particle density won't be perfect, which will affect all aspects of the dispersion, where the general principle is the higher the density, the slower the dispersion, and, as you can

imagine, if one side is more dense than the other, this can significantly affect the overall outcome.

5. Physical Resistance – The final factor (that I can currently think of, at least) is the physical resistance an object faces. Matter-based resistance causes a loss of kinetic energy that a force puts into a system via absorption (which is why I like to make the clear distinction between a force and a resistance – friction, for example, can never put kinetic energy into a system to make an object move, and we know it is absorbing energy because the friction-causing materials rise in temperature as energy is absorbed), but this isn't always possible when the resistance is actually another force putting energy into a system in the opposite direction. When an opposing force is matter based, the matter will absorb some of the energy from the object travelling in its direction, while putting energy back into it in the direction it itself is moving. For energy-based opposing forces, however, photonic energy cannot absorb kinetic energy, so the system is one way. For the experiment currently being explained, a photonic energy-based opposing force is used, and what happens is, again, something previously explained – kinetic energy moving in opposing directions either weakens or cancels each other out, depending on the strength, by modifying the movement of the atoms. And, yes, this too can lead to breaking. When the kinetic energy from opposing forces is dispersed unevenly – especially when the points of impact are not aligned – atoms in different areas move in different directions and at different speeds, and if two neighbouring atoms try to move in opposing directions too violently, the bond can break. You can see this in action by having two people punch a piece of plywood at the same time but from opposite sides. If they both hit the wood in the same spot from opposite sides, the forces cancel each other out, but if one hits the top while the other hits the bottom, it can snap.

So, in the experiment as it is shown above, energy from the concentrated beam, and the resulting pressure, because of the small surface area it covers, takes much longer to disperse compared to the larger beam and its larger surface area, meaning the larger beam has the advantage here, as well as when it comes to how efficiently and effectively it is dispersed, again due to the difference in surface area. Finally, the greater surface area of the larger beam creates a wider distribution of pressure over the entire face of the object, allowing it to push all particles on a given face at the same time and by the same amount, as opposed

to what happens with the concentrated beam, with it only actually pushing the few (or one) particles it is in contact with, and waiting for all other particles on the face to be pulled along to initiate movement, which themselves may face greater opposing pressure from the larger beam, depending on their exact position, resulting in the boring of a hole as the contact particles of the concentrated beam are pushed more to the right than the particles that surround them, and the surrounding particles being pushed to the left under the greater pressure of the larger beam.

If we modify the experiment so the beams are both the size of the face of the object, as shown, below, a different outcome occurs.



Here, the object is going to move to the right because, though the pressure distribution is the same, the dispersion time is the same, and the particle density is the same, the laser on the left is more intense, meaning it creates an overall greater pressure by emitting more superpositioned photons than the laser on the right over the same surface area.

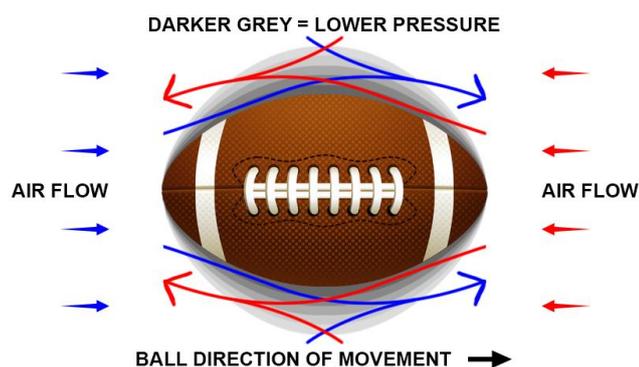
What this then implies is that there is a point at which a more intense beam, when covering a smaller surface area than its weaker counterpart, has a wide enough pressure distribution and quick enough energy distribution time to move an object against a weaker but wider beam.

Going back to baron particles, the best chance of finding the B1 particle is to take a quark or lepton, trap it in a position from which it will not be able to move, and blast it with a laser that is concentrated relative to the size of the particle. This should eventually force the particles that make it up to break apart and split, exactly how it is explained in the concentration section above. It would probably be best to recreate the exact experiment using a quark or lepton as the object sitting between an intense, concentrated laser beam, and a larger, weaker beam, in a tube precisely the height of the smallest dimension of the particle so that it lays down and cannot change position. Get it right and the particles it is composed of will be forced to move in different directions, breaking and separating into B1s

(or new particles which may even exist between the two, but that's a theory for another day). Once this has happened, we'll be able to find the B0 particle, as B1s will produce the lowest energy states physically possible.

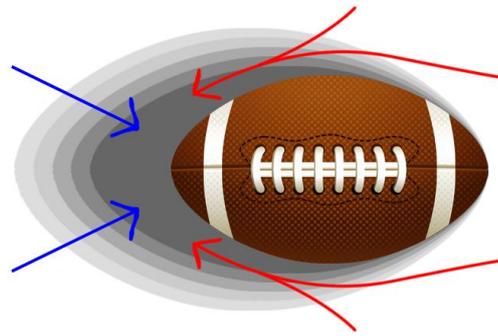
Back to pressure. Someone, somewhere, one last time, is going to then ask why is it that particles don't naturally emit gravitational energy, and, again, I'll give the same answer – pressure requires movement, and different types of movement create different types of pressure. Movement *through* space creates impact pressure which is always exerted outwards, while rotational movement creates *vortex* pressure which is exerted inwards, and yes, it is possible for both to be created simultaneously by moving a rotating object through space... and the perfect example of that is found in American football – or, to be precise, the spin players put on the ball when they throw it. Throwing the ball obviously means that there is going to be impact pressure when it lands or is caught, but the 'spiralling' – their term, not mine – creates vortex pressure that aids the balls in two very important ways in the hopes of it travelling as far as it can:

1. The first thing the vortex does is help stabilise the ball in flight. In order to equalise itself, the vortex has to attempt to stabilise the movement of that which is creating it. The stabilisation of the football increases accuracy because, assuming the player can actually throw correctly, the ball is more likely to travel along the expected path in the most aerodynamic position possible – nose first.
2. The second thing it does is improve the aerodynamics of the ball beyond throwing it nose first.



As the ball spins, it creates two connecting vortices – one on each end, just like polar vortices on celestial bodies – and a pressure imbalance around the ball occurs, as with any vortex. This causes air from the area of higher pressure to get sucked into the areas of lower pressure, and, because of the shape of the ball, flow up and over it from both ends. This shouldn't make much of a difference since air is being exchanged both ways, but, because

the ball is in motion, everything changes.



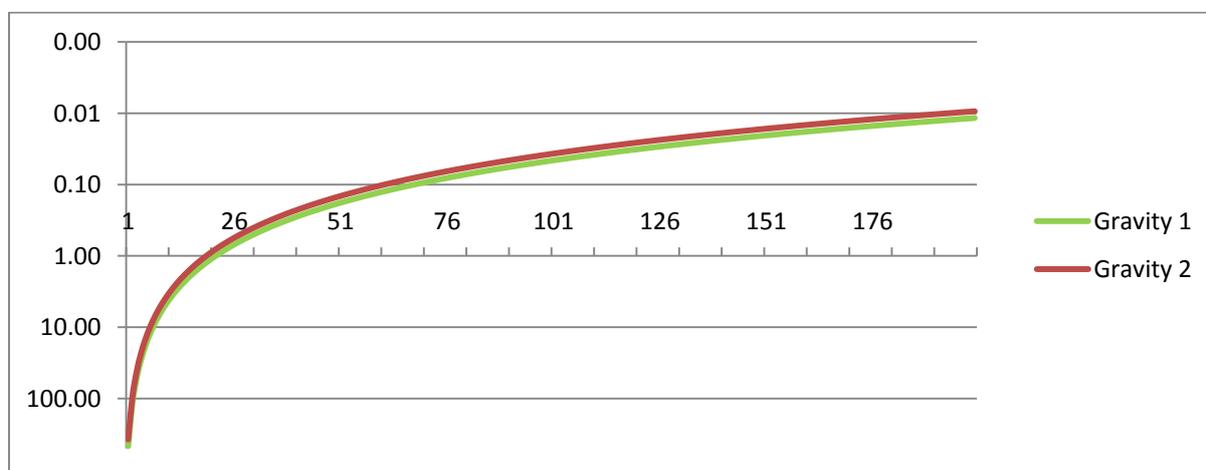
As the ball moves forward, the pressure of the air it comes into contact with begins to lower, while the pressure of the area of air it left behind begins to rise. However, neither of these events can happen instantly, so, in any given moment, the area of air behind the ball is lower than the area in front, and the area around the sides of the ball are a gradient of pressure with values between that of the air behind and in front. What this does is cause the higher pressure area air in front of and around the ball to continuously be sucked into the lower pressure area behind the ball, while the higher pressure area of air behind the ball is also sucked into the lower pressure area of air behind the ball. As a result, the ball encounters less air resistance than it normally would because the particles are being sucked out of the way due to the ball's rotation, meaning it slows down slower than it usually would and can reach a further distance. The faster the ball can be spun, the more aerodynamic it will be, and the less it will slow down in transit. Fluid dynamics wins again!

And, yea, these same mechanics are what keeps a spinning top from falling over (vortex stabilisation) and why bullets, when they were made to spin through rifling, travelled much further (vortex stabilisation and the suction effect). Every spinning object has increased stability due to vortex stabilization, hence why they are able to stand on a single point as thin as you can possibly imagine. We even see these mechanics in modern architecture with twisted buildings. With tall structures, there are times when wind vortices are created around them. For non-twisted buildings, the vortex causes the building to shake as it tries to stabilise itself, since it can't physically manipulate the building in a way that allows the building to match its movement and rotation. Twisted buildings, however, provide a guide path along which the vortex can build a rotation. This means that, though the vortex can't manipulate the building to match its movement, the building's shape can manipulate the vortex so that there is much more homogeneity between the two than if the building simply have straight faces. Since the building can't actually change the pressure around it, it can still move as the vortex rotates, but it will do so a lot less than if it wasn't twisted.

The Burj Khalifa took things a step further and just decided to destroy vortices altogether. The staggered design means any vortex will break apart at different altitudes, and since any vortex that doesn't have two openings (in the way polar vortices do) must have a base that touches a surface upon which it moves, anything above the altitude of the lowest staggered point just dies. The design doesn't even end there, as the three-point star design of the base means a vortex would need to have a non-rotating eye that is wide enough to not touch any of the three arms – not a simple feat. Then there's the obvious fact that the arms cut through any wind coming directly at them, so that helps. Collectively, the building's design is a nightmare for a vortex to deal with. It's rather genius to be honest.

So, what do we make of Erik Verlinde thinking that gravity is simply an emergent phenomenon of the universe? Ultimately, the theory is bullshit, as per usual, and just another piece of mathematical junk, but yes, gravity is an emergent phenomenon that is simply created by particle rotation, and is the name used to describe vortex pressure between celestial bodies. There's no difference between the behaviour of gravity, whirlpools, tornados/cyclones, bullet rifling, the physics of table tops, the spiralling of an American football, so on and so forth. Same phenomena, different applications for different purposes.

Okay, so back to the gravitational (vortex) curve diagram (again).



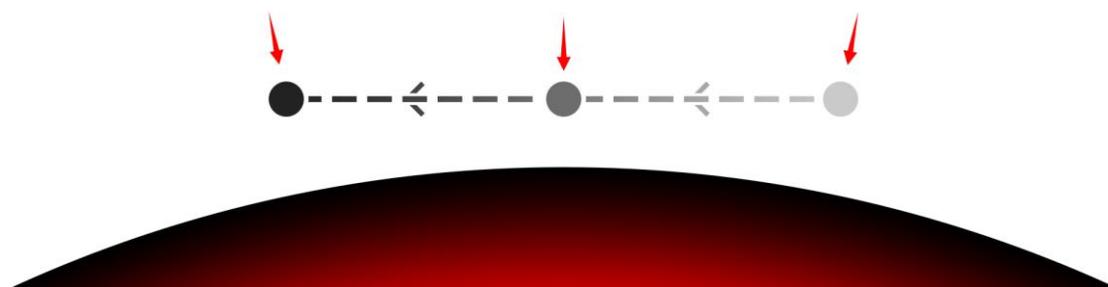
Once the Karman line is hit, the curve straightens out, and, though it never really becomes a perfectly straight line, it continues to straighten to the point where the curve is first imperceptible to the naked eye, and then imperceptible to any instruments we could possibly make. This near-straight line section is where microgravity exists, and this is what we will now focus on to explain the freedom of movement of objects that exist beyond a body's atmosphere.

Going back to the examples of tornados or bath tub whirlpools, we see that, beyond a certain point, objects are much freer to move as they wish. The same thing happens in space. The force of the gravitational pull is too small to have a significant bearing on an object the way it does within the atmosphere, but, due to the very nature of vortices, that doesn't mean it has no bearing at all, so now we have to look at the movement principles of objects within vortices, regardless of the distance. It's all basic physics and based on circular paths:

- Towards – Moving towards the vortex in a perpendicular (or near enough) line, the increasing intensity of the force causes the object to positively accelerate in the same direction, increasing the velocity continuously.
- Away – Moving away from a vortex in a perpendicular (or near enough) line, the decreasing intensity of the force means the object faces less resistance the further away it gets, allowing it to move more easily, but the fact that the vortex is still attempting to pull it backwards means it will continuously negatively accelerate, forever slowing down. Now, there would appear to be a conflict here – freer movement but forever slowing – but this is what allows objects to sail away from gravitational bodies without ever actually coming to a halt. These two factors essentially cancel each other out by reducing the kinetic energy in the object, but also reducing the kinetic energy requirement to maintain a given speed, and **this** is why bodies never stop moving – a mystery that has baffled physicists for years. Well, it's one of the ways a body is able to move forever. We'll get to the second in a minute.

In both of the situations above, objects will sway in the direction of the rotation of the vortex, as we saw in the absolute view diagram of an object falling towards a body.

- Across – Moving across a vortex is where the fun begins. Okay, so the first thing to understand is that nothing can naturally move in a curved line. It's physically impossible, which is why light only travels in a straight line in a vacuum – it can only be curved through interaction with transparent/translucent matter, and matter can only travel in a curved line when continuously being acted on by multiple forces so that it attempts to travel in multiple directions simultaneously, where the direction is continuously changing. Anyway, so a body is attempting to travel in a straight line outside of a spherical object emitting a pulling radial force.



In the above image, we have three grey circles. These all represent the same body but in different positions as it tries to move in a straight line from right to left, as indicated by the grey arrows on the grey dashed lines. This is the natural travel path of the object. The red arrows above each position point towards the center of the larger red body (of which we can see the top) and indicate the angle of gravitational force acting upon the grey body in each position. These two factors constantly exist, and, when combined, allow an orbital path to be defined as the orbiting body constantly tries to continue along a natural path, but is constantly redirected. Any basic simulation will show the resulting circular path.

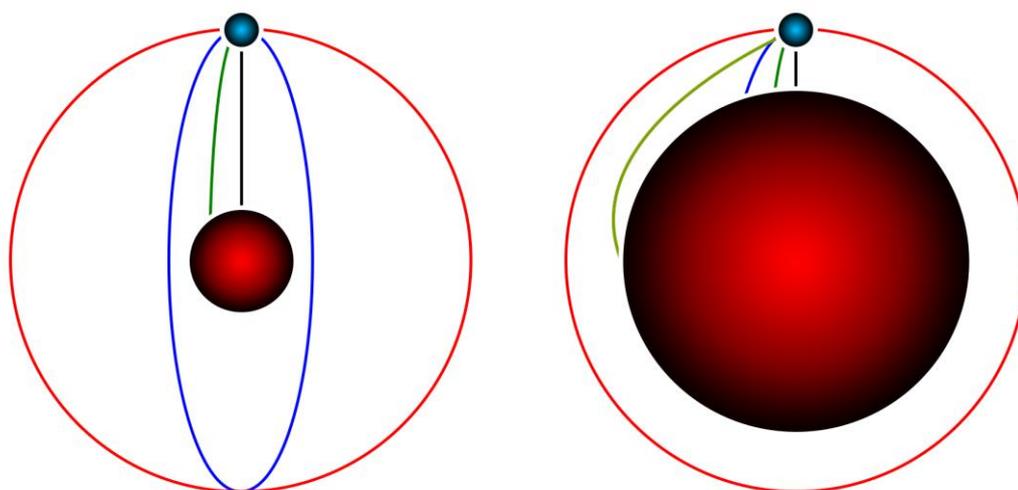
Next is understanding why the body never stops moving. What you need to know is this – no matter what, a force can never actually stop an object moving because, as long as it is active, it is continuously putting kinetic energy into the object. The only way for an object to stop moving is to encounter enough resistance for the kinetic energy to be absorbed, or to encounter an equally opposing force, causing the two kinetic energy flows to cancel out the movement the other would make, as I spoke of before. Since there isn't enough matter in space to stop a body through a resistance such as friction or air resistance, and a body moving across a vortex does not have a chance of being equally opposed by the gravitational force since it isn't moving away from the body in which it is orbiting in a perpendicular manner, it *has* to keep moving because there's nothing to draw the energy out of it. Couple this with the orbital path and you have an orbiting body that will never stop moving, but one last factor is in play to prevent the body from crashing into the body it orbits, and it's pressure.

Two systems of pressure exist here – that created by the gravitational field, and that created by the movement of the orbiting body – and a system related to that which creates gravitational waves comes into play, which involves the equalising of pressure. So, obviously, at X distance from the body being orbited (the parent), its gravitational force creates Y amount of pressure. An orbiting body (the child) creates Z amount of pressure as it moves. After that, it's just basic maths. If Y and Z are equal, the child is in a position of balance, and

its forced to move along the orbital path because neither has the upper hand. If Z is greater than Y, the child has the upper hand and will continue to sail through space along a curved path (because both forces are still in play) until it reaches a point where it is in balance, and then will begin orbiting. If Y is greater than Z, however, it's going to push the child back towards the parent. When a child is sailing through space and finally reaches a point where it is no longer the dominant pressure system of the two, it won't immediately stop and start orbiting because the kinetic energy still exists within. What will happen is the child will begin to slow and change direction, curving back towards the parent body. At that point, one of three things will happen:

- It reaches the balance point and simply follows a near-perfect orbital path;
- It sails past the parent, likely constantly repeating the process indefinitely; or
- It heads straight towards the body and ends up crashing.

The defining factor in the above three situations is the angle at which the child is travelling, relative to the position and size of the parent, when it is redirected. The below image will give you a clear idea of what I mean:



From the starting position of the child above the parent, we can see examples of the general orbital paths it could take, depending on the angle of movement. The red, blue, green, and black paths are exactly the same on the left and right, but the size of the parent body on the right prevents the child from forming a complete orbital path along the blue line, rather seeing it crash into the body instead. The orange line on the right diagram is representative of an orbital path that could possibly have completed... if the child didn't get caught within the atmosphere of the parent, leaving microgravity for its stronger counterpart, and crashing to the surface – much like we see with meteor(ite)s.

This is why asteroids tend not to orbit planets but will orbit the sun – given the speed at

which they move, the pressure they create will dominate the gravitational pressure created by bodies as small as most planets. The exceptions here are moons, if we are to believe that they are slow moving asteroids (entirely possible). The speed at which they move doesn't generate enough pressure for them to fly out of orbit, so, having found the perfect point of equality, they settled into a planetary orbit and were condemned to a life of repetition. Now, you may be wondering how a body of moving matter can create a lower pressure than that of a vortex, but this is just the nature of things. Vortex pressure, until it is equalised, constantly increases as you move further away from the source, and, based on the size of the vortices created by bodies such as planets, the pressure will be immense. There really is no end to how much can be created, and it's only really bound by the size of the Hill sphere. Last of all, let's take into consideration some realism – the fact that gravity isn't perfectly consistent for any given body, to be precise. This means that the distance any child body is from the parent it is orbiting will vary multiple times in a given "day" due to the created pressure differences – the length of the day being relative to the parent body in question – and the child's orbital path, while circular or elliptical, will actually be a very wave line.

If you're wondering why on earth we don't get sucked into a vortex when not moving against it, or aren't forced to move in circular orbits around it, it's because of the resistance that exists here but not in space – friction and air resistance. Create a simulation, remove those factors, and see just how much like celestial bodies we become when there's nothing to stop us from being pulled.

With all that out of the way, we must now revisit it for the explanation of directions. Once in microgravity, the direction in which a body travels really doesn't make much of a difference, but there is one – acceleration. A body that is moving in the same direction as the vortex is going to be in a constant state of positive acceleration, as the energy from the vortex is going to push the body in a similar, if not precise, direction to that in which it is already travelling. For a body moving against the vortex, it will be in a constant state of negative acceleration. In both situations, the acceleration isn't even something worth paying attention to on an everyday basis, but the significance of this is the fact that, at some point in the future – and we could be talking millions or billions of years – bodies moving against a vortex are bound to crash into the body in which they orbit as they are eventually reduced to a speed that doesn't allow them to maintain orbital motion, and bodies moving with the vortex are bound to get further and further away from the body they orbit because they will continuously be generating an increasing amount of pressure, allowing them to push through the boundaries of their orbit as they get stronger against the inward pressure from the gravitational pull.

**Lightbulb Moment* This is why the universe seems as though it is "expanding". Bodies moving with the vortex increase the distances between themselves and the body they orbit. Here's something I'm willing to bet that will serve as proof that no, the universe is not actually expanding – the increase in distance between any number of child bodies orbiting the same parent body does not follow any possible formula for expansion, i.e. the increases in distance appear to be completely random, rather than following some pattern or having a general constant for them all. Further proof can be obtained by monitoring bodies moving against a vortex – the distances will decrease by different measures, too. No one can say the universe is expanding if some distances are increasing while others are decreasing – it's physically impossible. Let me guess – now different parts of the universe can expand and contract individually, as if it is segmented? Gimme a god damn break. Also, for the universe to be expanding, the objects furthest out would need to move further out. Have we even seen the object furthest out? Nope. Is it possible for there to be a "furthest out object"? Not if the universe is infinite. Better still, what if an object furthest out did exist, but it was moving against the vortex of the body in which it orbits? This would then mean the universe was shrinking overall, no? Let's imagine we have a single circular object that is 10 centimetres wide. The object can expand and contract as a whole, but there are also parts of said object that could move individually without disturbing the rest. So, part X is located 2 centimetres from the center. It moves to a position that is 3 centimetres away, but the outer ring of the object has not moved and is still the perfect 10 centimetre diameter circle that it originally was. Has the object expanded? No. Neither has the universe.*

In light of all this, the conservation of linear momentum and the conservation of energy are both false. Fallacies in their entirety. We can disprove this using what physicists have already stated as true:

- Conservation of Momentum – A body must retain its momentum unless an external force (or resistance) is applied. Note that word – "external". They never said "contact" force, and gravity is an external force to all bodies that aren't creating it, as a body's motion cannot be subjected to its own gravitational pull. Ergo, one body's gravity is an external force to another, and depending on the direction of motion of the subjected body, its momentum will either increase or decrease as it accelerates positively or negatively, but it is **never** conserved. It's not possible for it to be if gravity has an infinite range and is present everywhere.
- Conservation of Energy – Adding on to the above, given that momentum can never be conserved, neither can energy. Gravity has an infinite radius, meaning an isolated system can exist nowhere in the universe, which then means that, in any position in the universe, a

body is being pulled by every other body in the universe, even if only by infinitesimal amounts, so it is always going to be increasing or decreasing in motion. For this to not be true, microgravity all around it would have to result in perfectly balanced pulling in perfectly opposing directions at all times – *impossible*. The total energy in a system will change by amounts virtually impossible to measure at all times, but it is never conserved, and the evidence has already been explained.

Despite what physicists have said, no, planets and moons do not "fall" towards the body they are orbiting and continuously miss because they are going so fast. That's as lazy an explanation as I've ever seen. Why do you think they have never been able to keep any orbital simulation running indefinitely? They all either fail to replicate what we observe, or are forced to show specific set behaviours, rather than be allowed to react as though it was all natural. So many factors not considered or understood. Seriously, come on, if "falling" was the case, every single body in our solar system would have crashed into the sun and been obliterated by now. One body can't fall towards another and miss it for what – billions of years? – without one of the bodies having to be repositioned to avoid collision. Even the simulations show this is true. Also, how on earth would bodies "fall" in near-circular orbits? How would bodies continuously fall in near-circular orbits forever? None of this has ever made any sense. Even the crappy example experiment I referenced eons ago now involving the balls and trampoline for the Relativity experiment show this. Angles of orbital paths would change every single year, would become more and more narrow every single year, and would be impossible to map. The universe would never have lasted this long.

Still not convinced? Okay, how about this. This "expansion of the universe" crap. So, let's assume this was true. If child bodies were falling towards the parent body, and energy was conserved, the two furthest points of its orbital path would have to stay the exact same distance from the parent every time. Now, if the universe is expanding, this means that the child bodies are getting further and further away from the parent, which implies that they would need to be falling with greater speed every single time in order to generate enough force to increase the distance. Hmm – given current theory, wouldn't this horrifically violate Newton's laws of motion? If energy is conserved, where would the additional energy have come from that enabled the body to travel faster in order to resist the gravitational pull of the parent body and travel further? This is better than perpetual motion! We would actually have a system that doesn't output as much energy as it takes in, but actually ends up producing more! I guess it can't be real then. Jeez, that was *almost* exciting.

Well, there is one other way possible... If you wish to state that either the parent body is losing gravitational strength, or bodies beyond the child are increasing in gravitational strength and pulling it away... Silly me, of course that is the case...

Physicists argue against their own maths when it doesn't give them the satisfaction they need, but will continue to back the theory that clearly doesn't work. I swear, you really can't make this shit up.

So, the next question in this never-ending line of questioning that is boring me to death is: what exactly defines the movement of major bodies such as stars and planets? Two different occurrences at two different points in a body's life:

1. Formation – This is entirely random because there are multiple factors that can come into play – solar wind; the direction of a gravitational vortex; particle collisions that can change the path of travel, such as that of two clouds, where the one generating the greater force absorbs and redirects the other; photon impact; gravitational 'waves', as the changing pressure differences, given that they can be detected here on earth when they occur however many light years away, can most definitely push and pull clouds.
2. Destruction – Now, there is method to *this* madness. Look at these images and tell me what you see:



The image on the left depicts Supernova 2008D, while the one on the right is an artist's impression of one. So, besides the colours and the explosion, what do you notice? What in these images could affect the movement of a body? One word: inequality.

Anyone who has ever really paid attention to anything exploding, whether it be in real life or on screen, knows that matter scatters in all available directions, but never equally. If you record an explosion and play it back in slow motion, you'll see that the dispersing matter does not form any sort of perfect shape which would indicate that the force is equal and

consistent throughout, but usually forms highly irregular shapes, as seen above. This means that the explosive force in some positions are greater than others, and, however one wishes to segment a body, the segment with the highest explosive force is going to create the greatest thrust, and have the greatest impact on the direction of movement of the remnant that is left. For example, if we consider an object that is perfectly equal in all properties to have two hemispheres – left and right – and it explodes, with the left hemisphere producing a force of X and the right producing a force of X minus 1, the body is going to move to the right. The same mechanics are going to apply when a supernova occurs. In fact, this is the most likely reason, and best possible logical explanation for, why some child bodies orbit in the opposite direction to the rotation and gravitational vortex of the parent. It is worth noting that all of this can happen with normal novae, too. Any cosmic explosion will work.

As tempting a thought it may be, space cannot be treated as if it is a giant pool/snooker/billiards table. Two bodies crashing into each other at the perfect angle will not send either of them flying in the opposite direction of the vortex. If they are two gravitational bodies, they'll hold onto each other as lovers do until one destroys the other or they both destroy each other through opposing gravitational forces. I guess love is universal. If only one is a gravitational body, the other has a chance of escaping, depending on the speed and angle of impact. If the angle is perpendicular, though, and it manages to survive the fall without burning up – à la meteorites – it's going to sit on the body's surface like a leech on the arse of a billionaire. See, love, universal. Either way, on such scales, anything creating enough force to make a body begin orbiting in the opposite direction is probably going to destroy the body before it has a chance to. The impact crater will be unbelievably huge; depending on the elemental composition, the atmosphere could end up igniting; depending on the internal structure, it could implode; one body may rip straight through the other, destroying the core and shattering the entire body into pieces; a shockwave could create fissures and air vents that cause violent volcanic eruptions until the body ends up tearing itself apart. A body being forced to travel in the opposite direction is probably the least likely thing to happen.

When looking at the gravitational curve line, the furthest point of the line in any direction, which denotes the edge of a body's Hill sphere, is determined by the point of gravitational equalisation between two bodies. To map the Hill sphere, you'd need to roughly determine the gravitational strength of surrounding bodies, calculate the distance between the body you wish to map the

sphere for and each surrounding body, use the inverse square law to calculate the gravitational strength of a body at specific distances away, and then find the point where both strengths are perfectly equal. Despite the name, the Hill sphere will never actually be spherical in shape, given the fact that spheres can't perfectly fit together and we can't have "gravity gaps", and it will also change shape as it and other bodies change both their orientations and their positions. The Hill sphere is, really, anything *but* a sphere. Awful name.

Last of all, we will revisit atmospheric lensing. To precisely (or as accurately as possible) calculate the atmospheric lensing of one body around another, do the following:

- Determine the atmospheric compression so you have a good idea of how many particles a beam of light may have to pass through, on average, as it travels through the atmosphere.
- I can't remember what it is called, but use the coloured light method to determine the gases an atmosphere is composed of. (*Basically, as light passes through gas particles, its colour varies depending on the elements it passes through. This is how astrophysicists determine the make-up of atmospheres on other bodies.*) This will help you determine the base refractive indices.
- Use infrared sensors to determine the temperatures of the atmosphere at different points. This allows you to determine the directions in which light is bending as it passes through, and the path it takes.

Throw whatever data you have been able to gather into some modelling software and, as long as you have the a general list of refractive indices for different gas particles, and a formula for the change in angle at different temperatures, the computer will be able to fill in any gaps based on the precise locations of the actual body and each of its lensed apparent positions. Fun.

Building the Universe

This will be fun for those interested. We'll never come to know how the first barons came into existence, but we can build the universe from that point onwards.

Running a simulation model, we can combine the UPF with the cosmological model and watch as a universe builds itself, without needing to cheat by forcing specific interactions (such as telling a planet to orbit a star indefinitely, no matter what). Only the mechanics need be implemented – how particles bond, requirements for specific force energy creation, effective ranges, refraction etc.

Once all that has been put together, just hit run. The universe will build itself from the barons up, and we'll see a simulated universe equal to that of the universe in which we exist. Sure, it won't be a mirror image, but we'll see the same behaviours, as well as anomalies that we are yet to come across. This simulation will provide the best possible predictions of things we are yet to discover, and we can run it again and again to see what the many possibilities are, and to work out probabilities of events and objects.

Back to the Absolute Constants

So, the numbers and the definitions:

- Absolute Light – 186,282 miles per second in a vacuum.
- Relative Light – The speed at which light travels through a material.
- Absolute Space – 186,282 miles or an absolute equivalent based on time passed as light travels through a vacuum.
- Relative Space – A calculation of distance based on how many units of absolute space goes into a single unit of a relative measurement based on two objects.
- Absolute Time – 1 second or an absolute equivalent based on distance of light travelled within a vacuum.
- Relative Time – A calculation of duration based on how many units of absolute time goes into a single unit of a relative measurement based on two events.

The general rule is that anything relative must have the ability to be subjected to change, while anything absolute must not. So, for instance:

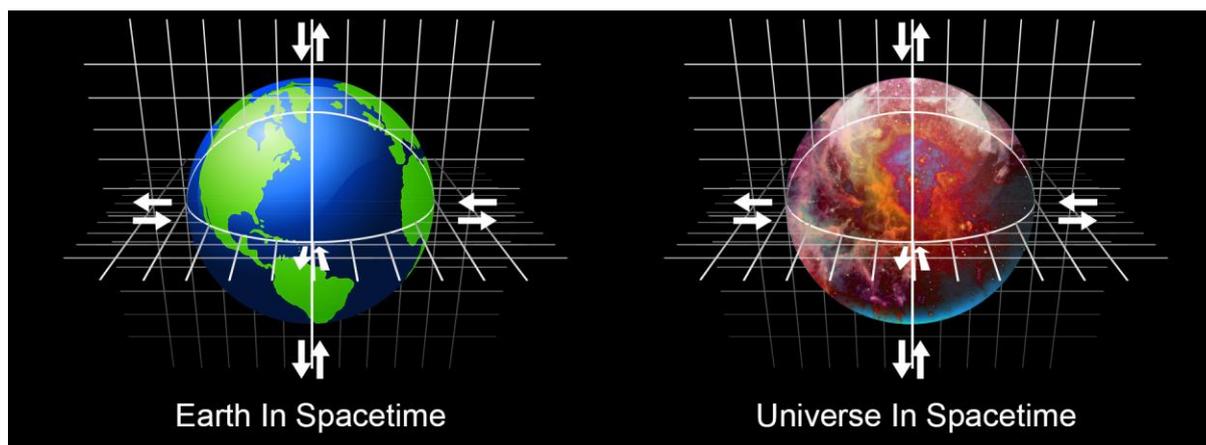
- Relative time could be 1 television episode, where on one day an episode is 43 minutes long and on another day it is only 41 minutes. They both have different a number of absolute time units in them, but each is still only '1 episode'. The time is relative to any specific episode.
- Relative space could be the braking distance for a car. There is no fixed measurement, and many factors come into play when determining the braking distance for any car, such as the current speed, mass, current terrain, weather etc. The space is relative to any specific car in specific conditions.

Absolute equivalence is easy. Both duration and distance, when multiplied by the same number, must equal the absolute constant of light – 186,282 miles per second.

The Takeaway

Time – as we measure it in general – is fine. No one cares about the infinitesimal differences that gravity or the atmosphere would cause on the operation of a clock at the height of 2 feet versus one at 6 feet above ground level, but in relation to physics, it's wrong. The atomic clock and the light clock may be very accurate at a single level, but prove time dilation they do not.

Spacetime, overall, looks like this:



Objects exist *in* spacetime, not *on*, and neither space nor time is bent – the physics of the situation do not add up unless you attempt to force it to, like pushing together two puzzle pieces that do not actually go together. Spacetime is omnidirectional, as is shown by the freedom of movement light shows us every second of every day, regardless of whether you want to deal with satellites, moons, planets, or stars, in any combination.

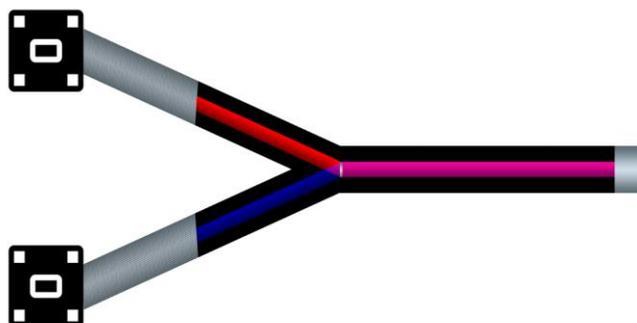
Separately, space and time are required to enable the possibility of existence and movement in the universe. Light is required to measure the absolutes of both. However, space, time, matter, and energy are all interdependent – remove one and the entire universe collapses.

Gravity doesn't bend or otherwise affect light – at least not directly. Gravity affects matter in the atmosphere, and the population density of matter in the atmosphere, combined with the spacing between particles, is what causes light to bend, and controls the degree of said bend. This applies throughout the universe, including around "black holes" and every other celestial body.

Nothing travels faster than light – it can be slowed down due to the density of mediums, but not in a vacuum.

It's terrible to use any matter-based objects to argue against absolute constants because matter – and anything requiring the use of matter – can only be relative, due to the fact that, in a vacuum, it's possible for their motion to change.

Just for Kicks 1: Hyperbits: Beyond Quantum Computing



I figured this out accidentally, based on the proof on absolute time. Earlier I introduced you to the Collimated Light Laser clock, and here is its sibling. This, ladies and gentlemen, is a hyper quantum bit – hyperbit, for short – and I immediately know that some people reading this have figured out where I'm going with this already, just by looking at the image. Allow me to explain.

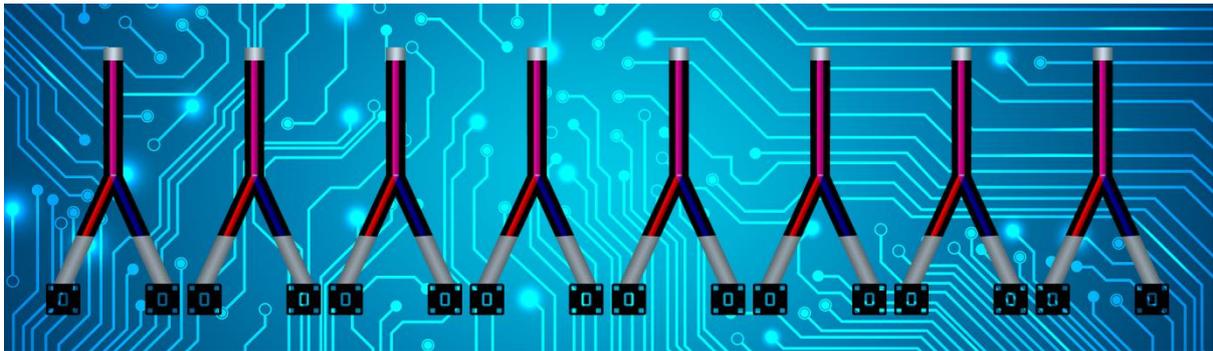
As before, we have two lasers, but this time of different strengths, a collimating lens, and a detector. Mirrors can also be used instead of a collimating lens in this case, in a setup something like this:



Again, we can thank photon superposition for this. They also don't need to overlap here – as long as they both make contact with the detector, it's fine.

The tube need not be a vacuum, but for best results it should be, and if you've been paying attention, you'll understand why. Those square boxes on the end of each laser are switches. These switches turn each laser on and off. They can be anything, including transistors, as long as they can turn the laser on and off using any method. The detector on the end, rather than detecting interference points, reacts to pressure values. Lasers of different strengths result in different impact pressures – you simply calibrate the detector to have a bit value based on the total impact pressure. The detector itself can literally be anything that reacts to specific amounts of pressure – something

as simple as a tiny spring board that compresses by different amounts depending on pressure felt. Then, you would have a value set based entirely on the compression value of the spring. You could also use tiny cantilevers that become more sensitive the smaller they get, the likes of which the Japanese have been working, which is pretty awesome given that these will have to fit onto a CPU and be sensitive enough to feel the pressure of a laser beam. Literally anything that is sensitive enough to react to this degree of pressure can be used.



For any single two-laser hyperbit you have 4 possible values – 0 (off), A, B, and AB. You want to know the significance of this? Let's look at the possible combinations between 2, 3, and 4 state bit systems:

- 8 bits? **256**. 8 qubits? **6,561**. 8 of these hyperbits? **65,536**.
- 16? **65,536** versus 43,046,721 versus **4,294,967,296**. Yes, 65 thousand compared to 43 million compared to 4.2 billion.
- 32? **4,294,967,296** versus **1,853,020,188,851,841** (1.9 quadrillion) versus **18,446,744,073,709,551,616** (18.4 quintillion).
- 64? **18,446,744,073,709,551,616** versus **3,433,683,820,292,512,484,657,849,089,281** (3.4 nonillion) versus **340,282,366,920,938,463,463,374,607,431,768,211,456** (340 undecillion – yep, it's new to me as well). This very large number is the same amount of IPv6 addresses there are, apparently, or, to quote what a Mr Steve Leibson wrote in an EDN web article, "we could assign a combination to EVERY ATOM ON THE SURFACE OF THE EARTH, and still have enough combinations left to do another 100+ earths." Yea, so, I can't verify how many atoms are on the surface of the earth, but the number is still fucking huge.

If you used three individual beams, you'd be able to achieve eight states of pressure – 0, A, B, C, AB, AC, BC, ABC. Four individual beams? Sixteen states – 0, A, B, C, D, AB, AC, AD, BC, BD, CD, ABC, ABD, ACD, BCD, ABCD. *More lasers, more states – it's like magic.* There's really no point in writing out the number of possible combinations, though, but use your imagination.

Careful, though, as you'd need to make sure multiple lasers don't equal the same value as a single. For example, if the laser pressures were 1, 2, and 3, 1 and 2 being on would create the same pressure as just 3, which is bad for computation, so be careful of that. If I'm correct in my thinking, using the standard doubling convention would ensure no two lasers ever create the same total pressure, while collectively being able to create every possible value up to the total value of all lasers combined. So, for instance, laser values of 1, 2, 4, and 8 would give us:

Laser Values	Pressure Value
None	0
1	1
2	2
1 and 2	3
4	4
1 and 4	5
2 and 4	6
1 and 2 and 4	7
8	8
1 and 8	9
2 and 8	10
1 and 2 and 8	11
4 and 8	12
1 and 4 and 8	13
2 and 4 and 8	14
1 and 2 and 4 and 8	15

Calibrate 16 states for the hyperbit detector and you are good to go.

It's easy to see why I went with the name "hyperbits". In mathematics, "hyper" is a prefix used to denote four or more dimensions – the most basic hyperbit has four states. Hyper is also used to describe something way beyond normal measure – let's be honest, these eviscerate quantum bits, supercomputers, and quantum supercomputers already. If I'm correct in my thinking – and I think I am – one single 64-hyperbit chip is more powerful than every computer ever in existence combined. Put that in your smartphone... and never take it off the nuclear charger it will require.

I have no idea why physicists and engineers have spent so long trying to get atoms to hold in a third state or something. I mean, really, it's completely unnecessary. Complex does not need to be complicated, but it seems that people always seem to go for the most complicated method possible. Me... I'm all about efficiency, and there's great power in knowing and understanding both *real* physics and multiple types of design.

So, how fast could a computer turn a laser on and off? That's how quickly the value of any single hyperbit can change. Need to turn on multiple lasers at the same time? One method is to use switches that require minimum strengths of electrical current for activation. Split a single current path to each switch and vary the current passing through. If one switch requires 1 amp to activate, and the other requires 2 amps, a 1 amp current will only activate one switch, but a 2 amp will activate both.

Then there's stability. Using switches that can remain in a state – the same way bits are magnetised or not in a hard drive, for example – hyperbits can remain in the last used state even when the device is turned off, meaning it doesn't only have to be used for on-demand processing, but can also be used for data storage, and that would be one hell of a solid-state drive with some serious storage capacity. We already have the technology for such abilities. Expect to not be able to afford the first ones made available. Coming soon to a store probably nowhere near you.

Who the hell needs a qubit when you have... *this*? The world hasn't even found a way to commercialise quantum computers, and now hyper computers are going to be on the way. They will be cheaper, faster, smaller, much more powerful, more stable, and more reliable than having to depend on the polarization of particles or any of the other methods chosen. Everyone is rushing to build huge quantum computers, hoping one day to make them small enough to fit in portable devices – basically repeating everything that was done with original computers. Let's skip the bullshit theatrics and just go straight to the end of the story. In 2009, an article was published about a 'spaser' – the world's smallest laser, created by researchers from Purdue, Norfolk State, and Cornell universities, which used gold nanoparticles to create light. This means it is possible to, today, create the laser part of a hyperbit small enough to fit inside a portable device, and at that size, we can fit *a lot* of them inside a single device. In 2016, physicists at the Pierre and Marie Curie University created the world's smallest mirror, consisting of two thousand caesium atoms. To put that into perspective, a single grain of sand can easily contain 50 quintillion atoms. As a number, that's 50,000,000,000,000,000,000 compared to a mirror made of 2000. Yea, there's definitely more than enough space to fit lasers/spasers and nano mirrors in a portable device. Once a suitable pressure

detection system is created, hyperbit computing – or "hypercomputing" – achieves what quantum computing wouldn't even have the processing power to dream of, and it will do so using an object that makes a grain of sand look like it needs to go to fat camp.

Magnetism and transistors gave us two-state binary computing. Complicated Quantum Mechanics and quantum states gave us three-state quantum computing. Simplified Quantum Mechanics and some expert design knowledge give us "as-many-states-as-we-wish" hypercomputing, where the increase in lasers per bit creates an exponential increase in the number of numerical possibilities.

Come to think of it, you could build a hyperbit using any mechanism which allows for single-value creation and measuring from multiple values. Mirrors, collimating lenses and such are just excess work. For example, by connecting multiple wires to an instrument such as an ammeter and using only the reading, you can achieve the same results, as long as you can turn the flow through each wire on and off, and can control the current passing through. If you can't guarantee the precise current flowing, you'd have to calibrate it for a range. The downside to many of these other methods is the increased propensity for failure, which, even by the tiniest amount, could easily lead to data corruption, failed execution of instructions, the wrong execution of instructions etc, as well as the constant need to recalibrate the measuring device, depending on what is used. With lasers, photons, and vacuum space, you are much less likely to encounter these issues and can guarantee they will work absolutely fine on earth, in space, or on another other celestial body because the photons won't be affected by gravitational pull. Point multiple lasers/spasers to a single measuring point (doesn't even have to be an overlapping physical point), measure, interpret value. Done. *To infinity...*

I should point out that you can make a three-state version of this simply by using two lasers of the same strength. Though you'll still have 0, A, B, and AB, A and B will have the same value, so it will be more like 0, A/B, AB. The question is why would you want to?

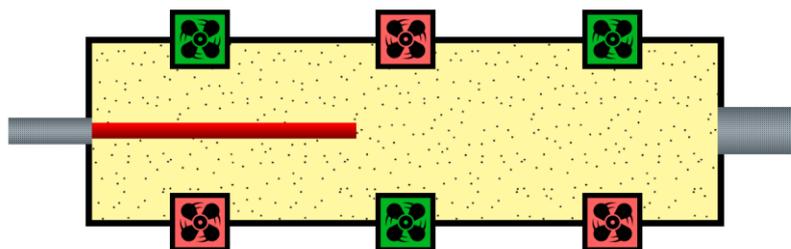
Still, I currently know fuck all about creating the rest of the architecture of any sort of chip or circuit because I haven't yet had the chance to study electrical/electronic engineering or chip fabrication, so the rest is up to you. For now, my work here is done.

Just for Kicks 2: Quantum Encryption

On September 8th 2016, articles surfaced about students from the ICFO – The Institute of Photonic Sciences in Barcelona – creating a new chip that uses encryption based on the "quantum properties of light", and it is said that it could bring the highest level of encryption to any mobile device. I read the article on the 16th, if I remember correctly, when the Daily Mail wrote about it (I'm telling you, I

really don't keep up with any of this). It took me less than an hour to design an encryption system more random than theirs, and as close to *impossible* to crack as is possible, using the information we have already gone through in this document.

Now, their encryption works based on the "quantum properties of light" to generate random number encryption keys, using lasers, interferometers, and a bunch of other devices. Let me show you how to do it better:



This bad boy right here is the king of all randomisation devices. On the left, we have a laser, and on the right, we have a detector. Between the two, we have gas particles floating around inside the container. Around the edges of the container, we have insertion and extraction systems, such as fans. Any number you like can be used, and they can be positioned anywhere. They're used to change the number of particles within the container at any given time, and can be operated in any fixed or pseudo random pattern you wish. The laser shoots a beam towards the detector. Between laser and detector, the beam has to interact with the gas particles, and this is where our natural randomness comes from. From here, we can generate a random key in multiple ways:

- Wavelength – A key can be generated based on the precise wavelength of the incoming photons. Using their ability to red and blue shift, simply allow the beam to pass through the particle field. Shifting will occur, and an encryption algorithm will use the precise wavelength value to generate the key. There are a few tricks that make this work:
 - Population – The insertion and extraction mechanism changes the population of gas particles within the particle field, which affects how much shifting occurs, if any occurs at all (enough extraction would create a vacuum). Needless to say, the device must be air tight, with vents only opening to allow the change of population when the insertion and extraction systems are in use, in order to prevent the field equalizing with the air around it.
 - Device Orientation – The orientation of the device changes the probability of the type of shifting which will occur. Due to gravity, if the laser is pointing upwards,

redshifting will occur, and blueshifting if the laser points downwards. When horizontal, however, red and blue shifting is entirely random as it depends on the particular positions and proximities of particles within the field through which the beam passes, meaning that both red and blue shifting can occur in a single pass, numerous times, and in any order.

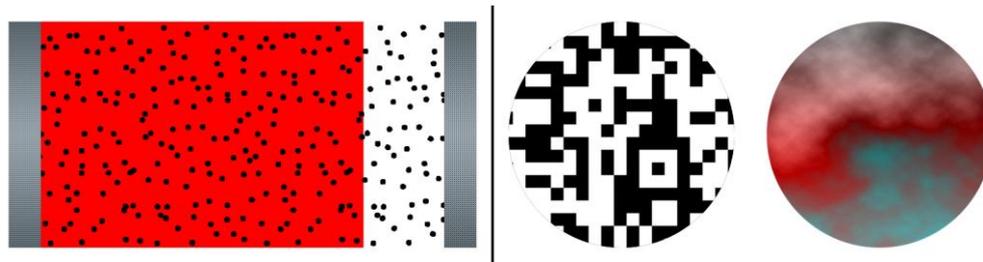
- Altitude – Depending on your altitude, the population density of air around you changes, which will affect the average number of particles moving in and out of the particle field, and how many particles the beam interacts with.

Your encryption key will change based on how many particles are in the particle field at any given moment in time, your general altitude, and how you are holding your device – there's probably more available factors, but you get the idea. However, this may be very difficult for now, or even just too much hassle, given how sensitive and micro-sized the detector will need to be, so there is a better option.

- Shadow Encryption – This is the better option and is immediately possible, but there are a couple more requirements in specific cases – a controlled environment, and particles that can successfully block or alter light significantly. The idea here is very simple – the laser beam is fired, and particles smaller (the smaller the better) than the face of the beam blocks out or alters the photons with which they interact. When the light hits the detector, it will create an unpredictable pattern of light and shadow.

This can also be done with tiny objects floating in a liquid, and could work well for smart devices, given that you'll constantly cause changes to the positions of particles as you use your device – something akin to the shaking of a snow globe – but no one wants to need to shake their phone before they send data. I guess, however, another fan or distribution system could be used to disperse the particles, and that would actually work.

To further increase the degree of randomness, we can add some colour to the mix using coloured gases, or coloured crystals in the liquid version. Then, if using a white light laser, the resulting pattern would be white, grey, and whatever colour the particles were through which light passed, as they would have blocked out the wavelengths of all light other than that which matched their own colour. If a non-white laser was used which was different in colour to the particles, the resulting pattern would be the colour of the laser and black.



The results will be something that resembles QR codes or clouds, depending on the type of detector used, the number of particles, any clustering, whether coloured particles were used etc. Convert those to a value based on as much detail of the pattern as possible and you have your encryption key.

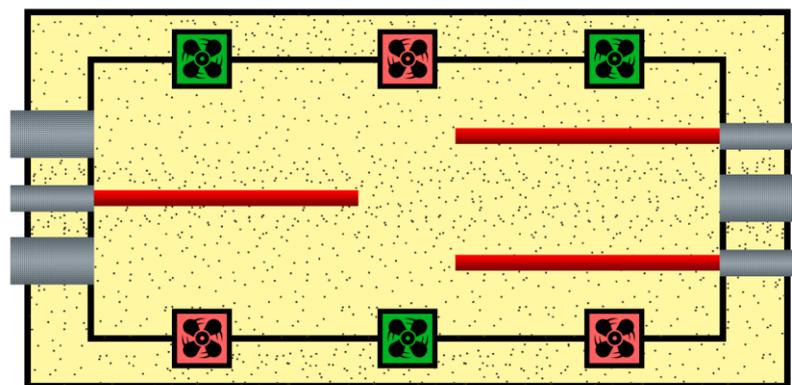
The reason for the controlled environment is that you can't let the coloured gases escape, otherwise they'll be replaced with colourless gas particles which make up air, and that then means the device will have to rely on absorption, refraction, and intensity. It would still work if the detector was sensitive enough, but it's less than ideal. Also, if liquids are used, you obviously can't let the liquids spill out of the device and potentially destroy other electronic components. The best way to use a controlled environment is to have an outer particle field chamber that encompasses the inner field and the insertion and extraction mechanisms. This way, particles can be transferred between inner and outer fields without any being lost, and the population of the inner field can be changed at any given time to ensure the pattern is as random as possible.

Overall, this device is faster to use than the one the students designed – much like with hyperbits, all you have to do is turn the laser on and off – and it's as random as is possible – who can really predict the exact number of particles the beam will interact with, the most likely multiple changes in work rate pattern, the positioning of particles to guess the correct pattern generated, colours used, and the algorithm used to generate the resulting value? More than one laser and detector can be also be used, and lasers can be fired randomly. Detectors can even use different pseudo-randomly generated algorithms for every device just to further increase difficulty, and then have the algorithm in use change at any given point. For anyone to crack this encryption, you'd have to make the wildest guess in the world and be the luckiest son of a bitch the universe has ever birthed. Not even knowing the encryption algorithm, dismantling the device, and inspecting it can reveal any hint of what the key may be for any piece of data. Implement some sort of data self-destruction or

termination mechanism for X amount of incorrect key entries and it will be like the data never existed, should it be intercepted and fall into the wrong hands.

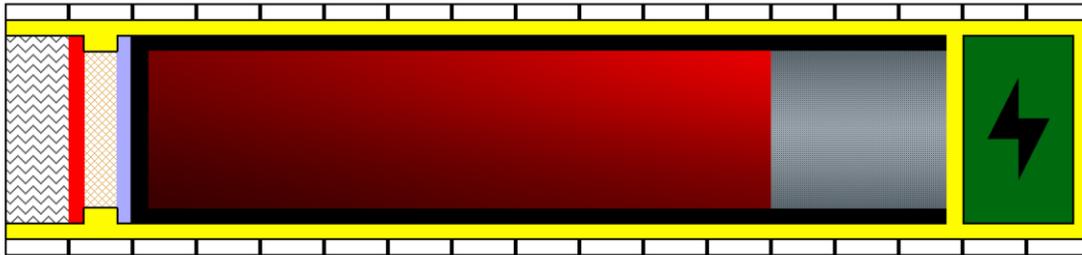
When it's done, just throw it in smart devices, home computers, security key fobs, remote locking systems for cars, anything else that exists etc, and go about your day knowing that your data or security being compromised is – literally – one of the least possible and probably occurrences in the universe.

And here's a visual depiction of a much more secure version, with multiple lasers and detectors, and an outer particle field:



Just for Kicks 3: Quantum Laser Driven Engine

So, the EmDrive. I read an article on December 20th 2017 about this – the second of its kind that I had come across – and it stated that Chinese physicists had created a prototype capable of demonstrating the possibility. The first time I came across such an article, I called bullshit. An engine said to create thrust without any propellant? "Impossible!" and "Pseudoscience!" are two words many scientists like to use to describe such a device, and I thought the same. Why? Because they defy the laws of physics as currently understood. I wasn't a believer, either, until I came across the article a second time, and I immediately knew how to explain the phenomenon because I had already covered everything that we need to know to build the "impossible" in this document, so let's get straight into it.



This... is said engine. Looks crazy for an engine design, right? I wasn't going to bother drawing a 3D schematic of one, so I coloured coded it all instead:

- White Rectangles – Solar panels.
- Yellow – Area for running wires and piping (if any).
- Green – Power source.
- Grey – Laser unit.
- Red/Dark Red Gradient – Laser beam.
- Black – Laser chamber with dark coloured walls.
- Blue/Crosshatch/Bright Red/Zigzags – Thermoelectric Cooler and Generator:
 - Blue – Side where heat is absorbed.
 - Crosshatch – P-type and N-type semiconductors.
 - Bright Red – Side where heat is released.
 - Zigzags – Additional cooling mechanism / heat exchanger for more effective heat transfer.

How (and Why) It Works:

- Energy from the power source is used to power the laser.
- The laser is fired inside the laser chamber. Here, we are using one of the greatest traits of energy – *it requires nothing to move*. It has natural momentum, **which is why we do not need any sort of propellant to create thrust**. Photons have their own natural thrust to propel them across the laser chamber – it's simply a feature of their existence – and, unlike matter, it doesn't need to push off of something to move forward, which is why, as previously explained, Newton's third law was not completely correct, as it *only* applies to matter (and even then, only in specific cases, which I'll finalise later). When they hit the inside of the chamber, the impact exerts pressure, creating kinetic energy, which is what creates the drive forward, but since matter cannot exert pressure upon light, no pressure can be exerted backwards along the photon stream to equal the movement in the opposing

direction, and *this* is the magic of the design and the key to propellant-free propulsion. No backwards motion needed to move the photons forward, and no backward reaction possible to move the engine backwards, so the impact force of the photons pushes in one direction only. Zero laws broken. 100% awesomeness. *Suck on that, Isaac*. The photons that bounce around on the inside of the laser move at a slower speed than those going through the vacuum between laser opening and the end of the laser chamber because of the laser medium (ruby crystal or whatever is used) through which they are travelling, and the photons on the inside also won't be organised or focused like those travelling as part of the beam, so movement should generally be stable, too.

Word of warning: In relation to what was explained earlier, you want a laser as wide as is possible – preferably as wide as the vehicle, minus the shell (obviously). A powerful laser is likely going to be required for any real chance at driving this anywhere, so you need as much pressure distribution as possible, otherwise the laser could eventually burn straight through.

- The walls of the laser chamber should be as dark as possible (Vantablack, or something similar, would help a lot here). The reason for this is photon reflection. The brighter the walls are, the more light they will reflect. The more light that is reflected, the more impact pressure that will be created in other directions as the photons hit other parts of the chamber, which will reduce the forward drive by pushing the vehicle backwards, sideways, and possibly causing it to turn. By using dark material to absorb as much light as possible in one direction, the pressure in that direction will be much greater than the pressure created in opposing directions from the light reflected.
- The laser pounding the end wall is going to create a generous amount of heat, which isn't that much of a problem and is actually quite useful, thanks to a Mr Peltier and a Mr Seebeck.
 - Thanks to the thermoelectric effect, a cooler can be used to transfer the heat from the end wall, and, if so desired, into another medium via an additional cooling mechanism to increase cooling efficiency. Something such as copper rods drawing heat away from the hot side and into water would work, and wouldn't require any moving parts – sometimes one must go back to go forward.
 - The thermoelectric cooler can also double as a thermoelectric generator, which can be used to help recharge the power source.
- Last of all, solar panels can either be used to recharge the power source or to directly power the laser.
- On a side note, if someone was crazy enough to make the power source a nuclear reactor, one need not think about thermoelectric generation and solar panels to recharge the

source, but there will be a massive heat issue that needs to be dealt with, and given that there isn't any air or liquid particles in space for the enormous amount of heat to be transferred to, Houston may have a problem-in-waiting should there not be a very efficient and effective heat management system.

Steering:

- Forward – This is where it differs from all other forms of engines, and why no one has understood how to make this concept work. To move forward... the beam must be facing forward, in line with the rocket, which is the complete opposite of what every other type of engine does, and is only made possible through the fact that there is no equal and opposite reaction.
- Turning – Turning depends on where within the vehicle the beam impacts, as that affects which part is actually moved. If the impact is in the front half, then the side the beam impacts on is the direction in which it will turn, but the opposite is true if the impact is in the back half. As for how to actually perform the manoeuvre, there are multiple options:
 1. Have the entire engine swivel, but this is a bad option because it means engine has to be attached to something upon which it can turn.
 2. Have the laser swivel within the laser chamber.
 3. Use multiple lasers which point in different directions, and just activate whichever is required (this is the preferred option as no moving parts will be required, as long as the lasers can be directly activated by signal).

Heat management systems would be required around all points that may be targeted by the laser, as a safety measure. This could result in most of, if not the entire, laser chamber being encased by a cooling mechanism.

*If one wanted to have fun with it, or wanted a turning mechanism which was faster, though much less controllable, one could fire a projective into the wall from within the vehicle. Given the addition of mass, the force would be much greater, but you'd be careful not to send it into an enduring tail spin. *This is a joke. Do not do this.**

The Benefits:

- It's solar powered, so it will never run out of "fuel". There's an abundance of solar energy in the universe just waiting to be harvested.
- As long as the laser is on, it will always be in a state of acceleration because the impact from the beam will always be putting more kinetic energy into it than microgravity is taking out.

Acceleration will not be fast, but deep space missions aren't supposed to take a short amount of time, so this is the trade off if you do not wish to load an ocean's worth of fuel into a space vessel. It can, in all seriousness, hit 99.9% of the speed of light with this engine. Sure, it would take a bloody long time, but it *can*.

- The best thing about this design? It's completely solid state, so it requires extremely low maintenance and has the lowest risk of anything breaking – something that is ideal for deep space travel, regardless of whether it was manned or not.
- It's cheaper than any propellant-based space vehicle will ever be.
- No one – and I mean no one – can effectively weaponise this to launch missiles through space. Carrying nuclear material – or whatever explosive compound they desire – in a large enough capacity to cause damage greater than that of the crater created by a dud missile falling from space would result in significant mass. Trying to use this engine to drive that mass, even through space... well, the strength of the laser required would probably blow up the missile rather quickly, and, in the event that it didn't, the military in charge of defending the target would be able to go on holiday and get back before the missile was even in a position to be deemed threatening. Just buy the fuel, cheap asses. *US DoD, you can stop shitting yourselves now. Yea, you were. I know you were. The moment you caught wind of this document being published online... I'm an egotistical, maniacal menace when it comes to my work, but I'm not stupid. You can't be **this** smart and **that** stupid. It's at least a couple of decades before I possibly maybe do something to warrant you having to consider drone striking my house.*
- This tech can be used for satellites, though, which can be controlled and never have to be refuelled. They can stay up there as long as nothing breaks, and given that this is solid state... Does surveillance count as weaponizing? Hm. *Spilt milk.*

Downside(?):

- Won't work very well on earth. Gravity, air resistance, and friction are too much for the laser to overpower without creating something so strong that it would be a danger to everything around it – we are talking about a degree of power produced by nuclear reactors. That's why this will only really work in a vacuum, especially space – air and friction free. Don't worry, energy and petrol companies, your profits are safe. We won't have LDE cars or planes anytime... ever.
- This can, however, be proven to work on earth, and the only additional thing we need is a vacuum room. Hold the engine at height and mark a position directly on the floor below.

Drop the engine with the laser off. Take note of precisely where it lands. Do this a few times for accuracy, figuring out the average shift, if any, making sure to drop it from the exact same position. Then, turn the laser on and drop the engine again. The engine will shift further than it previously did because the internal pressure will now push it. Do this a few times with lasers of different strengths until you can determine an ideal weight-to-power ratio.

- A second way to prove this – again, using a vacuum room – is by hanging the engine from the ceiling by a wire/cable/string, letting it settle to a complete rest, and then turning it on. If it begins to swing, that means thrust is being created internally. Yes, it will swing backwards, but that's because of the string it is attached to. No strings in space, so it will continue to move forward.

Specs and Details:

- Despite what is depicted, the engine doesn't need to be as long as it would seem. Since light travels at a constant speed within a vacuum, such room is not required for a build up of speed. The distance between the laser and the end wall of the laser chamber could be a yoctometre if you wanted – the only requirement is that there is empty space between laser and end wall so that photons can hit light speed and we don't have to settle for the pressure created by the conduction force.
- There's a general rule that vehicles which are to travel through space should be as light as possible, so when you think the vehicle that this engine is to move is light enough, *go lighter*. Seriously, even in a vacuum, the force created by photons is not going to rival that created by a propellant, so build this as small as you possibly can, using the lightest materials you possibly can, and use as little of it as you possibly can.
- On-board modules for data transfer shouldn't be much of an issue. The problem will be the satellite relay network required, with engines required to even get satellites into deep space.
- AV hardware shouldn't be an issue, either. Nothing to explain.

Launch

- Getting this into space will require a rocket because, no matter how light you make the vehicle, and if you construct a vacuum tube from surface to space through which it will ascend, it isn't going to be powerful enough to beat gravity. I doubt the engine could get into space under normal gravitational conditions if it weighed as little as a feather.

- It needs to be in a position from which it can be separated from the rocket without losing the momentum, otherwise it will be an uphill climb.
- Once in space, you have a few options:
 1. If the LDE probe is to be released in front of the rocket, do so at the same time as reducing or stopping the movement of the actual rocket, allowing the probe to keep the already built up momentum.
 2. If the probe is to be released to the side of the rocket, the rocket's speed is irrelevant, but it's best to do so at enough of a distance so that the rocket isn't able to interfere with the probe at all.
 3. Without need for a reduction in speed, actually launch the probe from a rocket as if it were a projectile, so that it has the momentum built up from riding with the rocket and gains momentum from the emission.

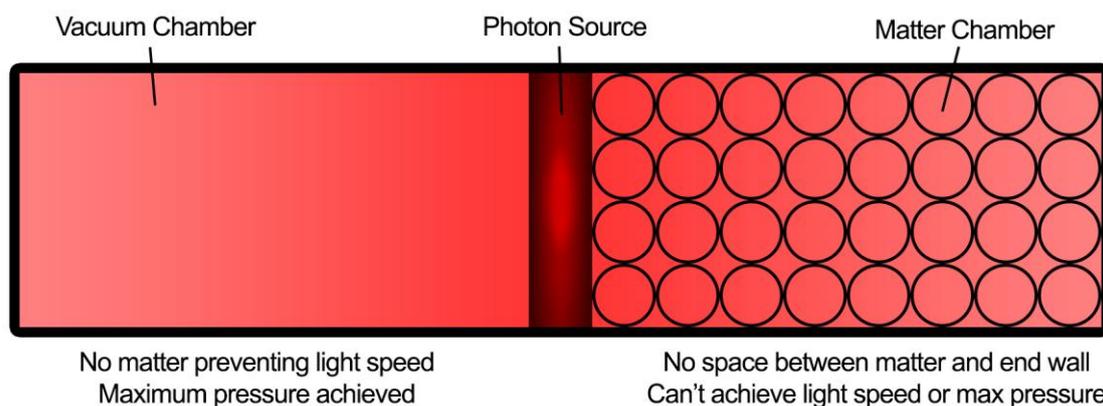
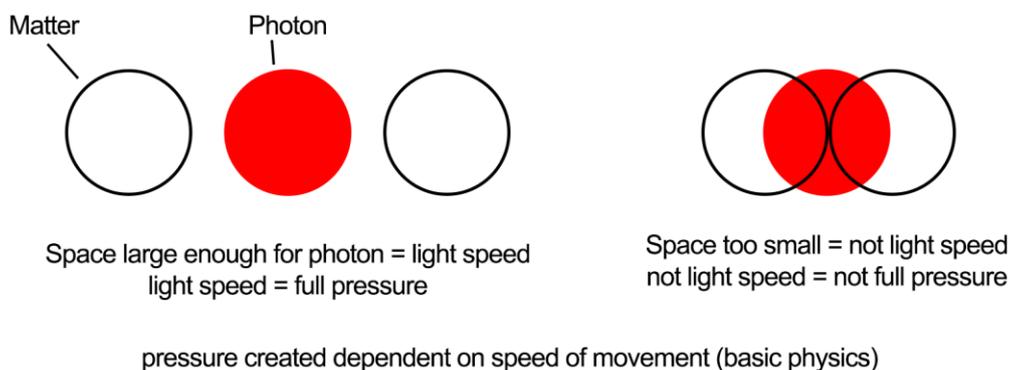
Ah, I'm sure y'all know how to launch a probe by now.

One last thing: this has been written assuming the greatest pressure created by the photons will be at the end of laser chamber after the particles have passed through the vacuum at light speed. This, however, may not reflect reality, so to be more generic and accurate, the engine is going to move in the direction of the greatest created pressure. That could be in the direction of the laser beam, in the complete opposite direction, to the side... because we really can't account for photon movement, quantity, build up etc within the laser, we can never be exactly sure until we test it. The design works – that's a 99.9% guarantee (the remaining 0.1% is based on the event that, by the worst luck in the universe, pressure is equalised in all directions) – but it just has to be tested for precision. Simply replace anything to do with the impact point of the beam with the point of greatest pressure and you are good to go. When doing any tests, or during the actual missions, continuously monitor the probe. If it is travelling in the direction of the beam, for example, enough photons build up in the laser to force a change of direction, and you fail to notice this... well, I don't need to explain to physicists just how much damage changing direction by even a fraction of a degree can do over great distance.

If you still have any doubts about whether or not this works, this is the only thing you need to understand: with no external resistance in space, the only thing required for movement is an Internal Directional Pressure Imbalance (IDPI) that doesn't require or result in expansion or explosion, and by creating an environment with mediums which cause photons to travel at different speeds, along with the fact that photon quantity in each medium is going to differ, a pressure

imbalance is pretty much guaranteed – the photons undisturbed will collectively create a different pressure than the photons travelling through a medium because of the reduction in applicable pressure when photons travel directly from one matter particle in the medium to another in the end wall of the chamber without entering empty space, preventing the maximum speed (one mass, lower speed, lower pressure exertion). **'Directional Pressure Imbalance'** is the key here. Having two chambers – one a vacuum and the other filled with gas – is a non-directional pressure imbalance because the pressure isn't operating in a direction, and, if anything, the pressure created by gas particles bouncing off the walls of its chamber is going to be pretty much equal, and the best you would hope for is that the body begins to rotate. A fuelless IDPI can only be achieved with photons in the manner described.

What the hell, let's do this like I'm talking to a 5 year old:



Max possible pressure versus not maximum possible pressure... the above chamber would, excluding all the bouncing around and potential build up etc, move left. Tada! Like magic, only... not. And remember, kiddies, the Vantablack (or whatever dark coloured material is used) is for the purpose of reducing the reflection of photons as much as possible, preventing them from creating

unwanted pressure in the undesired direction. Oh, and energy loss as photons pass through matter will contribute to the lessening of the impact within the matter chamber, too.

So, for example, if pressure moving left within the engine is equal to 10, and pressure moving right is equal to 4, the difference is 6, and 6 is the value of the thrust. If the external resistance value is 6 or greater, the engine can't move because the thrust is being equalised or dominated by external resistance, hence why friction and air resistance will stop this working in most conditions on earth. However, if the external resistance value is lower than 6, the thrust becomes dominant, and the engine moves left. The greater the difference between thrust and resistance, the faster the engine moves.

As for why the EM drive could work, it's just due to photons rattling around. The pressure isn't equalized, so it's definitely going to move, but because the photon movement isn't in any way organised, the thrust is shit. The fact that all the engine designs I've seen are made of shiny metal doesn't help, either, because it just reflects too many photons, creating even more havoc.

Just For Kicks 4: Hanging Like Cattle, Bleeding Out From the Jugular

JFK Part 4... This is my personal favourite because, up until now, I've been kind.

I saw an interesting comment on the physics Stack Exchange site, if I remember correctly, that said how amazing it is that ideas supported by maths so often end up being found in nature. I laughed. There's a truth here that many people won't realise:

Maths is a fickle bitch.

"Numbers don't lie" is the phrase known by many, but numbers do deceive – *a lot*. In the wrong hands, such as those determined to prove something true, it can be grossly manipulated to convince someone of something that is actually wrong. I'm sure we are all familiar with those surveys that claim X percentage of the nation think something, later to find out that only 437 people of a nation of tens of millions of people were actually questioned, or when you hear that doing X will double the chances of bad event Y happening, but then realise doubling a one-in-a-trillion chance isn't that big of a deal at all. Maths can tell you the truth and deceive you at the same time. Equations are more human than you think, but don't be fooled. All maths is logic, but not all logic is maths, meaning logic trumps maths every time – always has, always will – and a major problem is that relatively few people are exceptional at maths, but absolutely few people are exceptional at logic, and especially logical frameworks, so, while one mathematical piece may appear correct, it offers no guarantee that it will fit with the other 99 pieces of the framework that are logic-based.

The framework of the universe is really something like 65% logic, 30% design, and 5% maths, not the 100% maths that physicists like to think and teach, and this is why it's taking so long to make progression towards a complete framework, since the pieces they have that mathematically appear correct do not fit together, i.e. Relativity not blending with Quantum Mechanics, amongst many of the other things I've explained here. Maths is perfect – you can write any equation and find a single correct answer because the equation dictates what the answer must be. Physicists find comfort in maths because, by the very nature of numbers, they will always produce the same results. With logic, you have no such comforts or guarantees, and this has been the cause of their ultimate downfall.

There's no logic calculator and it's not really something you can adequately teach. It involves putting together a puzzle where not every piece is available at the start, but more pieces are continuously added as you progress, so the puzzle continuously gets bigger, with no instructions and only the pieces currently available to use as a guide to what piece comes next, and then you can never really know where the end is until it whacks you in the face, so you often have to figure out how to and then actually complete the whole puzzle before you can be sure that the logic is sound in its entirety. Most people cannot handle the pressure created by such a degree of uncertainty, but maths is safe, and this is why they've been running into mathematical brick walls for all these years while still claiming that maths is everything.

Where they will always get the same result with maths, they won't do so with their experiments because their logic is garbage, hence why a fuck ton of scientific papers – including peer reviewed ones – are wrong and cannot be replicated even once, let alone indefinitely as the scientific method requires, and this is why QM has been created as probabilistic mathematics – they know they can't logically explain what is happening, meaning they know that their experiments won't produce the same results every single time (which is a god damn staple of science, for Christ's sake), and so they let it rest as "this will *probably* happen". No, motherfuckers, that's not going to fly. Science is precise, and if your answers are based on probability, your work is shit.

Theoretical physicists, the likes of Einstein and, in part, Newton, do most, if not all, of their work on paper because theoretical physics is essentially the mathematics of nature, and create thought experiments that are often filled with bad logic, but sound good and never have to be verified beyond all doubt, so, for all intents and purposes, their work *appears* to be right. This is why there are so many theories and very few laws. If we look at engineers by comparison, who would come under *applied physicists*, they do the maths, too, and they come up with theories as well, but

engineers actually have to build and test their theories, meaning that, if their logic is wrong, their work will let them know in no uncertain terms when it fails and sends them back to the drawing board. It's why I have respect for them, and why, despite my personal character favourite, I am forced to concede that the Howard Wolowitzs of the world trump the Sheldon Coopers. Maths, as far as the framework of the universe is concerned, **should only ever be used for precision, never for construction.** It is the last part of physics, not the first, and definitely not the entirety.

Theoretical physicists invent a lot of bollocks when they can't fully explain their own work but need it to appear right, and hide it behind the fact that it is either too small to observe naturally, too sensitive to detect X amount of the time, too rare an occurrence, or completely invisible to any and all forms of detectors and so must be inferred based on the apparent effect it has on the universe. Sticking with maths, virtual particles are a perfect example of this – they are said to exist, yet they were only created for and can only be used in maths formulas as a way to make the work, you know, *actually work*. Dark matter/energy is another perfect example – apparently, they make up a total of 95% of the universe. *Excuse me, sir/madam, but if you cannot detect it, how the fuck do you know it exists?* What's even worse is that this is according to NASA. The most famous agency focused on space is peddling this crap. We are going to laugh about one piece of "evidence" proving the existence of dark matter in a moment. As strange as it sounds, these are prime examples of physics relying so much on philosophy (disguised as reasoning), numbers, and simulations when, at the same time, we can't even begin to see these things throughout the scale on which they are supposed to exist, so they're hidden under the invisibility cloak of 'inference' because no real world explanation has been thought of. Descartes said the phrase, "I think, there I am," while physicists use, "X happens, so Y must exist!" The official motto of the theoretical physics world should really be, *"When you can't explain something, invent something!"*

It's about time we looked at some actual physicists, given that they are the culprits behind all of this, and I've been waiting to write this part for a while. This will be fun:

- **Albert Einstein** – Destroyed his work numerous times in this document already. Just wrote his name here to enjoy the memory of doing so.
- **Isaac Newton** – I've already taken down some of his work, but the one I want to focus on right now, and make clear and concise, is the "equal and opposite reaction" law. It's wrong. Always has been, always will be. I already explained that pressure can't be exerted upon energy, so the impact photons create on matter is completely one-way because matter can't exert pressure on energy, which is why I said this law only applies to matter. However, even

in "mano-a-mano" cases, this doesn't hold true when things break. Say I punch a wooden board and my hand goes through, breaking it, there was no equal and opposite reaction. I exerted X amount of pressure on the board, and the board tried to exert an amount of pressure back via normal force, but if it was able to exert the same amount of pressure back to me, it wouldn't have broken because the pressure would have equalised. If I punch a wall and neither the wall, nor my hand, breaks, that means an equal and opposite reaction occurred because the wall was able to provide enough normal force to equalise the force I was creating. This is what everyone needs to understand – every object has a maximum amount of pressure it can exert in a given situation. When an object is stationary, such as the board being punched, this is the base maximum pressure (because if it was moving, it would be able to exert more pressure). When another object – object 2 – exerts pressure upon the first object, if the pressure is higher than the first object's base maximum, the first object breaks. If the exerted pressure is lower, the first object remains intact, but the second object could break if the force exerted was more than its own base maximum because the equal and opposite pressure exertion would be too much for it to handle. This is what happens when you, say, drop a glass cup on the floor and it smashes. If a fully sized asteroid fell on my head, do you think my body would exert an amount of pressure upon the asteroid equal to the amount of pressure it exerted upon me as it turned my body into a Vincent Castiglia painting? Don't be so foolish.

- **Peter Higgs** – I've already taken down the Higgs Boson and Field.
- **Stephen Hawking** – Now *this* is a good one. The most famous physicist currently alive. Movie made about him. Working on black holes since the year of 1973. What has his work amounted to? *Jack shit and fuck all*. 44 fucking years and he has achieved nothing. No evidence. *Ever*. When you read about his "results", it was maths on paper, not anything ever observed. Multiple paradoxes. Admitted himself that the type of radiation named after him may not exist. Sorry, but why do we care who the fuck he is? Ah, that's right, because he's disabled – yea, I fucking said it. How many people do you think would be allowed to go 44 years in a career, never proving anything – which essentially amounts to him never actually having done his job – and be hailed as a genius and one of the greatest minds of at least a few generations? Would YOU employ someone for 44 years who never even put a foot on the first rung of the ladder of proof? He's the poster child for "anyone can do anything", and that's fine, since he may be great at maths – I can't confirm this because I'm shit at maths – but he's shit at physics – I can say that because, as can be proven, I am great at physics. Whether it was a conscious or subconscious decision, people let his lack of advancement

slide for this reason, and to those who wish to condemn me for my statement – congratulations, *you* are the fucking problem, and have proved my point entirely. It's a completely incomprehensible notion, yet people are far too scared to speak up because they don't want to be seen as the arsehole who targeted the guy in a wheelchair, but it's 2017, and in the true spirit of equality that I am completely supportive of, anyone can be put in the firing line. He's not mentally disabled, so he can hold this intellectual ass-whoppin'. *Life lesson: equality doesn't always turn out the way you imagined.* I guess this doesn't bode too well for Cambridge University – he's their Director of Research for Theoretical Cosmology, and they're currently one of the top ranked universities in the world. That's gotta hurt.

- **Brian Cox** – It was on the cold winter's night of January 21st 2017, as I sat waiting for Match of the Day to start, that it appeared before me – a BBC radio 4 advert featuring Mr Cox talking about gravity. What I heard next left me utterly perplexed. Did I just not understand it? No, that definitely wasn't the case. His statement was something along the lines of, *"When an apple falls towards the earth, what really happens is the earth is accelerating towards the apple."* This guy is an imbecile. Let me really put into perspective precisely how fucking stupid that statement is. In physics, to accelerate is to change the velocity at which an object is moving – we all know this. So, he's saying the earth accelerates towards the apple, which means the earth moves towards the apple at an increasing speed, which is why the apple "appears" to fall to the earth faster over time. Okay, situation time: Let us now divide the earth, as evenly as possible, into six faces – a front, a back, a top, a bottom, a left, and a right. In the middle of each face, a person stands with an apple in hand, positioned so that they are precisely opposite the person standing on the opposite face. At the exact same time, each person launches an apple into the air and waits for them to hit the ground.

What happens next? I could go into the different possibilities, depending on what you believe, but I really just want to get this over and done with. All six apples hit the ground. According to Cox's logic, the earth has accelerated towards all six apples, right? Well then, congratulations on such an achievement, as six people, through the use of six apples, have just caused the earth to expand significantly. How? An object can only move in one direction at a time – that is a physical limit of movement. For an object to move in more than one direction simultaneously, the only way to do so is by expanding. So, for it to accelerate towards all the apples, it had to increase in size. Furthermore, any two or more objects that have ever been allowed to freefall have caused the earth to expand. Given that the earth orbits on a curved path, it is always changing direction, so any one object that has ever been

freefalling in a position that wasn't perfectly in line with the direction in which the earth travelled at that exact moment would have caused expansion. Oh, but the earth rotates, so the rotation of the earth, by even the tiniest degree, would move the falling object, so the earth would be forced to expand. However, for the moment that an object is perfectly in front of the earth, relative to the direction in which it is travelling at that point in time, the earth accelerating towards the object speeds up the orbit. Holy shit – all this increase in size would end up changing the gravitational strength of the surface constantly. It would continue to get weaker because its mass would stay the same but its volume would increase, right? Well, that's how the bullshit mechanics that have been used in modern times explains it.

This is the degree of stupidity that has penetrated science – first because of Einstein, and then because of the sheep who "baa" in unison without questioning what the fuck any of it means. People actually pay to hear this man speak. He's doing a tour this year. People are going to leave dumber than when they went in, and they would have paid for the privilege. I can't believe this is what I'm having to sit here and disprove.

- **Vera Rubin** – It was said dark matter was proven to exist because she spotted a galaxy rotating "in the wrong way". Bodies within the galaxy were moving at near uniform orbital speeds! Violation of Newton's laws! Really, it's a load of drivel, yet again, and it even led to complaints about discrimination, given that she – a *woman* – didn't win a Nobel Prize for this pathetic attempt at proof. *Oy vey.*
- **Richard Feynmann** – This man said anyone who says they understand Quantum Mechanics, doesn't understand Quantum Mechanics. Oh, because he couldn't, no one could, right? I wish he was alive today so I could bury his face in the ground. *Fuck him.*
- **Richard Muller** – First, a little about him. This guy is a professor of physics at the University of California, Berkeley – one of the top rated universities on the planet when it comes to Physics, ranking in the top 10. Has won numerous "prestigious" awards, including the MacArthur 'genius' prize and the Breakthrough Prize. Okay, now the reason he is listed here. I've read a lot of his answers on Quora, and I usually just roll my eyes at the drivel he spouts, but one beautiful answer was too much for me to pass on.

The Question: *If matter can never cross event horizon, how is a black hole formed in the first place?"*

His Answer: *It isn't. According to the time coordinate of an outsider (usually called the Schwarzschild coordinate system) it takes infinite time for a black hole to form. On the other hand, after a few minutes the object that is (still) forming has properties that make it*

virtually indistinguishable from a black hole. So, for all "practical" purposes, black holes do exist. Just not actually."

Word for word that was his answer. So, the problem?

1. "Infinite time" can only be applied if one condition is met – infinite space, and vice versa. For that reason, it can only ever be applied when someone questions how long it will take to reach the end of the universe. Again, this is the "infinity trap" I spoke of before. Infinity breeds infinity, and an infinite universe can only ever be seen when an observer travels an infinite distance for an infinite amount of time. Anything that takes an infinite time to do can never be realised. Anything that takes an infinite distance to reach can never be seen. What is believed to be a black hole we can see exists, even if we can't see the body itself, so we know an object exists. Given this, "infinite time for a black hole to form" is impossible.
2. The second part of his answer was just unbelievable. He states that an object that is indistinguishable from a black hole forms, but then goes on to say black holes don't exist, only they do for practical purposes. Do they exist or not? What are these practical purposes – making more of the bullshit mathematics people have come up with work? None of this makes any sense. It's as though theoretical physicists are competing to see who can be the biggest ignoramus, and, honestly, I wouldn't even know who to hand the award to.

Remember, he teaches the shit he wrote to students. Oh, and at the time of me writing, it had 444 upvotes and 41.3 thousand views. Such is the ignorance derived from the belief that time dilation existed. He wrote a book about time – I hope he enjoyed the profits while they were coming in because his work is about to take a devil's nose dive straight to hell.

- **Adam Riess** – If you've been paying attention to everything up until this point, you'll understand this immediately:
 1. 2003 – Helen B. Warner Prize
 2. 2004 – Sackler Prize
 3. 2006 – Shaw Prize
 4. 2007 – Gruber Cosmology Prize
 5. 2008 – MacArthur Prize
 6. 2011 – Nobel Prize in Physics
 7. 2015 – Breakthrough Prize in Fundamental Physics

A man of many awards, no? So, what do all these awards have in common, besides the man himself? Ah, that's right, **they were all awarded based on his work regarding the**

acceleration of the expansion of the universe. Yea, you know that phenomenon that I proved multiple times isn't possible, and even went as far as explaining the cosmological model, how it all works, and what exactly is happening? Yea, *that*.

- **Allan Steinhardt** – Last of all, this guy claims to be the former chief scientist of DARPA – you know, the clever motherfuckers who basically created the internet. Yea, *them*. A Quora user asked whether or not two photons can collide perpendicularly to each other and further produce two photons. Allan replied, "*Photons cannot interact with each other. Ever! Why? Because they don't experience time.*"

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"Because they don't experience time."

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That wasn't the end of his answer, but it was enough to signal me to stop reading. I guess he still believes light is instant. If DAPRA decided to remove all evidence of an affiliation between the two, the world would understand.

My opinion? Frauds, the lot of them. Some in part; others in full. This field is full of liars. Most physicists who have made "contributions" to the field have been charlatans. Tell them that they must provide a significant logical basis of proof that can be observed entirely in the real world, and does not break or bend the laws of physics in any way for their theory to be accepted – watch how fast they piss their panties. See, to an extent, it's okay to misinterpret and misunderstand, as the nature of discovery is to find and figure out what you didn't know before, but not to the degree that is currently being allowed. When all they do is throw a bunch of equations together on paper, how can they be taken seriously? They can't show us what they claim in the real world, nor can they offer a genuine logical basis of proof that can be seen in the real world, but they can offer thousands of pages of "mathematical proof" that they invented themselves. That's not discovery – how can you discover your own invention? It's physicists trying to play God in literary form. **The universe is not maths – we do not live in the fucking matrix!** Do not try to design the world in your own image. As mentioned before, for all the observations these people make, they *still* can't get any of their simulation models to run forever. Funny that, isn't it? Broken maths; broken models; broken minds. *Still* celebrated. Ridiculous is an understatement. Honestly, they're lucky someone like me isn't calling the shots because they, along with 99% of the rest of the active people in the field, wouldn't have careers. Physics could get by smoothly with less than 1% of the people currently in the field.

The rest are just dead weight. How ironic is it that stupidity is rife in the field in which most people believe themselves to be the smartest humans on the planet?

Why do you think they do it? Why is all of this allowed? Why has this become the norm? There are a few reasons:

- **Ego** – This reigns supreme, as always, and I know it because I'm no different. The first major reason I completed this work was just to prove them wrong and show that I am smarter. The only difference between me and actual physicists is that I hold myself to a higher standard, and I don't accept work that can't be proven, demonstrated, or, at the very least, explained to the point where the reasoning is absolutely sound. Never, ever buy into the whole "we're doing it for the advancement of mankind" bullshit. They're all doing it so their name can be attached to the advancement of mankind. They all want to be the next Einstein – a title I bet they'll all be running from now. A completely selfless scientist? Now that's some seriously cinema-worthy sci-fi right there. Funnily enough, ego is the result of consciousness. Oh, how this document comes full circle.
- **Belief** – One particular belief, to be precise – that many things in physics cannot be proven. *Bollocks*. Everything in physics can be proven, but you have to be smart enough to understand the logic, create the experiments, and know how to use it. What this belief gives them is false confidence that masquerades as genius. Thinking that much of what they say can never be proven, they believe that it can never be disproven, either, and within that gully of the abstract is where they thrive because there's nothing to lose and everything to gain, so they do their best to keep their work within this space. The problem with false confidence is that it leaves them blind... and someone like me will come along and blindside them like a freight train t-boning a drunk driver who fell asleep on the crossing. What happens now? They generally plan on being dead before technology advances enough to prove them wrong, meaning they won't have to face the shame of being knocked off their pedestal, but now many have been disproven while they're still alive – I can hear the pieces falling as their worlds shatter, and there's fuck all they can do about it.
- **Classism** – This and ego go hand in hand. The facade of intellectual superiority that they like to lord over others by making physics seem a hell of a lot more complicated than it actually is. In fact, many complicate it to a point beyond even the understanding of those who are supposed to be top physicists because of how smart it makes them appear, but don't let it fool you, as they have no idea what they are talking about. Think I'm lying? How many people believed they understood Relativity? Were utterly convinced that they had it down?

Then we move on to connecting it to Quantum Mechanics. At this point, only very few people in the world "understand" Relativity to a point where they *may* be able create the (not so) Grand Unified Theory, as well as other unified theories. So, answer me this – *how exactly do you understand a fallacy that I've just wrecked beyond reproach?* These were divisions of class within the field of physics itself, but then comes the more obvious one that is of greater concern – between physicists and everyone else. Do you know how many people question whether or not they are smart enough to work in this field? I don't mean people already in the field, but those looking to get into it. That question litters the internet, followed by *"which is harder – Relativity or Quantum Mechanics?"* Then you have physicists waffle on about how much harder the maths for Relativity is, and that there's so much to learn and blah blah blah. It just goes on forever. Then, you have people who want to know if they can be an entirely self-taught physicist, and the probability of them being able to make a contribution to the field, to which you will get answers such as the following from a one Joshua Engel on Quora who, admittedly, isn't a physicist himself, but his is the top answer: *When you ask if it's possible, the answer is, "Yeah, sure."... but unless you're an eight-sigma hyper genius, the answer is "practically, no". Not if you want to get to the edge of some field so that you can actually make contributions. There's just too much to learn, and you can't just learn it in that wifty, polymathy way that I do if you want to actually produce anything of value. Even for the six-sigma geniuses who come on this site to share the results of their studies, it takes them a decade of serious, concerted work, with assistance from their six-sigma professors. It would take you some multiple of that time just to get where they are."* He then goes on to talk about how text books can't even take you to the edge of the field and some other stuff. Now, this answer was upvoted by PhD holders, including a guy who works for CERN. So, is Mr Engel correct in his thoughts? Let us see. I'm currently writing this actually part of this document on March 19th, 2017. I finished the entirety of this physics section at the end of May 2017 (because I don't write in order). When did I start physics? **End of May 2016.** In bang on 12 months I have gone from knowing fuck all to knowing all of this – all self taught, sitting in the front room of my mother's house, scouring the internet, putting everything together myself. No mentor, no teacher, no university – hell, I dropped out of college in my second year and I was studying advanced IT. No equipment other than a PC, a laptop, and two smart phones. I'm 28 years old. In the summer of 2015, I had a conversation with a man named Ketan Pandya. He told me he was going to go back to university to learn quantum computing, and I remember saying to him that I think it may even be too much for me to handle – bear in mind, I had already defined consciousness by

that point, starting from scratch 2 years prior, and was mid-way through completing the architecture. Even I bought into the classist nature of the field at the time. Fast forward 1 year and I'm explaining to the man who introduced me to Ketan – Mr Tweedie Brown – that I'm going to take down Einstein's work. He said that he hope's I'm talking quantum and not classical physics. My response? "*I'll be honest, I have no idea!*" See, I didn't even know what the difference was between the two; I just knew that my work made sense based on what I had read, and this was only 2 weeks into it. In all, it took me 4 months to destroy Relativity, and the rest of the time figuring all the mechanics written here. By Engel's standards, I gotta be a fifteen-sigma super-hyper-genius, at the very least, right? Nah – I mean, I know I am a genius, but that has nothing to do with this. This whole thing isn't a reflection of my ability, but one of the gaping lack of understanding of others. How much easier has this all been to understand by me giving it to you in words and using basic mathematics, as well as real world analogies that most people can relate to, and experiments you can do in your own home? Many of these physicists who are held in such high regard are the bane of society and human existence, and they hold the world back more than they ever drive it forward. They are not special, and they know this, which is why they try so hard to maintain the status quo, as it has them as the pioneers of tomorrow. No one should ever let any one of these motherfuckers make them feel as if they are not smart enough to do big things in this field, and if they ever try to, fucking slap 'em.

Here's an example that perfectly exemplifies the frauds and the reasons:

Quora Question: *Since time does not pass at the speed of light, is it possible to see the whole history of our universe at the same time?*

David Vogel's Answer: *Fascinating question! The speed of time is impossible to define. It does not pass, period. So yes, it ought to be possible to see the whole history at once.*

The apparent "flow" of time is regarded by most physicists (though not all) as being psychological. But it's a difficult illusion to transcend because the very concept of consciousness (as we are accustomed to regard it, at least) requires time to flow. The concept of making a decision requires events to unfold in a sequence. It seems that consciousness and the sense of a flow of time must necessarily arise simultaneously in each individual. To stop the flow of time would be to stop consciousness as a train of thought. It would be hard to distinguish that from death.

In this particular topic, I'm content to deduce what I can, and forego the usual scientific requirement of verifying it with my own eyes. At least for now.

Now, his answer wasn't actually relevant to what the user meant, but the answer is the focus here, not the question, and he really should have bothered to verify that shit he rattled off. This is a perfect example of someone waffling on to sound intellectual when, in fact, they don't have a fucking clue what they are on about. Time doesn't pass? Time depends on consciousness? Time is specific to an individual? *Sit the fuck down and shut the fuck up.* His ego kept him from even bothering to verify his beliefs, and what's clear to see is that he just parrots what other physicists say without any proof, and also tried to combine two fields to sound extra smart, but really just ended up displaying his ignorance of both. *"I'm content to deduce what I can"* – f-f-f-f-fuck right off.

I have to laugh right now because it doesn't even end there. I did promise that I was going to trash Quantum Mechanics in the same way I did Relativity, and I'm nothing if not a man of my word. Brace yourselves – this is going to be long:

- **The Foundation** – Quantum Mechanics is, at its core, all about the interaction of particles on microscopic scales, and can be broken down into three foundations – forces, states, and probabilities. Forces we've already covered, so we'll go over the remaining two:
 - State – The quantum state of an object. In Quantum Mechanics, it is supposedly possible for an object to be in two states at once, and Schrodinger's Cat is the thought experiment most used to give a basic description of this phenomenon – you know, where a cat in a box is both dead and alive until you observe it, at which point it gains a fixed state. It's supposed to explain that for any system that has two states, a third state can be created by combining the two. *Sigh* Here we go again:
 1. Particles do not have brains or sensory receptors. They are not conscious. They are not able to determine when they are being observed. Stop... talking... shit. Such a lame excuse to use because you can't explain something that is happening. I talk about this more later.
 2. No single object can exist in two absolute states at the same time – especially opposing ones. Relatively, yes – an object can be big compared to X but small compared to Y – but absolutely? No. Never. Think of it like this – if I'm caught on camera doing what appears to be slitting someone's throat and kicking them into a lake before they are actually dead, and no one ever sees the person come out, but the police can't find the body, would I be

charged with murder or attempted murder? After all, due to the laws of Quantum Mechanics, said someone is both dead and alive, and therefore it should be impossible for me to be prosecuted for murder because, though anyone with half a brain cell knows the person is dead, the police haven't observed his body for it to gain a fixed state. Are you so willing to risk letting science dictate the laws of your country in the same way they dictate those of the universe? Putting this into perspective, albeit a macabre one, you see just how ridiculous it all is. If you want another example, look at any light switch. Can it be both on and off? No, it's impossible, so how can the cat be both alive and dead? Ah, so physicists want to say that it only works on particle scales, given that it's Quantum Mechanics. Okay, let's look at it on a particle scale, then – the polarization of a photon. This couldn't be any more perfect to take this bullshit down. So, there are two types of polarization – circular (left and right) and linear (horizontal and vertical). Also, I know spin is just the name given to a property, but the way in which I explain the following helps people to understand the whole concept in a much easier way using imagery, should they not be entirely familiar with it:

- Circular – If state one sees it spinning left, and state two sees it spinning right, the third state can only be achieved by having the photon spin equal amounts in each direction simultaneously, i.e. **it isn't spinning at all**. If the photon is spinning left more than it is spinning right... it's still spinning left, and vice versa. These are opposing states, so only one or neither can exist. Claiming neither existing as the equivalent of both existing is just... You know, there comes a time when even insulting people starts to feel useless.
- Linear – The two linear states are not opposing, so the outcome is different. One state sees a photon spinning vertically, while the other sees it spinning horizontally. Can a single object spin both ways at the same time? No, but it can spin diagonally, which is a direction in itself. What's to stop us from saying that a horizontally or vertically spinning photon is a quantum state of a photon spinning at both 45 degrees and 135 degrees? When does it really end because we can go on to take degree into account and create an infinite number of states – 35 degrees, 82 degrees,

3.8403857493844 degrees? What exactly are the rules? Even if we just use integers, we end up with 360 different states. Shit, that trounces my hyperbits. I'm going to go outside and walk in diagonal lines, and when people ask me why I'm walking diagonally, I'm going to turn around and tell them I'm not, I'm quantum superpositioned into a third state by walking forward and sideways at the same time. There's no magic here. None whatsoever. Claiming what is nothing more than an actual third possible state as a "quantum state of two individual states" is like saying, "I only have one television and couldn't decide whether to watch Chelsea beat Spurs or Barcelona beat Real Madrid, so I decided to use the split screen feature and watch both." I told you already, things in physics can be seen on all scales to which they apply, and the same way atoms and photons are a collection of other particles, macro scale objects are collections of atoms and photons, so when physicists can show me how to set a light bulb in a state of on and off at the same time, I will concede defeat and accept quantum states as a real thing. Until then, a third state is just a third individual option that they have chosen to initially ignore, not a combination of states one and two, and the fact that they can't take the on-off two-state system and create this third state that is supposed to be possible shows just how full of shit they are. I feel my brain cells dying through the boredom and mental anguish of even having to explain this. This cannot possibly pass for science. The world is doomed.

Let me give you a genuine explanation of quantum states in the simplest form possible, and it's based on a philosophical question that almost everyone reading this has heard at some point – *Is this glass half empty or half full?*

Prior to being at the half way point, if the previous state was empty, the glass is half full because it is going from zero to one – an increase or positive interaction. If the previous state was full, the glass is half empty because we are going from one to zero – a decrease or negative interaction. However, we can use a semantic argument to reverse the option we choose and still have it be correct. When the previous state is empty, we can say the glass is now *only* half empty, and we can say it is now *only* half full if the previous state was a full glass. The word 'only' creates the implication that there was a reduction in the state. Now, imagine you turn to

face away from the glass, and I bring it to a half way point, and then tell you to turn around and tell me whether or not it is half empty or half full. To you, it is both because you do not know if the previous state was empty or full, but I know which one it is because I observed the previous state and the interaction which produced the current state. *This* is Quantum Mechanics. No magic, no miracles, no ludicrous notions. Empty = 0. Full = 1. Half = 0.5, which is simply a third state in itself. Between equal left and right circular polarization, you have no spin. Between vertical and horizontal polarization, you have diagonal spin. Between empty and full, 0 and 1, you have half full and 0.5. *Basic.*

- Probability – I read an example that was based on a hole in a wall. You are standing with your back to the wall. I tell you there's a hole in the wall, and now you have to tell me where. Quantum Mechanics states that the hole can be anywhere, but is likely to be within specific regions, and you cannot know where until you look. Doesn't this sound familiar to you? Yes, it's the principles of the children's game "Hide-and-Seek" – we all know those hiding can hide anywhere, and we also know that they are likely to hide in what are considered, ironically, the best hiding places, but we won't know for sure where they are until we look and find them. This was then taken and used to create a model for electrons within an atom in 1926, and it is still the model used today. The problem is that this is not science – it's logic, I'll give them that, but it's the most basic logic ever, and a travesty to apply as a scientific method, and here's why:

1. Stating that an object of random movement can appear anywhere within the container in which it is being held is simply a natural physical limitation, otherwise it wouldn't be contained, hence the concept of 'jail', except the container is the electron shell. I read something on Wikipedia, and I would otherwise find such a thing hard to believe, but I've seen others speak of it and by now it just isn't shocking anymore. Apparently, *"it is theoretically possible for an electron to be a nearly infinite distance away from the atomic nucleus it is orbiting, although the probability of an electron decreases dramatically the further away from the nucleus you search."* Okay, a couple things: there is no such thing as "near infinite" – something is either infinite or it is finite, and there is no space between the two; and no, an electron cannot even be a "near infinite" distance away, nor can it be a great distance away, because the electromagnetic force keeping it attached to the atom

becomes too weak to hold it at a certain point – as is the nature of all forces that operate without matter-to-matter contact – and that point is a very short distance – so short, in fact, that I do not even know the correct unit of measurement that applies – and so, beyond that point, the electron is released and free to roam anywhere it desires, without still being an electron of the specific atom from which it was released. If an electron could be a near-infinite distance away, that would force the electron shell to be absolutely-fucking-huge – so huge, in fact, that it would contain anywhere from the majority to most of the universe. That one atom would be the biggest single object in existence, and it would be impossible to have a second because it would break the infinite threshold (imagine infinity was 100 and near infinity was 70 – 70 plus 70 would produce a value larger than the value of infinite, and the universe would... I don't know, do something else not possible).

2. Imagine there are ten hiding places, and I say a person is likely to be found in one of five hiding places. That gives me a fifty percent chance of being right. I can't even guarantee that they are going to be in those places, so what use is this? If they're not there, what do I say then – "Ah well, they just didn't happen to be there that time"? This is not science. This is guessing, where numerous possible answers are used to reduce the probability of you being wrong. It's the equivalent of playing the lottery with multiple tickets.

Bear in mind, the mechanics of hide-and-seek were first described by a 2nd century Greek writer called Julius Pollux, and it was called 'apodidraskinda', and the physicists responsible used the mechanics of the game to create the model in 1926.

So, who is responsible for this? Why, none other than Erwin Schrodinger in both cases, along with Werner Heisenberg in the second. Now, the worst thing about this is what these two arseholes have actually done and somehow managed to get away with – they've gone to the extreme length of finding pseudoscientific ways to simply say, "I don't know". Think about it:

- Is the cat dead or alive? "I don't know."

- Where is the electron? "I don't know."

They've made themselves appear to most people as smart without actually knowing the answer. Then, they took it a step further by stating that they won't know until they look, disguised as the need for observation to produce determination.

- *Is the cat dead or alive? "I don't know and I can't know until I check."*

- *Where is the electron? "I don't know and I can't know until I check."*

Credit where credit is due, that is pretty impressive scamming, but it begs the question:

HOW. IS. THIS. SCIENCE? These two are conmen with PhDs in fraud and evasion. The criminality is highly admirable, I must admit; the science... not so much.

- **Particle-Antiparticle Annihilation** – There's a mathematical reason why the definition for antiparticles specifically states that the mass is equal but of opposite charge, and all the complicated equations in the world cannot hide it:
 - Imagine a particle/antiparticle pair of protons, each with a mass value of 6.
 - Take the mass and charge together and make them a number – that gives us mass-charge values of +6 and -6. Add those numbers together and what do you get? *Zero*.
 - What does this mean? You end up with an object of zero mass, zero charge, and zero distinguishable property. An object with such features could only be a form of energy.

Now I know for a fact that this has never and will never be seen because it is physically impossible, so please, show the world video evidence of this happening or admit that it was just a wild theory backed up by the idea of $E=MC^2$. Again, something that *only* exists in the world of maths, and doesn't reflect one iota of reality. Matter and energy are not equivalent and cannot be converted.

If a particle and an antiparticle meet, the opposing charges will create a bond, but all that will happen is the resulting particle will have a combined mass of the two original particles, and an electric field with a charge too small to ever determine (non-zero) if the charges were equal, or the charge type of the original particle with the strongest charge.

One last thing to think about – if particles and antiparticles annihilate when they collide, under current theory, how are mesons possible, given that they are made from one quark and one antiquark? What's the excuse going to be this time – *"Clearly they weren't going fast enough"*, or do they just circle each other like dermatographic ballroom dancers? One does laugh.

- **Muons & Taus** – They are classed as elementary leptons, but their decaying has been witnessed. If an elementary particle cannot be broken down into other particles, what exactly do these decay into, given that decaying must result in at least two particles? How stupid can you get? Physicists follow the "Standard Model" that doesn't even abide by its own rules. Pretty shitty standards, then.

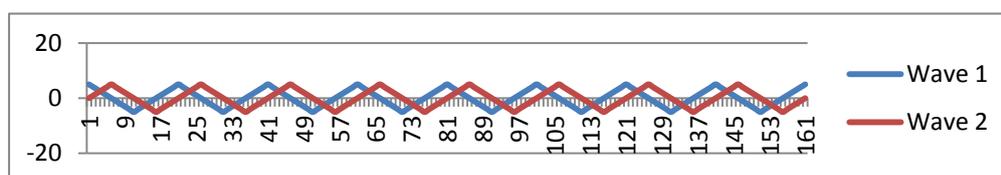
- **Wave Properties of Matter and Wave-Particle Duality** – Physicists have attempted to demonstrate that there is a "wave" nature to matter because, somewhere down the line, it would have also confirmed $E=MC^2$, and used as proof that matter is energy and vice versa. Apparently, they noticed certain behaviours in electrons that are similar to photons (*light photons, to be precise, and any mention of photons within this section will refer to such photons unless otherwise specified*), and made the harebrained jump to matter as waves. Here... we go... again. Let's recap briefly:
 - Pressure and force can be exerted upon matter. They cannot be exerted upon energy.
 - Energy can be absorbed by matter. Matter cannot absorb matter.
 - Energy has the ability to pass through matter. Matter cannot pass through matter.
 - Energy moves at a single speed. Matter does not.
 - Energy moves naturally. It cannot stand still. Matter stands still naturally. It requires force to move.
 - Energy decreases in intensity over distance. Matter doesn't have this property at all.
 - Matter contains energy. Energy does not contain matter.
 - Matter has mass. Energy has no mass.
 - Energy can be superpositioned. Matter cannot.

I could go on, but you get the picture. There are very few similarities between matter and energy, so why this belief? As usual, some nutcase – Louis de Broglie, this time – came up with a story that passed as a hypothesis, and people started trying to prove it. Eventually, physicists Clinton Davisson and Lester Germer performed an electron diffraction experiment which appeared to confirm Broglie's work. Now we can gain an understanding, but first let's question what *should* be the obvious:

1. Interference patterns require the superpositioning of particles, and since two particles of matter can never occupy the same space, common sense should have told them that this was impossible, no?
2. How, pray tell, would an electron create diffraction rings much larger than an electron itself, given that matter can't spread as it travels in the way energy does? That doesn't strike you as odd? Do you expect us to believe that a bunch of electrons are really spreading out in such a manner to create these patterns? Better yet, how are they spreading? Photons spread out because they are superpositioned and, because of the radial nature of release from an object, all travel at very slightly different angles that only become clear after some distance. What would the

electron convert to when becoming a wave, and what exactly would spread out from it? Other electrons? Or it is supposed to collapse into an energy state? But then how would they spread out? They are fired through a slit, not radially emitted, so their movement is linear. Not even photons travelling linearly can all of a sudden radially disperse themselves in a given moment, at random, *and* in a vacuum. Impossible.

3. If electrons were becoming waves and interfering with each other as they moved through space, the interference pattern definitely would not be perfect rings. It would be a scatter pattern, the likes of what we see when rain is hitting bodies of water.
4. At least two waves of two different wavelengths are required to create interference patterns in a vacuum, and they must overlap while travelling along the same angled plane because, as I explained a long time ago now, the same wavelengths will always remain the exact same distance from each other, so they can either overlap constantly and create nothing but constructive interference, oppose constantly and create nothing but destructive interference, or never interfere with each other at all. Here's an example:



As you can see, these two wavelengths are *exactly* the same and never interfere, and we could shift one so that they perfectly overlap or perfectly oppose. So, what would the second wavelength be in the experiment because all we are ever told is that the electron wavelength is X – one wavelength, not two or more? The hypothesis doesn't account for this.

5. We can be more realistic with this. Let's consider the number of electrons flying through the vacuum and slamming into the screen. That's probably going to be a pretty large number. Electrons are going to have different length travel paths based on angle, are going to be released at different times, and may collide – any one of these will cause electrons to impact at different times and in different positions. We would expect to see some sort of build up – even if only slightly – over time, and it should also be possible to detect the fading in and out of lines of certain angles as

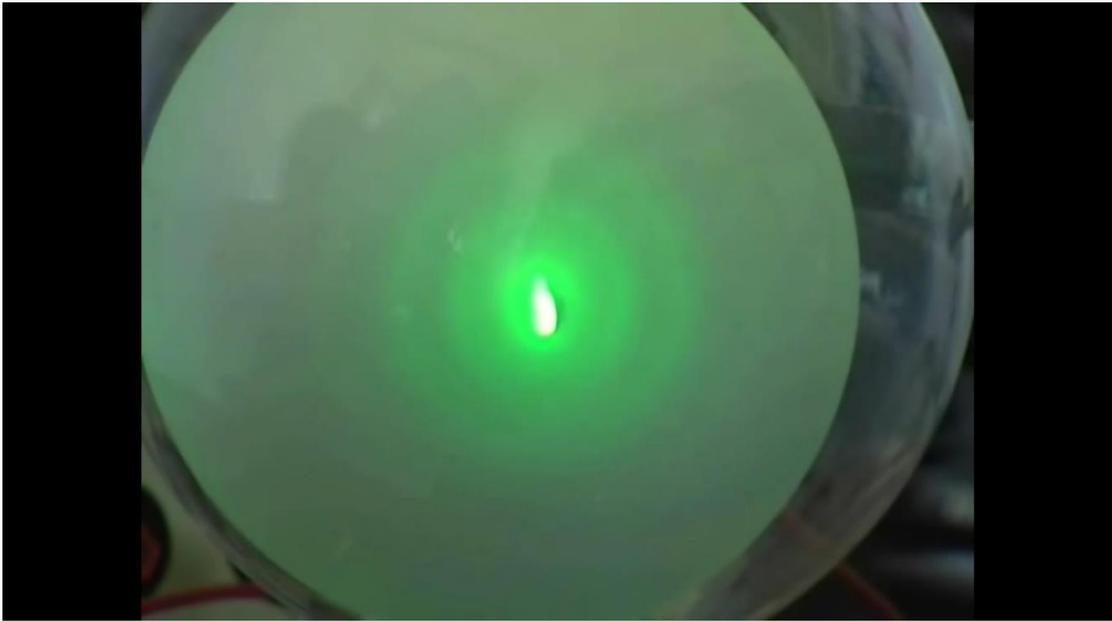
the phosphor fades before another electron wave came along and caused it to light up again.

6. We can see the crests and troughs of energy waves involving matter naturally because of light, shadow, and refraction, but we can't see the crests and troughs of light waves because we can't see photons – we only register the wavelength of some photons that are directed into our eyes and our brains interpret it as a specific colour – and neither the crest, nor trough, is the absence of light, hence why we first need visible light to appear, and then the second wavelength to cancel out specific portions by reducing a single wave to an amplitude value closer to zero. If electrons stop behaving as particles of matter and start behaving as waves that do not require matter for the wave function to exist, their supposed ability to have a wave function in a vacuum forces them to become energy, so, again, what is the second wave and wavelength causing such interference, because we wouldn't be able to naturally see the electron?
7. The odds of the rings being so perfectly uniform *every single time* are extremely low. Even in a theory built on probability, no one would take those odds.
8. And finally, if they are forced to become energy in a vacuum, then how, oh how, can magnetic deflection move them, given that magnetic fields cannot have an effect on energy without the presence of matter, since pressure cannot be exerted upon energy?

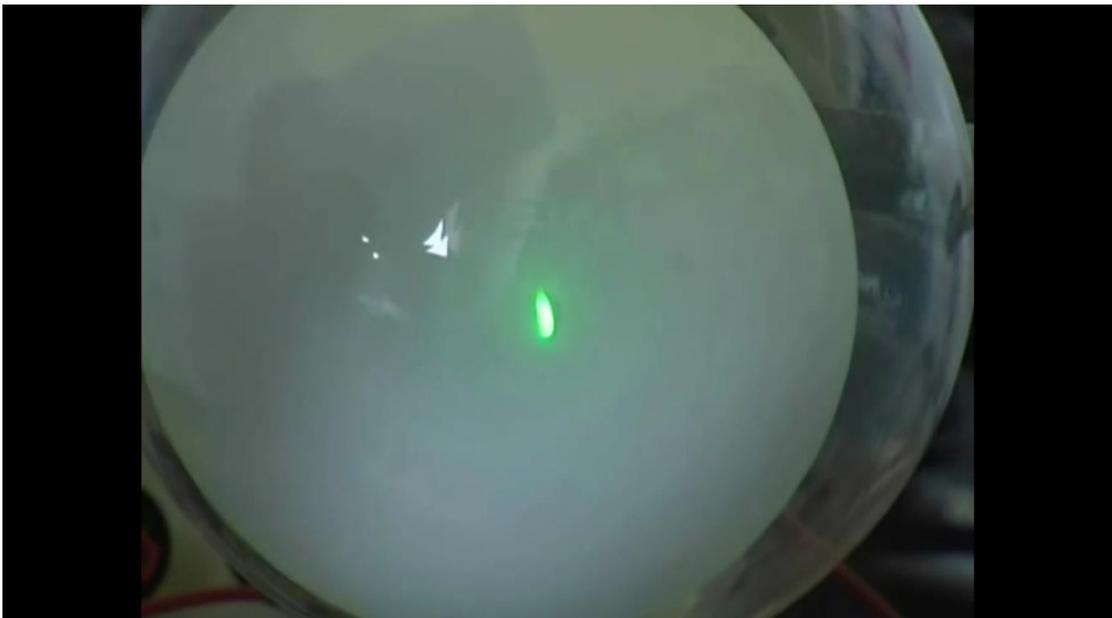
As you can see, I'm trying to examine this from every possible angle and interpretation of the events, and I could go on, but none of the above adds up and the rest aren't even worth considering. So many questions and not one valid answer. The logic is flawed – it isn't even logic, but explanations that have no basis in reality and contradict the very same behaviour that is trying to be established, which is a pattern of behaviour in physicists that we are seeing time and time again.

Anyway, I, for some reason, wasted a whole day going all around the houses on this one – reading forums, Wikipedia, looking at Google images, considering aspects of fluid dynamics, looking at the structure of graphite and so on – before my common sense kicked in and told me to just watch a video of the experiment on YouTube. I found one, thanks to professor Adam Micolich of the University of New South Wales in Sydney, Australia, and it gave me the answers I needed, which, surprisingly, is actual a pretty cool one. (*The video is called Electron Diffraction – Part 2, for anyone wondering. There is a Part 1 but it isn't the one needed.*)

Here's a screenshot of what the rings look like when electrons are fired at a higher voltage:



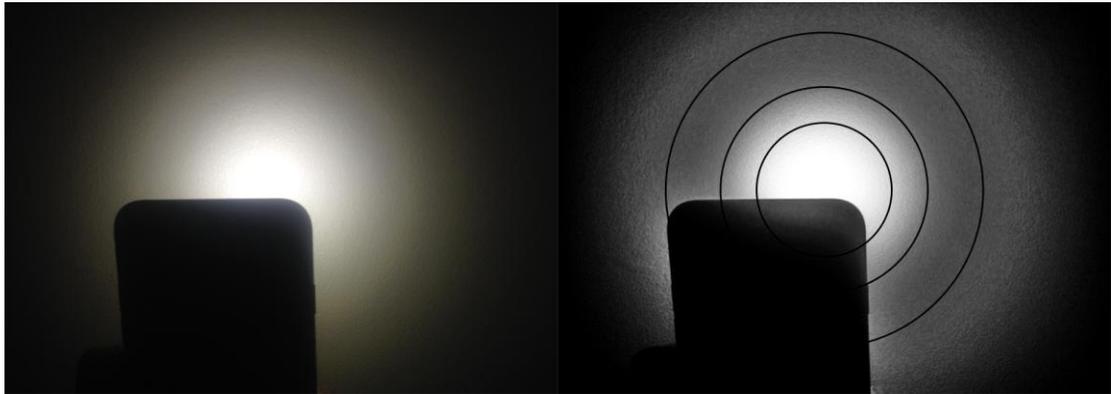
And here's a screenshot of what they look like at a lower voltage:



There are actually rings in the second image, but they are very faint.

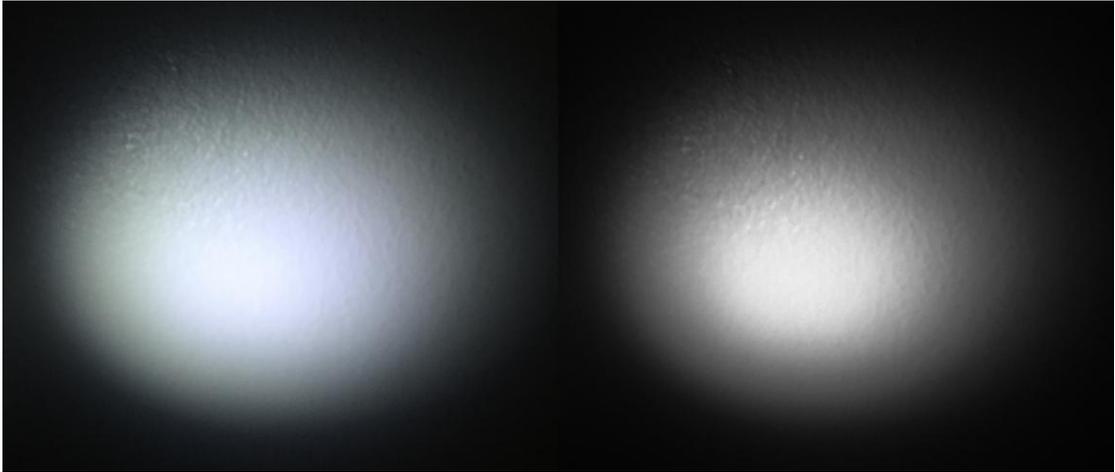
This one was not as easy as everything else to figure out because of so many things the world of physics currently believes, and stripping out the garbage from reality presented quite a challenge. Nevertheless, I persevered and came up with a theory, but many things had to occur before I was able to.

First, I wanted to see if this same pattern could be achieved using nothing but light – it could, and here's the evidence:

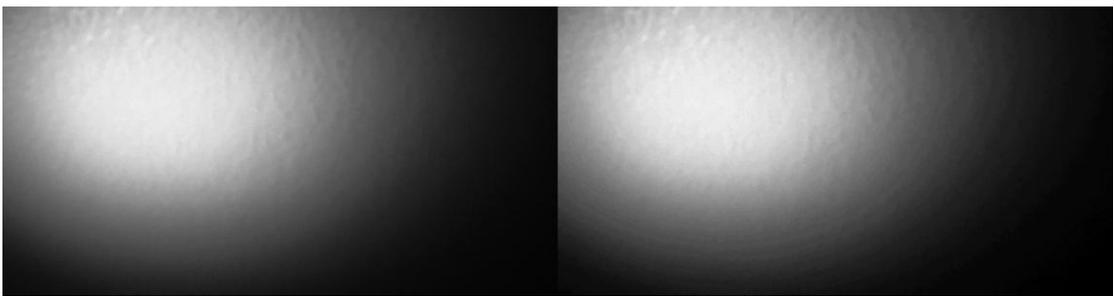


As you can see, the image on the left is the natural image, and the one on the right has been modified. I desaturated the original, increased the shadow contrast, and played with the RGB channel levels so that it was easier to see the wave pattern. I also added the black rings so it is easier to see. In the middle, we have the area the photons hit with minimum scattering, just as we did with the electrons, with much of them still superpositioned by a significant amount, and then we have a bright ring, a dark ring, a bright ring, and there's one more dark ring before the final fade to black that isn't outlined but still visible. Now, this is just the standard iPhone 6 light. Literally all I did was shine it on the wall and take the picture on my iPhone 5, so you can do it yourself. No electron gun. No phosphor screen. No plates. No slits. No multiple refractive indices. I closed the curtains and turned off all the lights in the room, as I didn't want them interfering with the pattern, nor did I want them drowning out any possible interference.

I wanted to test this with a different light source, so I went to my corner shop and bought a laser pen that doubled as an LED torch (because Saga Supermarket sells everything from these to chocolate gateau to fake nails to motor oil). It cost me £7, by the way, and I'm broke at the time of writing, so if the world of science wishes to reimburse me, I have no qualms with this. Anyway, so I got to work shining the torch on the wall, just to make sure it wasn't something to do with my iPhone. Sure enough, the same interference patterns were visible, so it wasn't something specific to the phone, but it was a little different this time:

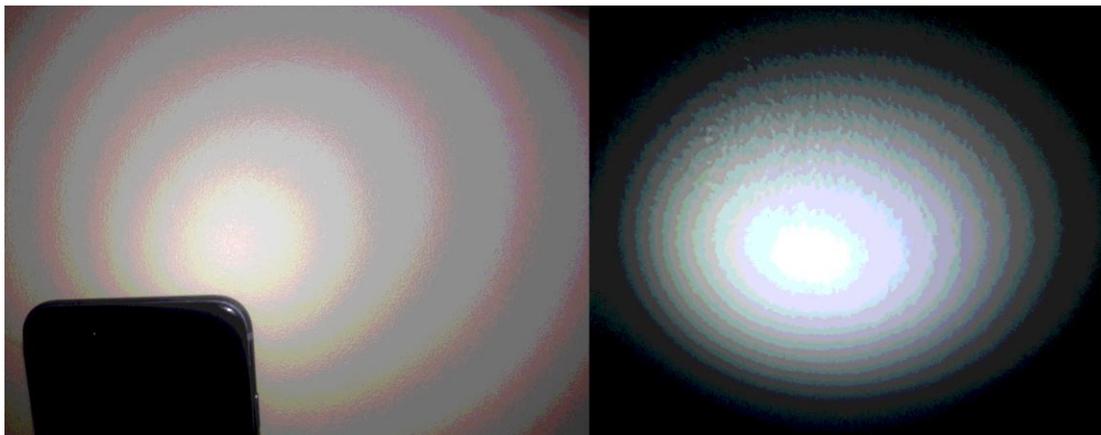


Again, on the left is the original image and the altered image is on the right. This time, I desaturated the image, adjusted the contrast slightly, and played with the curves to bring out the differences. Now, the torch of the pen is much brighter and whiter than that of the iPhone, so it was much harder to bring out the wave pattern, but there is one there, as you'll see:



On the left, I've zoomed in on the bottom right section because this is where it is most visible based on the angle at which I was holding the pen. On the right I posterized the image with a large number of levels so that you can see that it is the same image unaltered, but can also now visibly make out wave lines. *(No, this image editing wasn't a way to falsify results, as you'll soon see. Fraud is not my game.)*

While adjusting the levels, I noticed something peculiar, so I began testing both the iPhone and the pen images:



At first, I only noticed the grey gradient, and put it down to it being the only way a computer could show fading light using only a limited number of tones, but then I looked closer and saw colours - not just any random colours, mind you, but rainbow sequence colours, arranged in ring formations, with every colour present in a single ring. Look between the greys and you'll notice it too. We know white light contains all colours, but this is something impossible for the human eye to detect in real life, so how and why was Photoshop able to pick it up from a camera photo? Filters use maths, so there would be absolutely no reason for it to insert colours – especially in such a manner – that do not even appear to be in image. This is a clear indication that there is hidden information that humans cannot perceive because of how the brain composes images so that our world doesn't appear as individual frames, but a camera, only capturing individual frames, can capture this information for it to later be brought out. The way I see it, those coloured rings are most likely the points of constructive interference. Now this is getting interesting.



I decided to try one more time with more levels – the previous images had 10 levels, while these have 25. As you can see, the greater amount of detail has hidden the colours that were present before, but the radial wave pattern is very much visible in both images, and what you need to realise is that you can't create a wave pattern without alternating dark

and light sections. If this was simply Photoshop posterizing light as it appears to us and even on camera, it would simply have created what appeared as a staggered pattern of darkening grey – there would be absolutely no reason for alternating highlight and shadow because that isn't even how it appears in the original image whatsoever, but it doesn't stop there. The posterizing filter works by taking what it can detect and recreating it using a specific amount of different tones, but it does so by attempting to calculate the average or dominant tone within a given area, with the area being determined based on how many different levels are chosen, hence why a higher number of levels produced more detailed images as it tells the filter to sample smaller areas. This means that, within the actual image itself, there has to be the alternating rings of light of absolutely tiny scales, and whatever maths the posterize function uses clearly allows it to accurately bring out detail that the human brain either cannot perceive or desires to filter out, or that the human eye cannot detect due to the microscopic detail. I contemplated it possibly being caused by the texture of the wall, but the formation of perfect ring patterns wouldn't have been possible.

A few hours went by through the night, and I sat here playing with the laser and the torch (as a big kid with a new toy does), when I started shining it onto the screen of my television and noticed something. As the white light spread out across the screen, it separated into an eight-point star of multiple colours – from the white light came what looked to be blue, and then green, but beyond that it became too faded, and I do have some degree of inability to recognise colours, so, yea, there's that. The white light had to be spreading radially across the screen, with whatever the screen was made of acting as a prism of sorts, but the most interesting thing I observed was the clearly visible ring interference patterns that appeared along each rod of the star. I couldn't take a picture of it because the lens flare was too bright, so you'll have to recreate it yourself, but all you need to do is point the light at the screen, figuring the angle so that the majority of it is reflected as directly as possible into your eyes so that it's easier to see. 'Twas the LCD screen of a Toshiba Regza 40LV SERIES, if that helps. I tried this with the iPhone torch and the same thing happened. For reference, it looked like this:



I guess it was easier to see the wave pattern without the need of photo enhancement because the darker surface absorbed much more light.

Multiple torches, multiple surfaces, wave patterns always present. This was a good sign. It was at this point that I came up with the theory – what if the waves from the electron diffraction experiment and my light experiments were nothing to do with particle behaviour and everything to do with particle impact. Think about it – all particles create pressure upon impact, and we *know* pressure disperses as waves, which is how we get sound. All waves would simply be the distribution of pressure. This train of thought intrigued me, and, as luck would have it, it came right before I went to have a bath. While the bath was running, I was crouched beside it, watching the waves form and travel as water from the tap hit the surface of the body, and I started flicking my finger back and forth to create my own waves. I noticed something that we always see but never really pay attention to – the faster I moved my finger, the shorter the resulting wavelengths were. This interaction with matter was a complete reflection of what we know of light waves – higher energy produces shorter wavelength.

It was time to sit back and think about this whole thing logically because the nature of waves seems to be the same no matter how they are produced:

- They have high and low points (*no shit, Sherlock*).
- They are designed to expand in all directions possible to fill space.
- The higher the energy, the smaller the waves; the lower the energy, the larger the waves.
- Most importantly, they can **only** be observed when impacting on matter.

We see these behaviours in sound waves, wave flow of fluid matter, and light, so it is undoubtedly the universal behaviour of all waves.

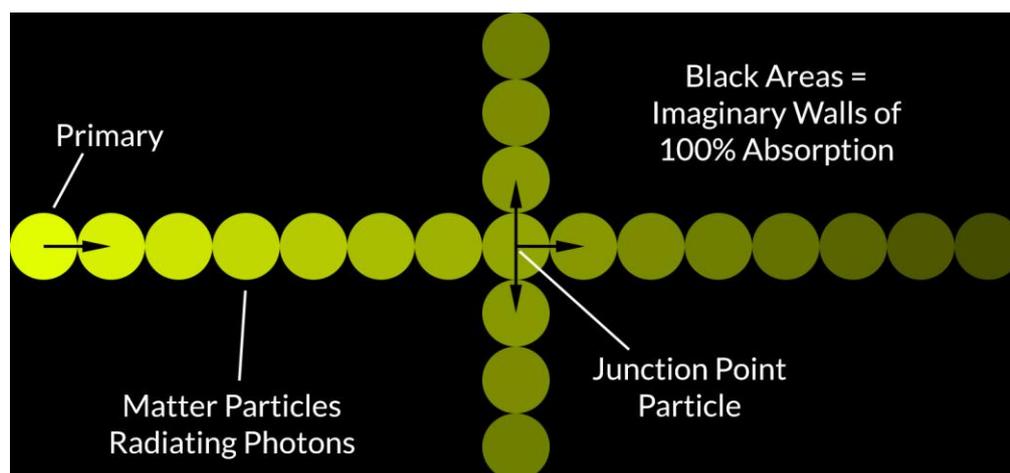
The last piece of inspiration to complete the theory came as I pulled my hand out the water and watched the water droplets fall in, creating their own waves, but this required the questioning of a major physics belief – both classic and quantum – regarding the nature of light as electromagnetic waves. I was going to go into it, but I really can't be bothered, so I'll just pose one question to everyone that no one will be able to answer – we **know** that pressure cannot be exerted upon energy, and that energy particles do not interact with each

other, so, pray tell, how do you create a wave in an apparent energy field? Let me guess – "That's just the way the universe works" – right? Yea, sure. It's completely nonsensical.

Here's my theory which covers the electron experiment and light itself, as well as the basis of proof:

Start thinking of photons as water droplets. A photon is a packet of energy, in the same way a droplet is a packet of water molecules. The quantity of energy within a photon depends on the work of the particle emitting it. There is no wave function – it is literally just a packet. *Yes, you read that sentence correctly – kill the idea of the wave function of a light (all energy, for that matter). They do not interact with electric or magnetic fields. They are not composed of electric and magnetic fields. They are not "excitations" of electric or magnetic fields. Photons pass through these fields as if they do not exist. Why? Because energy does not interact with each other, and you cannot exert pressure upon energy to "excite" or disturb an energy field in any way. The only way to change a field is to change the particle or body creating the field.* After emission, the photon travels through empty space as a particle until it impacts upon matter, the same way the water droplets fell through the air until it hit the body of water in the bath tub. Let's imagine the photon only comes into contact with one matter particle, which we'll call the "primary". Let's also imagine the matter is in a state of absolute zero – zero energy, zero motion, so we are starting from the lowest base state that would be possible... if it was possible. Regardless of the impossibility, it will help you understand what is going on, and will help with any simulations later and the maths for all states above AZ. Upon impact, two reactions occur:

1. The photon is absorbed by the primary, used for force production, and new (waste) photons are emitted. Now, photon emission occurs in all directions, so they are also transmitted to surrounding matter particles next to the primary – the secondaries. However, because of the laws of thermodynamics, the energy of the photons transmitted to the secondaries cannot be equal in measure to the original quantity of energy received by the primary, as input and output cannot be the same, so less energy is given to surrounding matter. Having received less energy, the secondaries appear dimmer than the primary because less energy was received, and therefore less energy was available to use and emit. Follow this pattern outwards radially along the surface and you'll see why light fades out. Now, besides contributing to the fading of light, this shows us how light is able to bend around corners:



In this image, we have a cross formation of matter that emits visible light between walls of matter that emit none. This means there is no diagonal accessibility between any visible light emitting particles. The primary particle receives photons, uses the energy, and radiates the waste to its neighbour, causing the neighbour to absorb, use and radiate photons, too. This continues all the way down to the junction point particle (JPP), with each photon appearing dimmer than the last. Once the JPP comes into play, it now has three available directions in which radiated photons will have a visible effect, so, as well as the process continuing forward, it now starts to move sideways, allowing light to navigate its way around corners with absolute ease. Imagine this on a bigger scale with photons radiating back and forth between neighbouring matter particles, and you understand how light travels around any corner in its path without the need of a "wave function". I'm going to call this behaviour "surface dispersion". Try this experiment using any makeshift setup with obstacles as large as you wish.

2. This is where a wave function comes into play, but it's a pressure wave which disperses along a surface, not one to do with any field. Pressure is always dispersed as a wave, and the impact of a photon creates pressure, so when that impact occurs, the quantity of energy contained within a photon defines the wavelength of the waves created as the pressure disperses, in the same way that the energy put into the body of water when I flicked my finger back and forth defined the wavelengths of the waves created. The basis of proof for this has been seen many times – shockwaves in gases and ripples in liquid, for example. We can see waves in liquids and gases with great ease because of how easily deformable these bodies are compared to solids, but these waves do occur in solids, too. We usually see exaggerated versions of this behaviour in movies – when a superhero punches the

floor, for example, and the whole ground ripples, or the absolutely fucking awesome helicopter crash scene in *The Matrix* which causes the glass windows of the building to ripple before shattering – but, as exaggerated as it is, this is all real (and possible), only the force required to make a solid behave like a liquid is astronomical, yet if we were to use a camera which was able to detect the propagation of the pressure dispersing along the surface, we would see the exact same behaviour as clear as day. Besides, it axiomatically has to be true, given that sound is a pressure wave and can travel through solids, liquids, and gases.

With all of that out of the way, we can take down the electron diffraction experiment, which has nothing to do with diffraction whatsoever.

To understand what is happening, we first have to look at the included apparatus, materials, and reactions. For this experiment, a phosphor screen is used. Why? Because when accelerated electrons hit the screen, the screen emits green photons. This is going to result in surface dispersion as I explained above, which creates the outward fading green ring around the concentrated area of electrons where they impact the screen, in the exact same way we see the outward fading of light around the focal point of photon impact when we shine any focused beam of light on a surface (*shine a torch on a wall in the dark – you'll see the central focal point where there is a large concentration of photons, and the fading area around it*).

This second part – how and why there are gaps between rings of green light - was harder to determine. I had to go back to look at interferometer experiments and the disappearing light. I viewed the YouTube video "Optics: Destructive Interference – Where does the light go?" by MIT OpenCourseWare. Anyone who has seen an interferometer experiment knows that both arms constantly produce light individually, so we have to start questioning the happenings – how would light magically disappear? Also, we are in rooms with multiple light sources all the time, so why don't we regularly see random interference patterns all over the place? Even if the human brain had adapted to filter it out for our own sanity, we would have captured such events on camera by now – yet to be witnessed – so why does this event only occur when streams of light perfectly overlap from and to the exact same position? Every surface should, technically, be a dance floor of flashing light, especially when we begin to think of how white light contains all colour wavelengths – one white light bulb should give

anyone who lived through the 1970s disco flashbacks. I had to start looking at the nature of pressure waves in even more depth compared to what the interferometer experiment showed us.

1. Identify the type of wave we are dealing with – radial.
2. What do all radial waves have (aside from waves)? An epicenter.
3. Any single beam is going to create one epicenter, and will therefore create a single wave set.
4. Two overlapping beams create two epicenters in a single position and the second wave set.
5. As previously mentioned, two of the same wavelengths can only constantly overlap, constantly oppose, or never interfere. The irregular pattern of the disappearing light means there is a non-constant factor here preventing a regular pattern. Any difference in distance travelled has no bearing on the event because the streams are unbroken and of constant length.
6. The sole variable in interferometer experiments is air – air particles and their movement, to be specific. I spoke of this earlier when going over light clocks – the number of particles between start and end points change the total time it takes to reach the end, and the fact that particles move in and out of the way of a beam means there's a constant start-stop element. Now, for points where the beams overlap, they will experience the exact same start-stop pattern, given that they are occupying the exact same space at the exact same time, but the sections of the beams prior to the overlap each experience different air interference, and the differing start-stop patterns occurring here is what creates the irregularity in the experiments and the overall irregularity in the pattern of disappearing light. Light moves too fast for us to perceive this, but run the simulation or hit up the MIT Camera Culture lab and we may be able to see it happening in slow motion. Nevertheless, the experiment shows this.
7. Finally, with the now differing times of beam impact relative to the wave positioning as the pressure disperses, we get the random pattern of light being cancelled out and disappearing altogether due to differing wave occurrence times.
8. I've seen people speak of mirrors causing phase shifts and changes in wavelengths and all this other stuff, but whether or not it's true, it's irrelevant. It would all still be a constant, so the end result would need to be constant, too, if this is what caused

interference. The totally irregular pattern forces a variable – a variable that is constantly changing – to be the culprit.

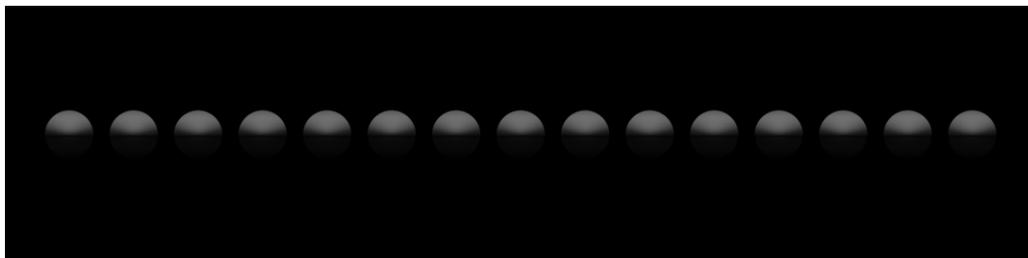
While it may seem as though I wandered away from the electron experiment, the above was important because it allowed me to identify the differences in all the experiments.

- There's only one electron beam and matter can't be superpositioned, so two epicenters and wavesets are an impossibility. That's fine – light doesn't fade in and out in the electron experiment, so we didn't need those two elements anyway.
- The presence of rings in the electron experiment, against the wall, and against the television screen indicates that rings are always present.
- When dealing with only photons, it is easier to see rings on darker surfaces than lighter ones.
- With electrons on a white (or white-ish) phosphor screen, it was easier to see the rings than it is with just photons.

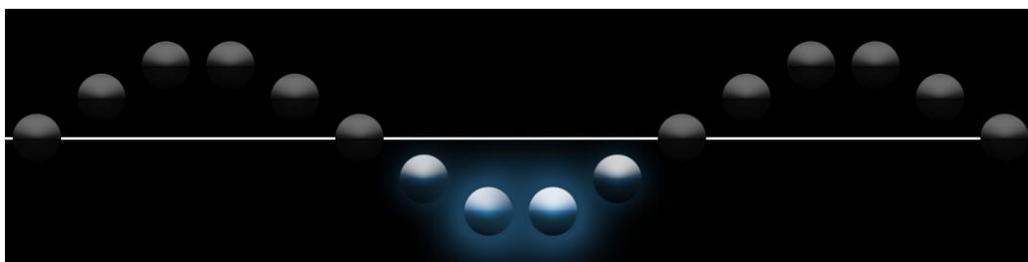
So, after putting it all together, here is what I was able to deduce:

- Darker surfaces work better. The contrast makes dark rings easier to identify. How easy would it be to identify a dark ring using white light against a white surface? I suppose this is why I was able to see it on the television screen. I, and other people, have also seen it on computer monitors (I made sure to google it to make sure I wasn't the only one). When this happened for me, there was no apparent focused light source, such as a torch, as it was only natural light coming through the window.
- Surface dispersion needs to be greater than the width of the epicenter and first dark ring of the pressure wave, so it seems to be a case of distance versus intensity, but the type of surface also comes into play. The pattern on my glossy TV screen differed from that of my matte monitor – an example of the TV pattern you've already seen, but the monitor pattern, which was caused by light coming through a window, meaning the source wasn't close at all, created wave lengths short enough for me to see, in real life, multiple rings of about 1 cm width. One can only assume the window managed to focus the light to a point, something like a magnifying glass angled correctly. It was also much more difficult to recreate on the matte, while it happened (and still happens) every single time I held a torch up to the glossy.

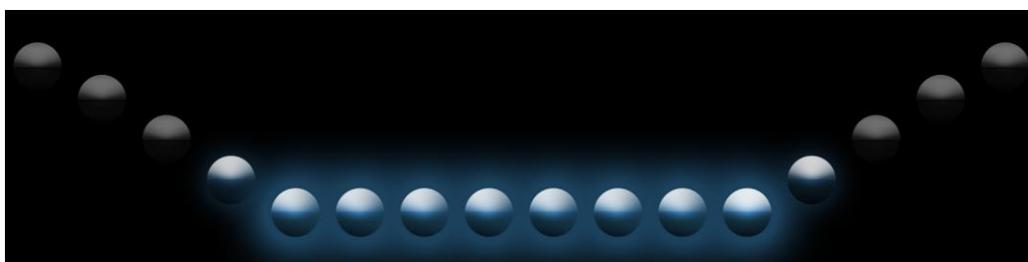
- Particle stimulation. Something of great interest is the fact that some particles either don't produce or produce less light, and now that we know such a radial wave pattern is always present, I *think* I understand why. Particles need to be stimulated in order to release light photons, and that stimulation is relative to the propagation of the pressure wave throughout it:



Each circle in the image above represents a matter particle. No pressure is being exerted upon them, so they remain in a level, baseline state.



When a pressure wave propagates through the particles, the particles move from a baseline state to a state which reflects the position of the wave with which it is interacting at any given point in time. The current state of any individual particle determines its current behaviour – on or above the baseline and no photons are produced; the further below the baseline, the more photons that are produced. Obviously this has been exaggerated to show particles following the wave pattern, but it's better to depict it this way than showing a level particle row and a separate wave pattern.



This is what the epicenter would look like. Rather than simply following a general wave pattern, the trough would be extended in width to accommodate the complete width of the pressure applicator, and a greater number of particles are emitting more intense photons, hence why epicenters are always the brightest spot.

I suppose we can also relate this to electrons moving from ground state to a higher state to absorb energy, and back to a lower state to release it. Makes sense.

So, why do I think of it in this way? Because the epicenter is going to have the greatest and a constant incoming pressure, so it would always be in a down position, be in the greatest down position, and therefore release the most intense photons. Outside of any epicenter has to be the transition between the down position and the first up position, and this is also reflected in what we see – outside of the photon epicenter, but before the first dark ring, we (obviously) get a fade out, and then a continuous pattern of fading in and out for as long as the surface dispersion lasts, just as we would with a wave until it peters out.

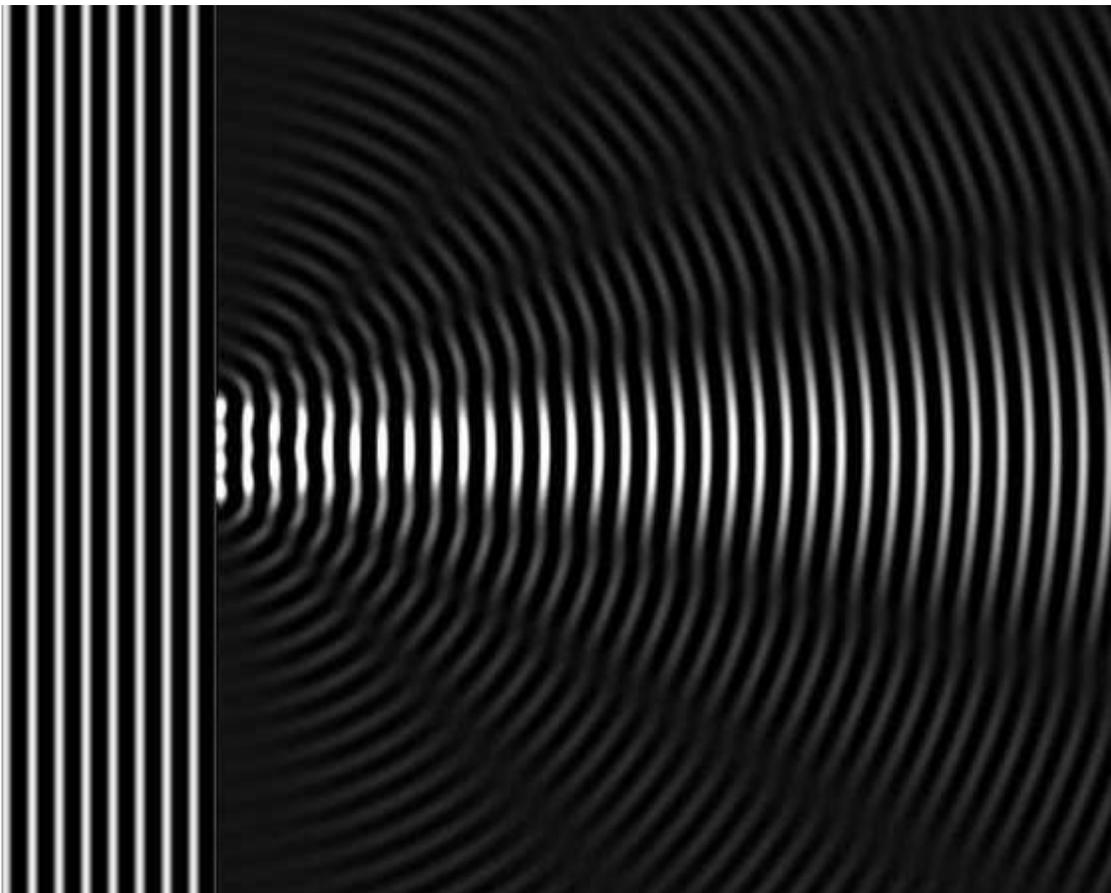
We can then go on to explain why electrons create rings on lighter materials much easier than mere photons. Electrons, having mass, create greater pressure upon impact. As we all know, greater pressure creates waves with greater amplitude. This means the particles releasing photons will be in a much lower down state, and the rest in a much higher up state, increasing the contrast between the two, making the rings much easier to see.

- Some may wonder why patterns only change in relation to the change in distance between source and surface, and why we don't see any indication of wave propagation. This is due to both the continuous and speedy impact against the surface, and the speed of propagation. The continuous impact of photons or electrons at a speed beyond that which our brain is able to process creates waves which occur faster than the brain is able to process. Because of this, our brain creates a constant based on the average position and motion of the waves. However, while not being able to see it, it's something you can feel if the impact is strong enough, which is how we feel vibrations. Find an object that can create vibrations at different speeds and steadily increase it (insert sex joke here). You will, at first, be able to feel the wave propagation and the passing of crests and troughs, but, beyond a certain speed, it feels like a constant; steady; because the waves are passing too fast for your brain to register every single motion. This is what happens with our eyes. If we attempted to process and actually use all of this information with the human brain in its current form, every human alive would be dead, but not

before the brain overheated and epileptic seizures were induced. Neurons would fry to a crisp.

Deductions aren't always so straightforward or easy to come by, but, given all the evidence gathered, it's the most logical conclusion, and the only one that actually makes complete sense, especially when it comes to determining a single wave theory for what we see with both electrons and photons.

Since we are already well and truly into wave theory, I may as well explain diffraction in full detail, too.



This is a common diffraction image you'll see, and we can see two of three types of waves present:

- Linear – These waves appear as straight lines, and are created with a single motion by a source that spans the full width of the containment area, so there's no space currently unoccupied by the wave for it fill. All points in the wave move in unison, and so everything appears uniformly.

- Radial – Radial waves are the natural result of a single point disturbance. The required condition for this event is either touching particles – the likes of which you get with liquids and solids – that are able to knock surrounding particles by rubbing together in order to distribute motion, or for particles to be pushed outward – which works for all forms of matter – knocking other particles, which knock other particles, and so on and so forth. Radial waves can be created regardless of the plane of source travel. Perpendicular angles are best as there's no general direction, but directional motion can work as long as the angles of interaction between particles allow for the motion to travel all the way around.
- Arc – Arc waves are created in a similar way to radial, the difference being that either the angles of interaction between particles don't allow for the motion to complete a circle, or the waves are obstructed and prevented from completing a circle.

In the image, we have linear and arc waves, with the former transforming into the latter as it passes through an opening.

- First, know that this is all based on liquids – you can never get perfect linear waves with light in this manner, only the illusion of them, and it would be rife with interference patterns.
- Second, as the linear waves pass through the opening, we see four bright spots. Physicists assume this is something based on wavelength, but that makes no sense. Referring to the image, the linear waves are vertical, and so no vertical bar would have a wavelength because the wavelength would need to be measured horizontally – black bar to black bar or white bar to white bar. The opening only encounters one bar at a time due to their orientation, so the wavelength of the vertical linear waves could never then be transferred to the opening as if they were horizontal, and the opening is simply an opening – it has no way of detecting the wavelengths and then controlling the liquid within the gap to create waves of a specific wavelength. The size of those bright spots can never correlate to the wavelengths of the linear waves except by pure coincidence.

What actually happens at the opening – and, again, this can be tested and verified – is due to another function of waves that has only ever been associated with sounds –

reverberations. Now, this was a very sly manoeuvre that, again, my bath tub helped figure out, so I won't hold the fact that physicists were wrong about this against them too much (I'm lying). So, reverberations occur when a wave hits an obstacle that does not succumb to the pressure, which causes it to be reflected. You must be wondering how this can occur since the opening clearly doesn't contain an obstacle, but it's not something you can understand on a macro scale – you must go atomic/molecular.



In the above image, we see the transitioning of a single row of particles through an opening. This is pretty much how we imagine it because this is how we see it – liquid perfectly fitting through the opening. Alas, nature is not so precise.



This is what really happens when liquid passes through an opening. There will always be particles that do not perfectly align with the opening to move through undisturbed. When they try, they can be pushed inwards, depending on where on the particle it makes contact with the obstacle to either side of the opening. Such a happening causes two new waves to be produced – one from each side of the opening at the contact point of the particle and the obstacle – travelling towards each other. These two waves interfere *within* the opening, which is what causes the bright spots in the photos. Given that each wave was caused by a single point disturbance, radial waves are created and expand in all directions. However, we only see what appears to be arc waves because the linear waves behind them are of greater strength (this physically has to be true, given that reverberations are pressure waves of greater distance travelled, making them weaker in strength) and somewhat drown out the radial waves on their side as they push forward. This isn't shown in the image, but can be seen in real life.

A very simple experiment can be done to recreate this phenomenon, and you don't need incoming waves to do it. Simply rest your hands parallel to each other on the surface of a body of water, say, 10 cm apart, and then pat them against the surface in unison. They'll both create their own radial waves, and if you look between them, you'll see the same interference pattern, which will then extend with the waves as they travel.

Now, the interference patterns we see are due to the fact that matter cannot superposition, so, as each wave tries to forge its own path, it encounters its neighbour wave trying to do the same. Since waves expand outwards, two neighbouring waves end up pushing against each other. Moving matter always carries pressure, and pressure always gets lower the further away from the source that it is, so when two expanding waves encounter and push against each other, the boring maths kicks in. Assuming the initial pressure of each wave was equal, the wave closer to its source point is going to carry greater pressure with it, so it's going to overpower the wave it is pushing against, which happens to be further away from its own source point. The stronger wave keeps pushing against the weaker until it (the stronger) is far enough away from its own source point to be equal in pressure to the competing wave. When this happens, matter along the equalisation point moves forward because both waves push it forward with them, but can't move sideways because it is being pushed equally in opposite directions by both waves, and this lack of sideways movement is what creates the interference lines that we see. This equalisation is also why the interference lines create a perfect pattern formation.

Particles that do not make it through the opening, but rather slam into the obstacle, cause backwards wave reverberations. If you fill a bath with water and draw your finger across the surface in a single direction, you can watch as the wave hits the side and reverberates back. Then you'll see that other points of the initial wave will hit other sides of the bath and create reverbs, and each wave will continue to create multiple reverbs until the whole bath has waves flowing in different directions.

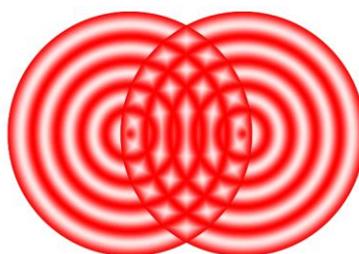
So, that's the physics of waves. Back to electron "diffraction".

Magnetic deflection was used as "proof" that it had to be charged particles creating the wave pattern rather than a beam of light, and I agree, but the problem here is that electrons as particles are deflected by magnets, so the same electrons coming through the slit as particles that are also found at the center of the wave pattern are being deflected, and since they are the creators of the pressure wave and cause of the green photon emission, when they move, the pattern moves along with them.

An electron (nor any other particle of matter) can never and will never be a wave or wave-like, and if they really do have this "dual nature", fire them through an inch of whatever material you think they can pass through – not through a slit, but straight through a solid material that electrons "acting as particles" are not able to travel through – and show us the electrons coming out on the other side because, by current theory and all available evidence, all waves can pass through *some* material out there. I bet that you can achieve the exact same effect we've seen using any particle that causes a material to emit photons on impact that you are able to fire fast enough and in a high enough quantity because they're all going to create pressure waves. Use a proton beam and a surface upon which they would create light.

Before moving on, slits and double slits for electrons and photons:

- The Slit – This isn't the same as water waves going through an opening because it isn't waves travelling through the slits. All that happens here is you create a smaller epicenter than what would be naturally created based upon the speed, distance, and distribution of the particles being fired at the screen. The narrowing of the epicenter brings the waves in closer and decreases surface dispersion, but each to a different degree, which allows the rings to be seen more easily. Lowering the voltage to slow the electrons causes a fade out because the amplitude of the created pressure waves are decreased. This is also the same explanation behind the pinhole variant of this experiment – the only difference is the shape of the epicenter and rings.
- The Double Slit – Now we have two neighbouring, rather than overlapping, epicenters, resulting in pressure waves that do not move in the same direction from the same point, giving us a pattern that looks something like this:



But this is not the pattern we see because waves cancel each other out. What we see looks more like this:



Showing how waves would cancel each other out, this is what the result would look like, on the left. On the right is the mid-section between the two epicenters – look familiar? It's the *exact* same patterns we see in real life, even down to the curvature of some bars.

- Comparison – This is proof that particles do not themselves behave like a wave. If they did, a single wave-particle going through a single slit would create the same vertical interference patterns that we get using a double slit experiment because the individual wave would be forced to split into multiple waves as it passed through the opening, **exactly** as we see it happen with liquid waves.
- Observation – As for this "observation" issue. Look, when physicists view the experiments normally with their own eyes, they claim the experiment produces wave patterns. When they stick a camera or whatever observation/measuring tool they use next to it and try to capture the event, they claim that it no longer produces wave patterns. Can we just apply some common sense here and see that, if the only difference here is the tool, then the tool is the issue. So then we must ask ourselves what that tool brings along with it. Now, I haven't been able to find *any* video or even a description of what this tool does and how it operates, whether it is a normal camera or one of special scientific adaption, or exactly how it is included for use in the experiment, so I can't explain exactly what would cause the pattern to disappear. If someone wishes to disclose such information, I'll be happy to provide an answer. However, what I can say for sure is that the operation of that observation/measuring tool, if this (lack of an) event actually does occur, would involve disruption of the pressure waves on the screen. Also, why would this only happen for the double slit and not the single? Why doesn't this happen when I shine the light on the television screen? Are we now to believe that particles not only know what type of device is observing them, but also the number of slits involved in the current experiment? So they are psychic AND they can see. Fucking amazing if you ask me.

- Maths – The "logic" and maths behind this takes everything to a new low. Physicists have stated – and seriously believe – that a *single* particle goes through *both* slits, *neither* slit, and *each one* individually... at the same damn time. Oh, then they say that all the possibilities are superpositioned, hence how all this happens. *How in the earth-rotating fuck do you superposition a **possibility**?* If one were to translate this into standard, non-scientific English, it would sound something like, "*Golly gee, we really don't have a clue, so we're going to take two opposing possibilities – one electron going through one slit or the other – and then take a second set of two opposing possibilities – the electron going through both and going through neither – and put something together that isn't physically possible, but that we can make work using retarded mathematics that make us look like geniuses when, really, we know fuck all about everything and everything about not a god-damn thing. Then we're gonna tell the world that we know what we are doing so it's best if they simply open wide and swallow.*"
- **Virtual Particles** – Matter and energy cannot be created or destroyed, only changed. A fundamental principle of physics this is, yet these "particles" only exist for a limited period of time, popping in and out of existence. How? No one knows. Why? Because it was the only way for physicists to get their maths formulas and frameworks to work – by creating particles that we can never find but "do" exist. *Fuck outta here.*
- **Uncertainty Principle** – Gather every "I don't know", "I can't be sure", and "Maybe", you can find in physics, package it together, put on bow on it, and this is what you get. I'm not even joking – that is literally what this principle covers. It's the fact that physicists do not know how to work out what all the properties of a particle are, and so they state that there's a limit to what can be known about a particle. I'll give you a football example to explain just how stupid this is. The uncertainty principle states that a particle's position and speed cannot be measured at the same time, so you can never know both. This would be the equivalent of Cesc Fabregas putting in a cross to Eden Hazard, but Hazard not being able to know either where in the air the ball is, or how fast it is going, so getting on the end of it would be blind luck. Particles are 3D objects just like footballs, so why exactly wouldn't we be able to know such properties?
This 'principle' isn't a principle whatsoever. It's nothing more than a current limitation imposed by the lack of equipment with high enough sensitivity for observation. If you could magnify an atom to the size of, say, the moon, in full ultra high definition glory, and we viewed it from ten feet away, do you think we still wouldn't be able to measure the position

and speed of an electron simultaneously? As big as an electron would be, a maths prodigy would be able to determine position and velocity at distance, and if it was a free electron hurtling towards you, I'm pretty sure you'd know how to not be in the way of the landing zone. The uncertainty principle fails with increased size or sensitivity, and isn't even true on a micro scale. It is not physics. It is a desperate attempt to be remembered. Mr Heisenberg really couldn't help himself. Bury it next to him.

- **String Theory** – 9 dimensions? 26 dimensions? Length, width, height – please, list the rest for us. Oh, that's right, we can't perceive them. *Fuck arf, buddy.* More maths bullshit. There is one great thing about this theory, though. Strings are said to be one dimensional. That's perfect, because it's impossible for anything with a single dimension to exist in the physical world. Every single object in the physical world is three-dimensional, even objects we often see as two-dimensional, such as sheets of paper. Two dimensional objects are possible, but do not exist in the physical world. Shapes, for example. If you draw a square on paper, that square has a width and a length, but doesn't have a height (or whichever way you wish to look at it). The shape itself is 2D. What was used to create the shape, though, exists in a 3D state. The ink or lead can only be seen because it has three dimensions. We can even just use a single horizontal line. It has a width and a length – length may be easy to measure while the width is not, but if you zoom in using a microscope, you'll see that it has a width. This makes it a shape. Every object in the universe – both 2D and 3D – has a shape. Anything with a single dimension cannot have a shape, ergo, strings cannot exist. Fucking dumbasses. Again, how on earth has anyone managed to have this theory taken seriously?! Not one iota of this is based on real life. I told you this was worse than Relativity.
- **Matter Phasing Through Matter** – A question popped up in my Quora Digest that said, *"According to Quantum Mechanics, is it true that if you throw a ball against a wall enough times, eventually it would pass straight through the wall?"* The answer that came with said question very much proves my point about the world of physics as it currently stands. Mr Paul Le writes, *"Mathematically speaking, it is true that the probability of this happening is indeed non-zero, meaning, given enough time there does exist a case of this happening. Physically and practically speaking, this is very, very improbable, to the point where we can say it will never happen"*. This is the fundamental flaw in physics. Scientists don't like to use the word "impossible" because it closes doors on the bullshit theories that already exist and are yet to come. It's absolutely stupid. If I stand in a completely empty vacuum room with walls made of ten metre thick concrete, with copper chicken wire lined throughout, and release a lead ball ten metres above the surface of the earth as it currently spins, and the

rest of the universe remains as is, what are the chances of the ball hitting the ground every single time I do it? The answer is 100%. Physicists will tell you it is just under 100% because it leaves room for the paranormal, but they will never be able demonstrate it. We can give them an entire century to continuously try this out and the ball will always fall. Yet again, this relates to the fact that they don't have all the answers, but need a seemingly scientific reason to explain *why* they can't know all the answers. Not even maths or computer modelling can create this situation and have the ball not hit the ground without scientists changing the conditions to suit their needs. In regards to the question, unless the wall breaks or its integrity is otherwise compromised, I'm as sure that the ball will never go through the wall as I am that physicists will not stop talking shit any time soon. Imagine this – based on Quantum Mechanics, it is possible for a human to take a step and pass straight through the floor. Given all the steps a human has taken in life individually since birth, and all steps taken collectively since the dawn of man, shouldn't there have been at least *one* recorded news story by now about this happening? Over 7 billion people on this planet right now. Most of them have working legs. How many steps are collectively taken in a day? Let's say 5 billion people take an average of 1000 steps each. That makes 5 trillion steps around the globe in a single day. 1.8 quadrillion in a year. You want to try for the decade? Century? Millennium? I would, but I don't have time to study the rate of change of people on this planet. Nevertheless, not one step has thus far led to this phenomenon. What kind of odds are we playing with here? If this isn't testament to the fact that much of quantum theory is gibberish, I don't know how to convince you.

- **Dark Matter** – No such thing. For us to know of its existence, it would have to exert pressure. If it exerted pressure, it would be a physical object. If it was a physical object, it would have to release energy – heat energy, at the very least, as it could never be in an absolute zero state. If that was the case, we would have detected it, and it wouldn't be 'dark'. Paradox. Also, failure. An awesome SyFy/Space show it most definitely is, and I hope it continues for years to come, but eradicate the theory of this shit from the real world and be on your merry way. Place any pressure-sensitive device in any position in space. Photons from objects everywhere in the universe will hit it from every direction. Pressure will be detected. Gravity from every object in the universe will pull it. Pressure will be detected. No matter – dark, light, or other – need be present.
- **Dark Energy** – Supposedly behind the expansion of the universe. Already explained, so... *No*.
- **Exotic Matter** – A term used to refer to matter that isn't normal and has "exotic" properties. For matter to not be normal, it has to break the laws of physics, but if it broke the laws of

physics, it wouldn't really be the laws of physics being broken, but the egos of physicists who thought they had them grasped. The laws of physics can't change, so how can they be broken? Anything that was possible once has always been possible and will always be possible. Whether or not humans understood physics well enough does not change what the universe has always been able to do. Exotic matter is a paradox – if it breaks the laws of physics, we learn more about the laws of physics and what is possible, which means the laws of physics aren't broken, which means the matter isn't exotic at all. Now, let's highlight the fact that a Nobel Prize was awarded for this in 2016 to David J. Thouless, John Michael Kosterlitz, and Frederick Duncan Haldane for "theoretical discoveries of topological phase transitions and topological phases of matter." To quote Science Daily, "They revealed the secrets of exotic matter". Imagine that – they managed to **reveal the secrets** of something that is only theoretical and **has not been proven to exist**. Now do you see why the official motto of physics should be what I previously stated? Tell me, how in the *fuck-a-doodle-do* do you discover something that you haven't even proven to exist? And how do you then win a prestigious award for it? This has all come down to the use of mathematics, which was used to – get this – "study unusual phases, or states, of matter." Maths has been used to study physical objects and properties that have never been physically observed. There is no basis for its existence. Getting into the details of what one aspect of the awarded work and field entails shows it in an even more ludicrous light. To put it simply, this exotic matter can be stretched and compressed to whatever extent you see fit, but you cannot create holes in it at will, as that's against the rules. That's right, if it were to ever exist, it would be like Play-Doh, *but much less useful*.

- **Quantum Entanglement** – *By now, I just want this to end.* Pairs of particles that are magically linked over any distance and must be described together but with opposite values of any measurement taken. The "spin" of a particle is the most common example I see used, where if one particle spins left, the other must spin right. Apparently, this can apply to groups, too. Okay, let's get the most obvious question out of the way. Matter and energy cannot be created or destroyed, so every particle that is to exist in the universe already does. Given that, what is the likelihood that anyone on this planet we call earth would just so happen to find two, or even a group of particles, that just so happened to be entangled, when pairs of particles could exist literally anywhere in the universe. Now, think of how unlikely to find even *one* pair or group it is, and then realise that this phenomenon has apparently been observed multiple times, and papers have even been written about the findings. That means there must be a way to find those that are already linked because the

man or woman who is lucky enough to find multiple linked particles in the universe would be world famous for winning the lottery every weekend. So, whichever physicist claims that this shit is true, I want them to find two linked particles, separate them to opposite points on the earth – hell, you know what, I'll settle for having them 10 feet away – and demonstrate live, in front of the world, quantum entanglement in action. Ah, but I just realised the one major problem with proving this, and it's the one thing quantum physicists rely on regularly to get away with their scheming – the changing of a property upon observation. I swear, this is too funny. How does one manage to determine that particles are entangled if, upon observation, properties become fixed? So, they want me to believe that two electrons are entangled? Okay, I'm open minded right now, but please, do tell me *how* they know that these particles are entangled. If properties become fixed upon observation, how do they know that they were not fixed prior to observation? *Thank you for opening the door to this level of acceptable stupidity, Mr Schrodinger. You have wrecked the field of Quantum Mechanics just as much as Einstein wrecked its classic counterpart.* Who's to say they didn't just find two particles with the desired properties beforehand? The only real way to test this is via the changing of a property after observation or, even better, during. Put one particle in a container – thick walled, vacuumed, air tight, magnetic field shielded – with a wired camera embedded into the wall, pointing inside, hooked up to a screen visible to us all, and a second particle out in the open, camera pointed at it which is linked to a second screen beside the first, and then let random people interfere with the one in the open, and let others watch on both screens to see if we get any reaction from the one in the container. If they cannot do this, do not waste anybody's time with their nonsense fantasies. Oh, wait, I forgot the best part about all of this. The information has to travel at a speed faster than light (and the speed of any object that could ever possibly exist) because, based on the rules of this fiction (yes, fiction, because there's no way in hell that this is real) everything must happen at exactly the same time, as in *instantaneously*. I guess that's that, then. This theory is as good as dead, and the only way to revive it is for a quantum physicist to explain how this information travels faster than light, and what exactly is carrying it. Do not even entertain or otherwise try to justify any of this until they explain how such information transfer is possible. Or do they want to play the card which states these two particles are like a coin, and when one is heads, the other must be tails? If so, please, live experiments, not bullshit, fraudulent mathematics.

- **Quantum Teleportation** – *I feel like I am dying now.* Not the transporting of matter from A to B, as is the coolness of sci-fi, but the transporting of information. Possible? Yea, sure, the

concept isn't much different from that of a fax machine. Possible to the extent that has been promised? No. The idea is simply the copying of the state of particle A to particle B, and then removing the state from particle A. Imagine we have two balls. The first ball is spinning, the second is not. The information about the spin of the first ball – direction, angle, speed – is read, sent to the second ball, which then starts spinning precisely as the first was, and then the first ball stops spinning. A very simple concept to understand, and a demonstration can easily be set up to prove the possibility of this.

Two rooms, each with a light bulb and a light sensor, any communication method you want between the two sensors, and between a sensor and the light bulb within the same room so that each sensor can transmit information to its own light bulb and to the other sensor. The light sensor's job is to detect whether its bulb is on or off, transfer the information to the other sensor, and have that sensor change the state of its own bulb to match. Once it has, it sends back a 'complete' signal to the first sensor, which then turns its own bulb to the opposite state so that anyone who comes along after these events has no idea which bulb did what first.

It's not rocket science. It's not even 'hard'. We can use the principles of the concept in hardware and software today, as in we can build such things right now.

Now, actual quantum teleportation is supposed to be achieved using the entangled particles that we just looked at, and the information is supposed to be transferred instantaneously – this does not happen instantaneously. This does not even happen faster than light. What's hilarious is that lasers are used for these experiments, so it doesn't even make sense how one manages to use light to transfer information faster than a photon can travel. Go and look at any "quantum teleportation device" – you will see a bunch of optical lenses, which are used to guide photons from point A to point B. Okay, so, light slows down as it passes through transparent mediums, so the need for photons to travel through lenses means that this experiment couldn't even be achieved at light speed. Then, unless a vacuum is used, this really isn't anywhere near light speed. This also completely goes against the entire point of quantum entanglement – if two particles were entangled, why do we need to build any sort of apparatus to transfer information between them? It should be automatic, no? The universe should take care of whatever is happening. It's all bullshit. Nothing in the world happens between two points instantaneously. Nothing in the world happens between two

points faster than the speed of light. Physicists really need to stop making this claim.

Now, let's make one major thing clear – this will never prevent the interception of data in the real world. Going back to my explanation of Quantum Mechanics over Schrodinger's, we may not know what the state is or was, but the device sending the data does – it has to, otherwise it won't know what the hell to transfer – so, while we may not initially know it, the device does. At that point, you intercept it as you would any other piece of information and do with it what you please. There is *no* preventing the interception of data, and if you know how to read it, it's yours, so advanced quantum encryption methods and hypercomputing are your best bet. The fact that information must be read, either raw or in an encrypted format, in order to be transferred elsewhere means that it is always vulnerable. Advancing computing simply increases security and lowers chances. It is not possible for a computer – or any device, for that matter – to transfer data without reading it, unless you write it down, send it using the postal service, and no one who handles the mail during transit decides to snoop.

Proof of teleportation was apparently provided by the Furusawa Group from the University of Tokyo, and the Kavli Institute of Nanoscience from Delft University in the Netherlands, both using similar machines that I've just explained do not transfer anything instantaneously. Both are wrong, but the lead author of the paper published by the Dutch group took things to a whole new level. Professor Ronald Hanson says, "*What we are teleporting is the state of a particle. If you believe we are nothing more than a collection of atoms strung together in a particular way, then in principle it should be possible to teleport ourselves from one place to another.*" Okay, big problems. Let's say you teleport the states of all the particles in a human:

1. Who or what arranges them as precisely as they were arranged prior to teleportation? Do they magically arrange themselves based on where the original particles were prior to teleportation because state doesn't account for positioning, so...?
2. You teleport the state of a particle, but how would you teleport the bond that holds particles together? Can you teleport forces, too, or are they just supposed to go along with the particle state? How?
3. What about the quantity of energy in a particle? How would you ensure the temperature matches precisely? Even if you read the energy level of a particle, you

can't magically set this value and expect whatever the current energy level is of the receiving particle to increase or decrease without other intervention. Other intervention would require time, so, again, not instantaneous.

4. Maybe this should have been the first question, but since you are only teleporting the state of a particle and not the particle itself, well, where would the particles to rebuild the human come from? Are we going to have large containers filled with different atoms, molecules, and/or subatomic particles, that a machine picks from and compiles when rebuilding the human?
5. How long would it then take to rebuild the human because, if particles can't arrange themselves, a machine for damn sure isn't going to do it in an instant?
6. What if you don't have a particle required? What do you do then? Can this storage machine combine subatomic particles to create what is needed? What if it is an element? Wow, so this machine will also do nuclear fusion?! Amazing!

He goes on to say, "In practice it's extremely unlikely, but to say it can never work is very dangerous". I'll say it – ***it can never, ever, ever-ever-ever work***. There is no damn principle here. Teleporting a state from one particle to another does not transfer everything else needed to recompose any object. *You, Mr Hanson, are the danger.*

Nothing about this is instant, nothing about this is *really* teleportation, and when you look at how the actual process works, it is more trouble than it's worth because, given the physical impossibilities of this concept the way physicists like to explain it, we can build something now that they will never surpass simply because the laws of physics do not allow it.

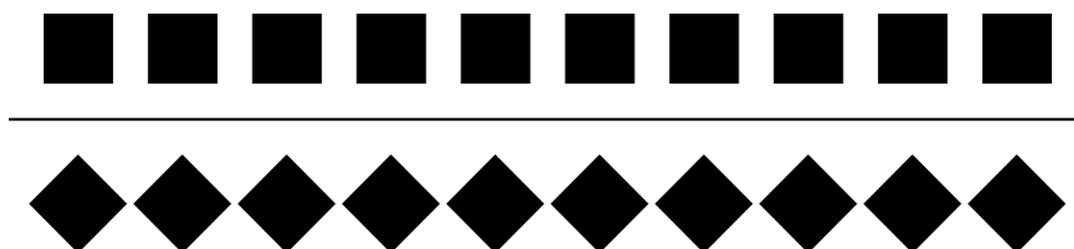
Of course, this all works mathematically, but that really goes without saying at this point.

- On a side note, if you really, want to see quantum entanglement and teleportation, take two objects and connect them together using as rigid a stick or pole as you can find. That is literally the only way to achieve these two things. Imagine you were using footballs connected via steel pole. You kick one and the other must move with it, and it will. As long as they stay connected, one goes where the other goes... "instantaneously". If you stab one football, though, the other won't automatically pop, so, you know, *failure*.
- **Quantum Zeno and Anti-Zeno Effects** – The idea that how frequently you measure a system can determine the rate at which a system decays. *Nope*. You have no bearing on any system unless you interact with it in a way that actively causes it to change. For example, if a ball is deflating by itself and I and continuously go and squeeze it, it will deflate faster. If I

continuously put air inside it, it will deflate slower. If I just stare at it, it will deflate at its natural rate. I have to interfere with the process for the process to change, and there's absolutely no way around that fact. *Magic isn't real*. If someone measures a system frequently and it decays faster than when left alone, the measuring tool is doing something to cause that. Imagine the system decayed faster when under higher temperatures – the tool, most likely being some sort of electrical device, would generate heat simply through use, and this heat radiation would cause the system to decay at a faster rate every time the tool was within a close enough range. If heat in such a situation slowed decay, then decay would be slowed. In both situations, the actual "measuring" had fuck all to do with the resulting behaviour, and yet it would appear as though the device did nothing but measure the system, and the system did nothing but react to the presence of the device. Not one isolated system exists – it's a physical impossibility – so never assume that only one interaction is taking place in any situation.

- **Time Crystals** – This one is funny. *I'll start off by saying this – an original idea was proposed that physicists could not and did not achieve, so they changed the definition to suit what they did manage, and have now claimed 'success'. Prime-o example-o.*

The original idea is very easy to understand – particle patterns repeat in both space and time. A visual example, if you need:



The top row represents the first state and the bottom row represents the second state. After X amount of time, or at specific times, the particles change from one state to the other, repeatedly and indefinitely. This is what is meant by time repetition, and the space repetition is simply us being able to see that the particle arrangement repeats itself horizontally. This idea can be performed in many different ways, including particle shifting – for example, certain particles moving out of line at X time and realigning at Y time – as long as the pattern itself repeats. It could involve as many different states as one desires, as long as the pattern repeats.

The most important aspect of this is that **the particles have to do it on their own, completely unaided by anything that is not part of the particles themselves.** It has to be a completely natural *and* persistent occurrence that takes place in the absence of humans.

With that out of the way, two teams of physicists claimed to have created time crystals. These physicists were from the universities of Maryland and Harvard. Now, I don't know much about the supposed reputation of Maryland, but *everyone in the world* knows of Harvard's apparent genius and prestigious reputation, which makes this all the more intriguing. Anyway, without going into the unnecessary details, they both trapped atoms and hit them with lasers, which caused a change of spin state. A second hit would make the atoms return to their original state.

To both teams: *Congratulations, you've made a switch.*

How can physicists claim it to be a new state of matter, and that they have been successful, if they are the ones tampering with the particles in order to change their states? So science celebrates half measures now? If I blast an ice cube with a flame at 1pm and it completely melts in 1 second, blast it with liquid nitrogen at 2pm and it completely freezes in 1 second, flame again at 3pm, nitrogen again at 4pm, alternating every hour for however long I wish, can I then say that I have created a new state of matter that continually changes between solid and liquid, despite the fact that I am the one pulling the strings on its metamorphoses? This is an absolute insult to the intellect of everyone who read the work, but it gets worse. The Register has Chetan Nayak, a professor at the University of California, Santa Barbara, who was part of a group that teamed up with Microsoft to "theoretically prove how time crystals might exist" saying,

"It's worth pointing out that, in physics, we often take ideas and generalise them when we notice some other common conceptual features, even if they're applied in different context."

Translation?

"In physics, we are allowed to stray from the facts of an idea, manipulate the idea to suit our needs based on what we can do, meet the benchmark of what we are willing to accept (even if it is not what the original idea states), and then change the definition of the idea and exclaim "We done it!""

You would expect a company like Microsoft to know better, but I suppose they have enough money to blow on such tomfoolery.

They go on to say that this still has the potential to be useful and, in the specific way they perform this task, this is true, but not with this exact state change. The best use of such a mechanism is for colour changing, but that requires physicists being able to change the state of an atom in a way that changes the wavelength of visible light produced. They won't have to go far to find a use for it:

1. **Design** – Everything from clothes to accessories to housing interiors. One laser hit and they change colour at will. One dress, multiple colour options. Shoes to match. Mood rooms without the need for expensive electronic systems. Graffiti artists and painters commissioned to create artwork using lasers. Cool shit. *Expensive* shit that people *will* pay for.
2. **Criminality** – Every technology finds its way into the underworld. Colour changing clothes and vehicles – what could possibly go wrong? Laser hotspots set up all over cities. That suspect being chased just disappeared in plain sight. If police attempt to arrest the wrong person, wrongful arrest and racial profiling lawsuits incoming like Johns in a Bangkok whorehouse.

For now, though, such an invention is out of my range of expertise, so whoever gets to it first will make a fucking mint from it.

I also saw some write-ups on this that included quantum entanglement and a row of particles, whereby pairs of non-consecutive particles shifted in synchronisation when only one was disturbed, and was used in a way akin to Newton's Cradle, with slight spacing between them, if I remember correctly, which resulted in a system that never stopped shifting as particles continuously knocked each other, with all particles playing their part. *Oy vey...*

- **Observation Collapsation** – Yes, I did just use a word that isn't to be found in the OED, but so be it. This phenomenon of properties collapsing into a fixed state upon observation is an all too convenient excuse for why one can't prove a claim they made about a property, but want us to take their word for it because the maths *they* created shows this, that and the third. **Shut. The. Fuck. Up. You. Fucking. Windbags.** The state is what it is, and it will change if conditions are met for it to change (à la ice succumbing to heat), but whether or not someone looks or measures a property has no bearing on what said property is, as previously explained.

- **Quantum Computing** – Oh, the lies that have come with quantum computing. "Quantum computers will be able to process everything we give it at once" is the primary lie, and many a person is lapping it up. Just like any a binary computer, a quantum computer can and will only be able to process as many tasks simultaneously as its number of CPUs/threads/cores/whatever allow it to. If it has four cores, it can process four pieces of information simultaneously. One more piece and you fuck right off back behind the wall of limitation that all computers face – including hyperbit computers. All these additional states allow for is the ability to create larger numbers and more possible combinations more efficiently than through use of fewer states, making them faster and more powerful.
- **Gravity and the Inverse Square Law** – If you have made it this far, I probably have you on the hook already, and now I cement one of the lessons everyone needs to learn.

Quantum Mechanics has failed with gravity every step of the way. Not one theory is viable – there are many – and none have even been able to link with the travesty that *was* Relativity. The only real achievement is the hypothesised graviton particle, and that isn't exactly something worth phoning home about because nothing more was done with it. We need to identify where it has all gone wrong.

Gravity is a vortex force – there's absolutely no doubt about that whatsoever – but the application of the inverse-square law? Garbage. My vortex force mechanics? Ditto, in part. Yep, I'm calling bullshit on my own work just to prove a point. Why? Because it doesn't accurately reflect the observations of the real world. It's a weird series of observations and deductions, I'll admit, but it's something I've been stirring on for a while, and it couldn't be left out.

First off, "Round Up". Yes, the spinning carnival ride. So, this ride works by spinning very fast and, by doing so, pinning riders against the sides. Because the ride is hollow – it behaves as a ring, rather than a sphere or disc – it creates two vortices – one on the inside and one on the outside. The external vortex pushes inwards, but the internal vortex pushes outwards, and this is simply due to the nature of how they are created – being on opposite sides of their object of creation, they have to oppose each other. In physics, these are commonly known as the centripetal and centrifugal forces, but these are better used as ways to describe the vortices – the direction of their flow and their relative position.

So, these two forces should be equal, right? I mean, if they weren't, one would overpower the other and the walls would eventually deform in the direction of the weaker force, no? Also, the equal and opposite reaction law should come into play. Again, this is wrong, and another example of why Newton's law is incorrect, as it doesn't apply to *every* action and *every* situation. *Tricky one, isn't it, given that the ring structure would provide equal and opposite reactions to the two forces pushing it from either side, but no equal and opposite reaction to the vortices it creates. What a highly conditional "law" it has turned out to be.* When ring-like objects rotate, if they do deform, they deform outwards, and it's because the internal vortex is stronger than the external vortex, given that confined forces build more easily because there's less room to disperse (à la bombs and explosions), and the internal radius is always less than the external.

To achieve a force strong enough to hold a human on the outside of the ride using the external vortex would require much faster spinning than necessary to achieve the same on the inside, and also someone with no will to live, so I'll use a second observation – water on... any spinning object. It spins, and spins, and spins some more, and then you stop it. You'll notice that some water has flown off, but the object isn't completely dry, with many small water droplets remaining, and these smaller droplets are much harder, if not damn near impossible, to remove this way. This brings me to the last remaining factor that I discussed before, but not as part of the gravity mechanics – mass. More massive objects are harder to hold using external vortices because of the nature of pressure. As an object orbits a rotating body – even when attached to the surface – its mass multiplied by its speed creates a specific amount of pressure, and when the pressure created exceeds the pressure acting upon them, they are no longer bound to the surface by said force as they can easily overpower it and fly off. So, in the case of the water droplets, the mass of the larger droplets creates an outward pressure which exceeds the inward pressure of the external vortex at a lower speed than the smaller droplets, so the large fly off and the small remain. *Again, a case of equal and opposite not being true – if the pressure the water droplet exerted was equal and opposite to the pressure it was facing, it wouldn't move because the two opposing pressures would cancel each other out. That law is so moronic.* We can do a very simple experiment to show this using a large spherical magnet, paramagnetic objects of various sizes (make sure some are very small – grain of sand small) but the same material and density (approximate is fine), a rotating mechanism, and a vacuumed container/room:

- Set up this experiment in the vacuum.

- Attach the magnet to the rotating mechanism, making sure it is stabilised in a single position.
- Attach the paramagnetic objects to the magnet.
- Begin rotating the magnet slowly and gradually increase the speed.
- The largest objects will fly off first.
- The smallest objects, if small enough to not create a dominant pressure, won't fly off at all.

If you really want to get this as close to a gravity simulation as possible, do it in space so that gravity from earth can't interfere.

Now we're going to imagine this was more realistic and add in additional factors to the experiment – atmosphere, surface temperature differences, atmosphere temperature differences, wind. What happens now? The objects will still fly off in largest to smallest order, but... they may fly in the opposite direction of the rotation of the object. It could also fly off upwards/downwards (based on the relative positions of the poles to the equator, rather than altitude). Why? The resistance of opposing force, of course. The atmosphere, the body, and all objects will rotate at the same speed, but when factors that create wind come into play, the dynamic changes. Depending on the positioning of hotter and cooler areas, wind can blow towards the orbiting objects. Let's assume the wind is blowing directly against them. First, this simply decreases the pressure the objects naturally create based on mass and movement, so it would take them longer to fly off in a forward direction if they were going to. If the wind build up is strong enough to equal their pressure, they will never fly off. If it's strong enough to dominate their pressure, they *will* fly off backwards. If the wind blows in the direction of their movement, they will build pressure faster and fly off forwards sooner. If the wind was blowing across them, they would fly off at roughly the same point they would with no wind, but in a more diagonal direction. As for why the larger objects fly off faster than the small when the small weigh less, it's because a larger surface area allows more wind pressure to be applied at any given time, which changes the pressure faster than it would against a smaller surface area. Fun fact: it is possible for smaller objects to fly off sooner than their larger counterparts. If the wind was blowing against two objects of different sizes, and the wind pressure was large enough to equalise the pressure of the larger object, it *could* be strong enough to dominate the pressure of the smaller object, causing it to fly off backwards while the larger object remained perfectly still.

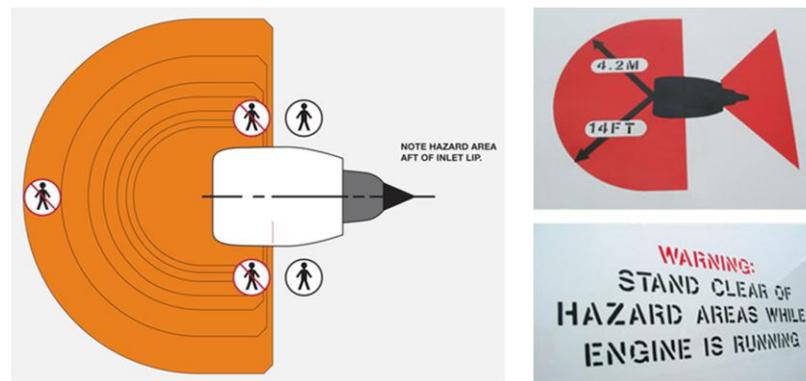
This all happens with people on earth, and it's how strong winds can stop us in our tracks,

and even blow us over – being larger than your average does have its advantages. It also happens with buildings, which is why skyscrapers rock back and forth so much. If they were not stuck in the ground but simply resting on the surface, not one of them would have a surface area to height ratio capable of keeping it standing. Mother Nature is a cruel mistress. This is also a second way bodies orbiting in space can end up orbiting against the spin of the body in which they orbit, and, if Mercury was ever attached to another body in its past, wind blowing across it would explain how and why it orbits the sun at such a steep incline. Amazing, isn't it, how simple things can be made to seem with decent explanation and understanding.

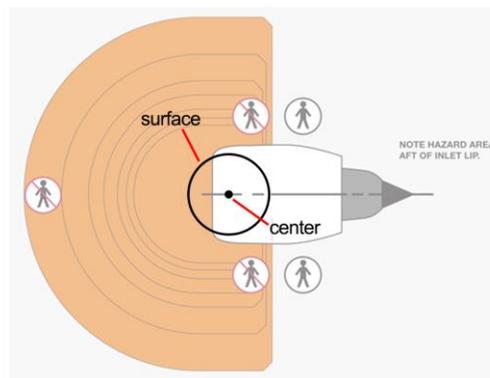
Now I can make the point I actually came here to make. The earth's gravitational pull is effective up to 60 miles in altitude before it turns to microgravity, and yet:

- The moon's pull is effective for a ridiculously short altitude – short enough for us to not have realised it even an atmosphere for a long time.
- The pull of a tornado can be felt up to, I don't know, half a mile to a mile away?
- Jet engines can suck in objects up to a several metres away.
- Rotate a ball or something spherical fast enough and you can feel the vortex effect as the surrounding air pressure is destabilised up to maybe a couple centimetres away.

All of these objects are smaller than the earth in volume and circumference. They all spin, create vortices, and use the same centripetal force to create pressure and an inward pull of particles. What they don't have in common, however, is the distance over which the force fades, relative to the properties of the rotating object, and what could be considered the surface strength of each, so the inverse square law cannot possibly be true. Given what had been proven earlier using the graph, if the law applied to gravity, the relationship between properties would have to hold no matter what, just as it does with light. Let's look at these jet engine safety signs:



These signs show us what is basically the effective area of the vortices created by the turbines. We'll use the image on the left.



As you can see, I've drawn a circle labelled "surface" to indicate the approximate surface level position of the vortex, based on the approximate width of the turbines, and I've also labelled roughly where the center point would be. This doesn't need to be accurate for the point I'm making. Again, the turbine has less mass, volume, and width compared to the earth, which means, if the inverse square law is true:

- Given the approximate surface position equivalent, it should not be able to be a danger to objects as far out as the image shows;
- It should not be more difficult to move away from the approximate surface position equivalent of the propeller vortex than it is to move away from the earth's surface – in other words, the surface position of the propellers have a stronger force than the surface position of the earth when they shouldn't; and
- The propellers should not be able to pull objects away from the surface of the earth at the furthest distance of danger.

And yet, these all happen.

Let's really pay attention to the image. Look at the surface position circle drawn. Look at the size of the danger area. Scale it up to the size of a celestial body. What do we get? A body and an area of effectiveness that is easily comparable to a black core. What is the sole property these both have in common? **A larger number of revolutions per timeframe.** We don't have an approximate figure for black holes, but we know they spin incredible fast, and what's the RPM for a jet turbine – up to 15,000 revolutions per minute normally? That's 250 revolutions a second. With this, we can make the logical deduction of how it all works, and it's simple – the faster an object spins, the longer it takes for the force to taper off. This should seem like common sense, really – when you increase the speed of any spinning object, you feel the effects further away.

The reason I put this here is because it now involves determining how gravitons actually work, and they are not of the same nature of photons at all. It's definitely a type of energy, but the sole property this factor forces to be true is the ability to travel at light speed because it isn't affected by pressure. Light speed shouldn't even be called light speed. It should be "energy speed" or something. I'll work on that. We already witness the fact the other natures are different, with the prime one being that gravitons cannot be blocked, while photons can. Gravitons can be equalised to a zero value, while photons can't. Another is that photons are information carriers, while gravitons aren't. As far as we know, they don't share any other properties, either, so assuming the inverse square law applies is foolish. It is much more likely that it doesn't, and the evidence put forth supports this.

The last question is, how does it *really* work? Modifying the workings of the mechanics previously described, the most logical theory is this:

- Rotation creates a vortex of gravitons, which disperse radially and create pressure towards the surface of the object of its creation.
- The mass of the object determines the number of gravitons produced. The more gravitons produced, the stronger the gravitational potential.
- The circumference determines the surface strength. Lower circumferences allow force to collectively build within a smaller area.
- Revolutions determine the reach. The higher the number of revolutions per timeframe as an object rotates, the further out the effective area of its pull. Incidentally, this also determines the atmospheric compression.

- Depending on the shape of the rotating object, whether or not it is grounded, and the direction of rotation, one or more vortices can be created.

Put all of these things together and what you are left with is: higher masses create more gravitons, while the smaller circumference allows force to build more effectively on the surface because more gravitons would be superpositioned at the surface point (remember intensity versus pressure?), and the speed of rotation controls how far out they are able to reach before their collective strength weakens to a point where they can no longer hold matter. There have been black cores spotted that are only thirty miles wide – now you why, even at such a size, they are so effectively hidden.

That last point can be observed in an interesting way – something which I accidentally stumbled across online. Search for the video "Dancing T-handle in zero-g" on YouTube. It shows a T-handle constantly flipping back and forth while rotating. According to the Science Alert article, astronaut Scott Kelly describes the phenomenon as the "instability of rotation around the immediate axis." He isn't wrong, but it's not really an explanation, and there's a lot more to it. On the same Science Alert page, there is another YouTube video called "YouTube Vloggers Ask Astronaut Scott Kelly Questions In Space". At the 4:22 mark, Henry Reich asks about this phenomenon, doing his own demonstration using a rectangular prism, and then Scott demonstrates it again using what looks like a pair of pliers but is apparently called a Leatherman tool. Anyway, the big issue here is that, based on the current understanding of physics, objects should not rotate in such a manner. They are supposed to continue to rotate along the axis upon which they are spun when not interfered with, and this happens for two of the axes, but not the third. Mathematical explanations have been given as to how and why, and fuck knows whether they are valid or not – I certainly couldn't tell you – but I can explain it using logic and behaviour, as physics was meant to be explained:

- In logic, the intermediate of anything is a mid-point between the two extremes, but how you get there can vary. In maths, for example, an intermediate number between 0 and 4 could be 2. Physics is different, which, again, is why maths does not define it. Here, an intermediate value is a combination of the two extremes, where no extreme has a zero value. The easiest example of this is using an XY coordinate grid. A diagonal line is the intermediate of a horizontal and vertical extremes. If you start at the position 0,0, and move along the X axis, the Y axis remains zero while the

value of X changes. If you move along the Y axis, X remains as zero and Y changes.

The results of these are perfect horizontal and vertical movement, respectively.

However, if you want an intermediate diagonal line, both the values of X and Y must become non-zero to achieve this. Where a single zero forces an extreme along a single axis, non-zeroes force an intermediate axis.

- To relate this logic to the dancing objects:
 - The shortest length is one extreme and the longest length is the other.
 - Process of elimination (and common sense) – intermediate axis = intermediate length.
 - When spinning on one extreme axis, one value remains zero, while the other constantly changes, so it spins as expected.
 - When spinning on the intermediate axis, the values of both extreme axes are forced to change for it to be possible, and so both vertices, pointing in different directions, kick in, causing it to twirl.
- Because the extreme axes are of different lengths, the vortices they create are of different strengths, and the forces of the created vortices build up at different rates, and therefore force the object to rotate along each extreme axis at different times.
- Which force – centripetal or centrifugal – causes each rotation depends on the shape of the object, given that different shapes create vortices in different positions, and anything which, when rotated, created a ring-like formation – like the handle end of the Leatherman tool – can create external and internal vortices. The results will be exactly the same, but, you know, for matters of precision...
- Finally, change the lengths of either the longest and shortest axis and the precise angles of rotation as the object flips through space should change, too, in the exact same way that the degree of difference between the values of X and Y in a coordinate system changes the angle of movement from a 0,0 position.

Quantum physics failed here because of the love of excluding and ignoring what physicists can't figure out how to implement with the current set of rules they wish to follow. God forbid they start considering the possibility that other parts of their framework are wrong. The vortex force mathematics may be good for approximating the values of a body's properties, but it isn't really of any use beyond that. Sounded great though, didn't it? Don't believe everything you read *just* because it sounds smart. If it doesn't reflect reality, it's wrong – fuck whoever authored it, even if it's me.

From what I can gather, the word "quantum" is not used to describe interactions involving particles, but as a way to deceive others into thinking what these physicists are doing is something special and complicated. See how this enforces classism? Quantum Mechanics does not require maths to anywhere near the degree to which they would have you believe, but how else are they to maintain the class divide, leaving some people to feel as though they are not smart enough? They think they can get away with murder, but their logic doesn't faze me. I could sit down and pick apart Quantum Mechanics all day, and will easily break it down into understandable English and show the world it makes no sense. Their work is shit and unremarkable. *If your work is a paradox, it is wrong. If it creates a paradox based on what has actually been tried, tested thoroughly, and proven, it is wrong. If it goes against the nature of physics we see at a larger scale, you better be able to explain how and why, otherwise there's a good chance that it is wrong. If you cannot prove what you claim and cannot provide a real world basis, do not bother putting it out there.* How one field – a field which, mind you, is supposed to be based on realities of everyday life, and is supposed to contain the greatest minds in the world – got so royally fucked up is beyond even my intellect. Their time has been wasted, and, in turn, mine, given that I've had to read over all of this shit. They must live in one of these alternate universes that they keep squawking about because they certainly do not live in the same one I do. Bury it all. *All.*

Maybe now it's much more understandable as to why I respect engineers but not theoretical physicists. Engineers have to prove their work with real world demonstrations that must work every single time, not one in every thousand or worse, so there's no hiding behind "that which cannot be proven" or "the probability factor". I may not be an actual engineer, but I do have the mind of one, hence why I can give a real world basis for all of my work, and experiments or inventions for most that can be built and tested without having to wait decades, as well as the complete logic and reason behind what I think and the thought paths which lead me to my conclusions. There can be no misunderstandings or misconceptions, nor any room for misinterpretations, when you are this exposed and transparent – two things that would eliminate theoretical physicists from the world of science. Theoretical physics – literally a 'field of dreams'.

Where do these dreams lead? To the ultimate scientific ego stroker – the Nobel Prize. What, oh what, are the Nobel Committee for Physics doing? People are winning Nobel prizes for ideas with absolutely no proof, no real world basis, and no thorough explanation that exists outside of the world of maths – expansion of the universe and exotic matter are two prime examples of this. These works have zero merit. It is said that it usually takes a physicist decades to win a prize because "it takes so many years to get the evidence you need." Bollocks. These people have just been working

on the same shit for so long and under the right wing that they earn themselves a "Thank You for Participating" medal. That's what this award is becoming – a million dollar green participation ribbon. Maybe Vera Rubin had a point – if the Nobel Committee are so happy to hand out awards for this garbage, maybe she was deserving of one. Their saving grace right now is that they never awarded Einstein a prize for Relativity, otherwise I would really have gone to town on them.

You know what I really wonder – why is theoretical physicist even a career? Their entire job is to come up with ideas, yet all we hear nowadays is that ideas aren't worth shit, and that it's the execution of an idea that matters. You can't patent an idea and you can't copyright an idea, so why the hell are people given universal recognition, praise, and genius status for coming up with them? They don't execute their ideas, they just create a bunch of maths frameworks that attempt to get them as close to the real world as possible, and continue to fill them with shit until they feel it's close enough to the real thing. They even go out of their way to make sure their imaginary shit sounds cool, and win awards for it, but, let's be honest, it's still just a mathematical cry for help. They're leading the world nowhere so fucking fast you can't even make out the scenery, which maybe explains how they managed to pull off such a manoeuvre.

These people... they're not physicists. They are mathematicians on the world's wildest acid trip. No scientist should be allowed to sit down and not have to prove their work **in the real world**. There is no "proving physics on paper". Seeing behaviour they do not know how to explain and attributing it to something that has not, in any way, been proven in the real world does not a theory make – a bedtime story for a nerd, maybe, but definitely not a theory. Of all the theoretical physicists in the world, I see it broken down as something like this:

- 97% cannot do theoretical physics.
- >2% are shit at theoretical physics.
- <1% have any degree of competence when it comes to the mechanics of the physical world.
- >99% are excellent at repeating what they are told and following the herd without question.

I think a big question that remains is whether or not there was some kind of conspiracy to hide the truth. Well, most roads lead to "no", and here's why:

- Real answers are needed to advance technology. Technology creates value. Value brings capital. There's too much money to be made in being right than in being accepted. For this reason, someone, by now, would have blabbed.

- Theoretical physicists are not even half as smart as they think they are or are led to believe, and, most of the time, they do not have to do a thing to prove their work is based in reality, as opposed to just seeming interesting, so they get pats on the back and elevated status for creating great sci-fi stories.
- Fear. While many theoretical physicists just aren't that smart, I believe many don't actually buy into Relativity and some of this quantum shit, but are too scared to vocalise their opinion and opposition to accepted theories for fear of becoming a pariah; a scientific leper; ostracized from the fold for going against those who are supposed to be the know-it-alls. Their careers often depend on it – people in physics know how opposers of Relativity are treated. Me? Well, I just don't give a shit about them or this field, so I do this knowing full well the destruction it will cause.

Notice I said "most" roads lead to no, but one road leads to yes:

Do you know why theoretical physicists have argued against Tesla's criticism to such an extent? Because, if he was shown to be right, they would be shown to be useless. They couldn't function based on the real world, so the survival of this world of numbers in which they were able to create their own rules, create their own "discoveries", and decide amongst themselves what was supposedly real, was the only way they could stay alive and relevant. Think about it – really think about it. The word of a man credited as the world's greatest electrical engineer, whose life works are what we take advantage of everyday, versus people who argue that most of the things they theorise cannot be proven, and often turn out to be wrong. Logically, who are you going to back if there's no gain or loss for you regardless of who is right? I am the career nightmare of people like Jess H. Brewer, who likes to give "*embattled geniuses" fighting to make the Scientific Establishment accept their simple, easy explanations of stuff physicists claim is complicated and difficult*" the single-finger salute. Take this physics section as a blade through the heart of their facade of confidence and intellectual superiority, and watch me lick the edges clean.

This... it is a field of politics, not merit. Everyone knew new physics was required, but not one person was motivated enough to create an entirely new framework – the lazy fuckers. Why? Because you can get as much reward and credibility simply by talking shit for long enough and providing as much credible evidence as we've seen for Nessy and Bigfoot as someone who builds a real world working example. The requirement? Working for the right university and fondling the right genitals the right way. It's a playground where nobodies can think they are gods. Maybe if they stopped standing around atomic circle-jerking all day, they would have made significant advances by now. Instead,

they have become the equivalent of politicians in the run up to an election, and the scientific establishment allows it because it would rather have the best wrong answer than admitting they do not have one. After all, who do you call upon if the person you expect to give you an answer doesn't have one to give?

There has to be a point to all of this, though, right? I mean, who would go through all this for no reason? Where does it all lead? Well, what do most fraudulent crimes lead to? Ding ding ding: *money and power*. For who, you ask? Universities and journals.

- Universities – They need prestige in order to attract those who are supposed to be the brightest individuals. The more prestigious a university seems, and the more clever-clogs they have, the easier it is to secure funding from governments who want their country to excel, and private investment from investors and corporations who want the rights to take commercially viable advances to market first. Every garbage theory to come out of one of these 'prestigious' institutions, no matter how stupid it sounds, makes them appear more advanced than many others because other people – especially those who do not specifically operate in this field – trust the university to have vetted the work to ensure its credibility.
- Journals – Now these are some sneaky motherfuckers, but quite smart, and I do have some degree of respect for what they've done.
 - Power – First, they control who is taken seriously in the world. People depend on peer review and journals know it. Most work is so confusing that people generally can't even verify it themselves, so they simply wait for an 'expert' peer reviewer to give it the seal of approval before they blindly follow, trusting that it has been scrutinized to the highest degree. Can you blame them? Peer review is supposed to be a form of quality control, but, more often than not, all it really does is separate bullshit sprinkled with glitter from that which is fresh out the arse. So, peer reviewers give it the thumbs up and off it goes for publishing, but there's a problem. How many papers that are deemed worthy of publishing by these journals and 'experts' are actually worth more than the paper they are printed on? See, a high percentage of papers – some people suspect up to around fifty percent – contain results that cannot be replicated, while some falsify data entirely. Aside from that, look at all the published theories I've just taken down. Then there are the papers that get retracted. *Quality control, you say?* I'm in fucking stitches. The rejected papers are as bad as the published... ah, but those published fall in line with what the journals and reviewers want or believe to be true, even in the absence of

evidence or a basis of proof. It then makes you wonder, doesn't it? How can this be possible? Friends, favours, bribes, vendettas – any one of these reasons, among many more, can see a paper published or rejected, and who outside of the situation would be the wiser? You can search for "peer review controversy" and find numerous papers that apparently shouldn't have been published, and a number of people who believe their papers should have been.

- Money – Second, the journals take the rights to the publications submitted and are allowed to control its distribution globally due to copyright law. If you violate their copyright, they get paid when they sue you for infringement, not the authors – you know, the people who put in the hard(?) work (even if the work turns out to be shit), hence why I refused to submit this to any. *Own the rights to this masterpiece? Kiss my arse.* Finally, they charge subscription fees, so they get paid regardless. All the authors walk away with is a bit of credibility under their belt – *whoop-de-fuckin-doo* – and it could later be revoked.

Again, it's exactly the play I would make if I was in their shoes, which is precisely why I don't care for the culture at all – coming up with terrible hypotheses and theories that make no sense but are seen as something to explore. It's all a game of business, but I have a little something special up my sleeve for them later on, once all the AI work has been covered. Looking at everything from theories to how the universe was born to what's going to happen 5 billion years from now – stop wasting time, money and resources on this when they can't even explain everything what is happening at this very moment. They couldn't even see how Relativity disproved itself, and these people are entrusted with billions in funding every year to do what – try to create black holes, recreate the beginning of the universe, and send people to live on other planets? You gotta be shitting me. If I didn't review all of this myself, I don't even know if I would have believed it.

The beauty of physics is that everything must always follow all the laws at all times, otherwise it is wrong. Lines can't be redrawn if and when it suits a theory. This is how you do physics – real physics, not that fantasy stuff. Physics is logical in its entirety. There are no anomalies, only misunderstandings, poor theories, and bad excuses. If your theory breaks the laws of physics, physics isn't broken, your theory is. I genuinely hope the world of physics fixes up sharpish and seriously evaluates how it asserts credibility and standards because I don't plan on doing much more work in this field – especially to this degree – and if those physicists we currently have leading the world continue to head down the same or similar paths to those already travelled, the field is doomed, and you are going to have scientists generations from now believing all manners of

phenomenally inconceivable horse shit. On the plus side, though, it may force my return so I can fuck their work up one more time. Make no mistake, I am happy for them to challenge me – and I know they will, given what is now on the line for them – because we will take this to real world proof and I will fucking destroy that which is the essence of their work and their souls. They will never be so bloody careless and reckless again.

It's inconceivable to attempt to create a Theory of Everything when you have multiple theories of what gravity is and use multiple mechanics at the same time. I would like to point out, however, that what is described here:

- Explains the absolutes of time and space beyond a shadow of a doubt;
- Unifies both the macro and micro worlds of classic and Quantum Mechanics;
- Fixes many issues that exist in physics today (including "laws");
- Took down conservation laws;
- Explains previously inexplicable phenomena;
- Explains why many things are impossible;
- Disproves many credited works;
- Builds a working cosmological model;
- Provides valid theories and experiments for testing; and
- Provides inventions for real world technological advancements.

If this doesn't qualify for the theory of everything, then it is damn sure contains most of what is needed, and then some. There can only be one set of mechanics. There is no "classic" or "quantum" physics. There is only "physics" – nature doesn't respond to the scale of an object. The need to have and use multiple mechanics should have been a flashing, rainbow-coloured neon warning sign that no one really had a clue. The world doesn't magically work two or more different ways because people aren't smart enough to figure out the *one* way it does work. No one was ever going to figure all of this out with maths because maths can't explain the behaviour of the physical world, and I may suck arse when it comes to equations, but I can damn sure design my way around anything I so desire.

You want to know the funniest thing about all this? This is the age of the internet, and now so many answers posted on every physics forum, blog, Quora, and so on is completely useless.

According to what these people so often rattle on about, the flying capabilities of hummingbirds defy the laws of physics. Don't ever allow yourself to assume that these fucking nutcases know what

they are talking about. Never use anything I've destroyed here again. Fucking piece of shit, garbage theories.

At this point, I'd just like to point out one very small but very important point. I've just proven that every physicist to ever believe in Relativity – all >99% of them, dead or alive – have been fucking lunatics – sorry, "cranks" is the term they like to apply. Sure, many people who opposed it were wrong in their own work, but so were those who followed it. Now, who are they to point fingers in assassination of those who dared to think differently? I may not be a conspiracy theorist, and God knows they can be annoying little bastards at the best of times, but I'll call this a victory for them for the simple fact that they had the balls to go up against the scientific establishment, instead of mindlessly consuming the tons upon tons of shit it was trying to feed them.

How's that for a motherfuckin' plot twist.

Physics... Out!

So, there you have it. Real world physics at its finest. 100% right? Probably not – tweaks are always expected. Better than the current bullshit physicists have the world believing? Infinitely.

Things couldn't be explained in the best order here because of how many intersections there are, and things become relevant at different times, so what I'll do (or have done) is condense all of this into just the frameworks and models, with a glossary for definitions and explanations. It will be simple, crystal clear, and profanity free, much to my dismay. Then I'll make it a living document so it can be continuously updated with discoveries and progressions.

I came into this just aiming to prove time was absolute, but I got roped into the rest with all the new things I came across. I didn't believe many things, such as gravitational waves, but I stayed open-minded and just decided to see where the logic took me. I'm not a scientist – at all – and most of my updates on the science world come from the Daily Mail (despite how often they butcher the information), so I really had no reason to be biased. The world of physics is corrupted. Scientists creating and adding particles, dimensions, and other objects just to make their bogus models work. Do not be fooled by what is theorised, what is simply accepted, and what has actually been proven true in a logical way without breaking physical laws because scientists like to blur those lines more than censored hentai.

The second reason I did this? Because, as previously mentioned, I am absolutely sick and tired of seeing these know-it-all motherfuckers – especially the people who have simply been taught but

never done any original work of merit themselves – talking shit to and patronising others who question what they accept as true. They can finally shut their fucking mouths for once.

Me doing the "Just for Kicks" sections was only to be a nuisance by showing off, but I had to get something out of this. Yet, at the same time, this was done to reaffirm what I've been saying throughout this entire physics section:

Stop relying on fantasy and a lack of understanding, and stop allowing complete lunatics to teach you the physics of the universe. When someone needs to provide proof that their theory makes sense as described, their work has to be understood by themselves completely – there's no room for "that's just how it works". When the work is correct and understood properly, scientific and technological advancement happens with ease. Imagine what could be done if everyone had to work to the same standard as I hold myself to, and people were told when their theories were absolute horse shit instead of letting other scientists continue down roads to absolutely nowhere, with the select few accidentally stumbling upon something that works, even though they can barely explain how. Observation is not proof of anything if a detailed explanation of happenings cannot be provided and the results continuously replicated, but physicists are so desperate for achievement these days because, at this point in time, so many of them are so useless that they need to regularly break the rules of the scientific method and scientific laws to make it seem as though progression is taking place. As you've seen, this field is rather simple, only complicated by those who need to hide the fact they do not understand it. Complication is the result of a motherfucker who doesn't really know what he or she is doing. Hold everyone to higher scientific standards or be prepared to endure countless pointless pursuits for many more centuries to come.

If your logic is not logical, I will not hesitate to eviscerate it, you, and your career, so stop teaching physics as maths and start teaching it as logical design, otherwise the physicist cycle of failure will make you all living time crystals.

Die or do better.

If you only came here for the physics, skip to the section "War is Here: The Dirty Truth" on page 495.

Old Macdonald had a farm,

E-I-E-I-O

And on that farm is where physicists keep finding the theories they use to fertilize the minds of the masses.

I saw a meme on instagram.

The person was trying to make a point of the apparent fact that they are "sapiosexual".

You know, people who are "turned on by intellect".

It read something along the lines of,

"I want you to whisper Quantum Mechanics in my ear."

Who on earth is going to get turned on listening to the shit I just rattled off?

I know I'm into some weird and kinky shit, but not *that* weird.

If you didn't learn it from Archimedes, learn it from me.

Bath time is very important.

Wash ya ass.

Daily.

The final take away from all of this:

Design shits on mathematics. All day. Every single god damn day.

W.O.T.M: PART 2 (CONTINUED)

The Perception of Time: Part 2

*Yes, I am perfectly aware of how far out of my way I went. **Perfectly aware.***

Time is a dimension, though not a physical one, and we know this because it can be measured. The reason only one block of time exists is because time is a single dimension – the only way it can move is forward, because the only way all light in the universe can move is forward. *(Not even reverse entropy reverses time; it just reverses the actions of an object in spacetime, so if a glass falls and smashes while time moves 2 seconds forward, reverse entropy will piece the glass back together and return it into its original position as time moves forward another 2 seconds.)*

Now, the reason we went on that *oh-my-fucking-god-that-was-longer-than-planned* roundabout physics field trip is because there was something that needed to be understood – the importance of objects in space to relatively perceive time. In the Photoshop example, just like in physics, both the window (time) and the canvas (space) were absolute – their size in pixels never actually changed, but:

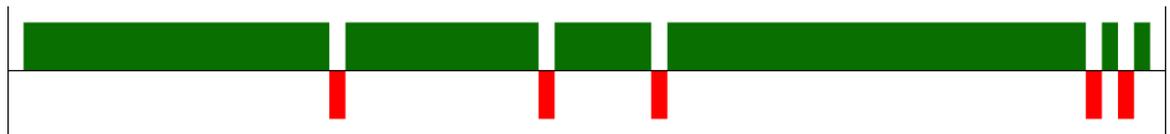
- Depending on how much attention you were able to pay to the canvas based on its zoom, the size of the window appeared relatively larger or smaller than it actually is.
- Depending on what you were viewing and how you felt about it, how long it felt you were viewing it differed.

Detail in space is the control system for the perception of time, and it can create feature films or fleeting images.

With all of that out of the way, back to the reason we are here. To start things off, in the following diagrams, green represents how much of what we perceive we pay attention to, while red represents how much we filter out, during different stages of life:

- As babies, our memory banks are empty, so we just become vacuums for information, studying as much of what we perceive as possible with every sense we know to use. Time doesn't matter to us at this point because we don't understand it, so we're just guided by

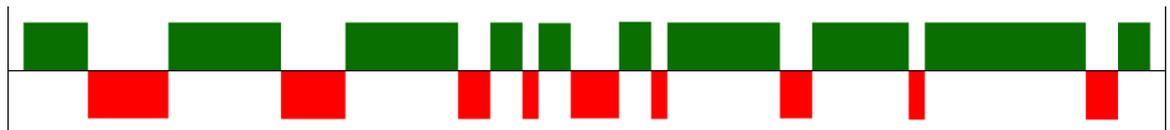
our sleep schedule. Little information is filtered out.



- As children, the mind is very curious – even more so than as a baby, given that we are becoming aware of just how much we don't know. However, there's usually little variation in day to day life, and we're beginning to gain adequate control of how we focus our attention, meaning we are learning to filter out by subconscious choice.



- As adults, we have a good understanding of what we want to pay attention to and what we have no interest in. Naturally, we perceive a great many things, but the average adult mentally filters out so much of what we take in that we can, quite literally, miss something happening right in front of our faces and we'd have no idea that it ever took place.



- As the elderly, our attention weakens as our neurons degrade much quicker than in previous life stages, and we begin to filter out more than we intend to.

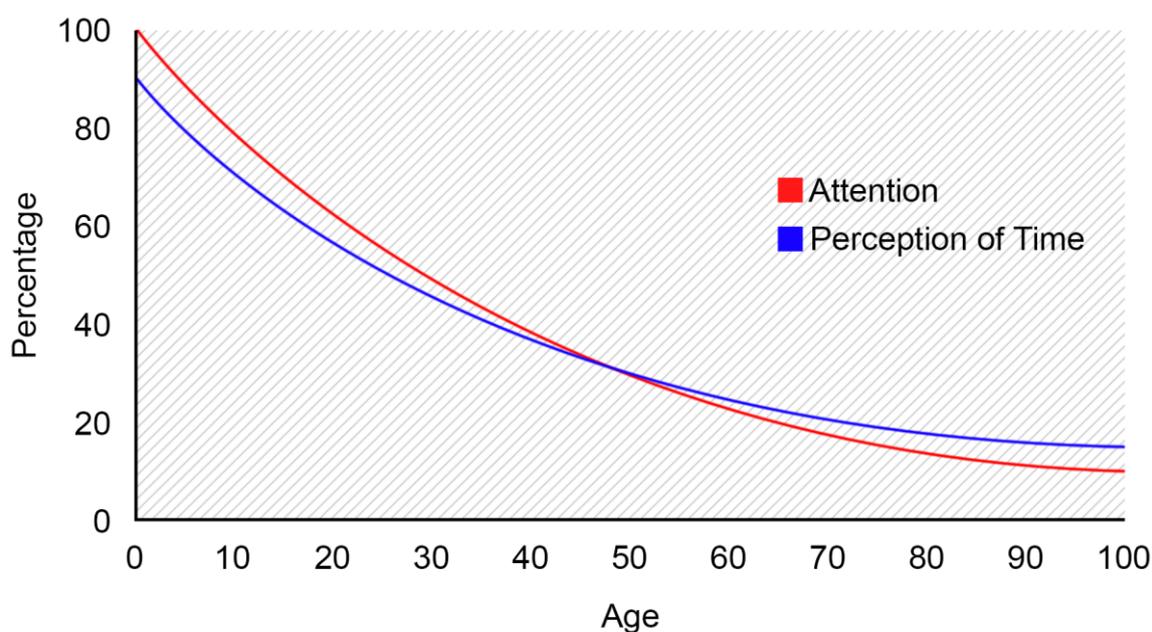


When how much we pay attention to in each stage of life is compiled as uninterrupted bars, the following graph is the result:



What's obvious to see is that, within the same time frame, the older we get, the less we consciously absorb and the more we subconsciously filter out, and this is why time appears to move faster as we age.

Marc Wittman and Sandra Lehnhoff, in a 2005 study of subjective time perception, found that both young and older adults perceived the speed at which time passed increased with age, and this explains why. Because time perception is an entirely subjective experience, any individual is only able to compare a current experience to their own experiences during previous stages of life – the perception is entirely relative to what has come before and is controlled entirely by the natural progression of our brains.



What the above graph shows is:

- The line for attention never hits zero because, without disease or brain damage, no one's attention or neuronal performance gradually hits zero *before* the moment they begin to die. If anything, there would be an almost vertical drop, spanning seconds, minutes, or maybe hours, from the moment death begins to creep in to the point where it plants its flag.
- The line for the perception of time never reaches zero because, again, without disease or brain damage, a person would never be able to keep track of anything, literally. Having no perception of time would affect everything from their speech – you wouldn't know how to space out words effectively into sentences, so you could end up trying to say multiple words at once or waiting ages between them – to every physical action imaginable, given that coordination depends heavily on timing.

I should note that the graph is only an example. In real life, it may show straight lines, over instead of under curves, or curves with higher ending points – the example is intended for explanation, not accuracy. The only important factor is that it starts high and continuously lowers until a point at

which it stops or tapers off, unless you are attempting to show an anomaly in specific situations, such as when people suffer a brain contusion and, as a freak act of nature, experience enhanced performance.

All of this is the reason why we have expressions such as "a watched pot never boils". Continuously watching a clock makes you incredibly aware of how long your work day really is. Fun sex always seems to end quicker than a clock indicates, and bad or boring sex drags on to no end.

To Be or Not To Be... Unconscious

At the start, I spoke of sleep and why consciousness can't possibly have anything to do with awareness, so now we'll get into it in a little more detail.

Usually when we go to sleep, the MCS shuts down while the ACS remains active, allowing our subconscious mind to take full control.

- Regulation: Just like when we're awake, it regulates our bodily processes – breathing, heart rate, digestion – to, you know, keep us alive.
- Sense: These remain active at all times, so they are always taking in information. Hearing, touch, and smell take in the most information, but sight is generally useless because our eyes are closed, and taste – well, unless someone wishes to play a prank on you, you aren't likely to be tasting anything.
- Filtering and Alerts – While sleeping, most sensory information that we pick up isn't of use to us, so a lot of subconscious filtering takes place. We don't need to be made aware of all the noises around us, or the feeling of the bed covers or partners as we move around, but we still need to be made aware of potential danger. We instinctively know and otherwise learn of many smells and sounds that are dangerous to us, and the ACS is aware of this, so when any matching or potentially matching sensory data is received, the ACS can kick us out of our sleep by activating the MCS.
- Dreaming: This is where sleeping gets interesting. Because the ACS still has access to our memorial neurons, it can do what it pleases as the MCS isn't there to keep it under control, so it accesses the memories of the sights and sounds and everything else that it desires, and uses the cortices to create its own internal movies. This is why we can only dream of things – faces, sounds, whatever other objects – that we have observed in real life. It also makes use of our object relationship memory, which is why our dreams are coherent, as opposed to a

collusion of unrelated objects, actions, and situations... Unless you're intoxicated, in which case anything goes, really.

- **Memory Storage:** Dreaming still requires working memory for temporary storage. Sometimes it is cleared prior to waking, but when it isn't, we are able access the data with the MCS, allowing us to remember them when we arise. At such a time, the MCS can move the temporary data information to permanent episodic memory which, later down the line, is the cause of us sometimes confusing dreams with real experiences.
- **Overactivity:** Some individuals have an overactive ACS, leading to sleep conditions such as sleepwalking. The ACS takes more control of functions than it should do without MCS oversight, and anything a person knows how to do can happen as a result.

There are times when the conscious mind doesn't play ball, staying a little more active than it should, and weird things start to happen:

- **Sleep Paralysis:** Anyone who has experienced this knows how terrifying it is the first time it happens. The ACS takes over but the MCS hasn't completely shut down yet, so you lay there, experiencing everything, but with no control over yourself whatsoever. After the first few times, it just becomes a case of, "*Ah shit, here we go again!*"
- **Hallucinations:** The ACS and MCS working in unison for destructive purposes. The MCS is dominant, so you can consciously process your surroundings, being able to see, hear, feel etc everything that is around you, but the ACS begins to use the dreaming technique, and the combination of the two sees memory objects overlap with the incoming data from the real world, making it all feel very real.
- **Lucid Dreaming:** The ACS and MCS working together in a not so destructive way. The ACS allows you to dream and, while doing so, the MCS observes the same data the ACS is using. In this relationship, the ACS is dominant, so the MCS simply allows you to be a spectator in your own mental experience.

Fun fact: I started experiencing night terrors at 20 years old and, 9 times out of 10, it occurs buddied up with both sleep paralysis (when awakening) and hallucinations.

With the right equipment, a sleep experiment can be performed which will allow us to find the MCS and ACS circuits. Simply map the neuronal circuit that isn't active when sleeping, and that will be the MCS. Most, if not all, of the remaining active neurons will be ACS neurons.

Sleeping has nothing to do with whether or not you are conscious, nor your degree of consciousness, so you aren't actually unconscious when you are asleep. Your values are still there, hence why dreams can make you scared, can make you sweat, and during male teen years, make you ejaculate. Reactions while asleep are still based on what YOU value and how you value it. The only difference is who's driving.

CONSCIOUSNESS ILLUMINATED

The Stages of Consciousness

Not everything described here can be attributed to all beings that may be classed as having consciousness, and I mainly use humans as the focus, so it's important to understand the general order of the stages of consciousness development that can be applied to all natural living things:

Basic Requirements:

1. Existence – Well, *obviously*.
2. Perception – The ability to take in information from your surroundings.
3. Awareness – The ability to understand perceived information. (*Let's just take note of how far down this is on this list.*)
4. Memory – The ability to store perceived information.
5. Values – The ability to rank perceived information. This is essential as it is required for basic capabilities for survival, such as knowing what is and isn't good for you.
6. Discovery – The ability to find new information.
7. Self-Awareness – The ability, as explained right at the beginning, to identify yourself. Naturally follows discovery, in a sense, as a type of self-discovery. You discover you are an individual entity and naturally become aware of yourself. You don't have to be smart enough to understand the science of reflections. You only need to understand that your leg is *your* leg.

Secondary Requirements:

8. Premises – The ability to form the logical bases required for decision making.
9. Decisions – The ability to make logical conclusions based on sets of premises. (*This is how far intelligent machines (AI) have come.*)

Consciousness Achieved:

10. Feelings & Emotions – The ability to sort values into groups which influence or control reactions to information received.

Advanced Behaviours:

11. Self-Consciousness – The ability to apply feelings and emotions to yourself. "Me" becomes an object in your table of values, and you can place it anywhere you wish, and combine it with any other objects you desire, to feel a certain way about yourself. The "consciousness" in self-consciousness comes from how you decide – consciously or subconsciously – to feel about yourself.

Going back to the baby argument from the very beginning, we can now make sense of it. Humans, most of the time, instinctively have all these abilities at birth, but it takes time for neurons to mature to a point where they can make use of these abilities. At birth, existence, perception, awareness, and memory are a given. We know values has been achieved by the baby knowing it needs to feed, so it obviously values food. The baby doesn't know what a nipple is, but it knows what to do with it once it discovers it. The baby is born with a nervous system allowing it to feel, so even though it doesn't know or understand how to use its body very well, it is absolutely aware of it. Any mother can tell you this. Premises and decisions are easy – it's hungry, it wants food, it decides to seek out food. Some cry when they're born, they cry when they're hungry, they smile, they laugh – even as a newborn. Everything after that is just learning, and the ability to learn is dependent on neuronal development, which progresses every day. After periods of time, depending on any individual's rate of development, different neuron sets mature enough to be able to handle the learning required for their function. It certainly doesn't take between 6 and 15 months for them to achieve consciousness. I'm really starting to think scientists who make such statements observe babies from behind glass but never actually interact with them. Do not mistake a lack of control and understanding for a lack of presence. The point of development is learning how to use these things.

Given everything we've covered so far – including this list – it's very easy to see how the current definition of consciousness is nowhere near the truth, and would never have taken us to the stage of creating consciousness in machines. As for where it all went wrong, we'll get to that.

The Nature of Illogical Decisions

The next thing to look at is what makes us make illogical decisions. The answer is our values. To explain this, I will compare a logical decision and an illogical decision of a human.

Note: For the following examples, premises and conclusions will be phrased in a positive light. If you wish to make one premise a negative, the conclusion will always be the opposite of what is stated. If you make both premises negative, the conclusion remains the same.

Key			
P	Premise	P(#)	Premise Number
C	Conclusion	X	External Factors
T	True	F	False
V	Values	R	random
?	Indeterminable		

Humans Making Logical Decisions:

- $P1/T$ and $P2/T = C/T$
- $P1/T$ and $P2/F = C/F$
- $P1/F$ and $P2/T = C/F$
- $P1/F$ and $P2/F = C/F$

These follow the general rules of logic. To make it simpler to understand:

P1: I like Indian Food	P2: I am hungry	C: Get Indian Food
True	True	True
True	False	False
False	True	False
False	False	False

Let's look at the same decisions again with an added extra – external factors that are not within our control:

- $P1/T$ and $P2/T$ and $X/R = C/?$
- $P1/T$ and $P2/F$ and $X/R = C/?$
- $P1/F$ and $P2/T$ and $X/R = C/?$
- $P1/F$ and $P2/F$ and $X/R = C/?$

We cannot determine the conclusion when we do not know what the external factor is, so, to better understand it, we will specifically name some.

P1: I like Indian Food	P2: I am hungry	External Factor	C: Get Indian Food
True	True	The shop is open	True
True	True	The shop is closed	False
True	False	Will be hungry later	True
True	False	Won't be hungry later	False
False	False	Other food available for next 7 days	False
False	False	No other food available for next 7 days	True

As you can see, when external factors are included, either conclusion is possible, depending on the factor(s) involved.

All the decisions in the 10 situations above are logical and obvious, and will therefore always draw the same conclusions, regardless of the human in question, unless external factors are added/changed.

Humans Making Illogical Decisions

Since illogical decisions are based on values, we now incorporate them into the equations:

- $P1/T$ and $P2/T$ and $V/R = C/?$
- $P1/T$ and $P2/F$ and $V/R = C/?$
- $P1/F$ and $P2/T$ and $V/R = C/?$
- $P1/F$ and $P2/F$ and $V/R = C/?$

Given that values are personal and therefore expressed as random, no formal logic can account for it in advance because they differ from person to person, and, much like external factors, the conclusion cannot be foreseen, so when looking at real life, we have to take into consideration both values AND external factors.

- $P1/T$ and $P2/T$ and V/R and $X/R = C/?$
- $P1/T$ and $P2/F$ and V/R and $X/R = C/?$
- $P1/F$ and $P2/T$ and V/R and $X/R = C/?$
- $P1/F$ and $P2/F$ and V/R and $X/R = C/?$

At this point, it is impossible to determine, in advance, a conclusion. It's the equivalent of trying to work out the sum of 4 numbers when 2 of the numbers are unknown.

The Universal Truths

After a conclusion, we can ask a human how they feel about the outcome.

In either case, someone can explain how they feel using a negative, positive or neutral description – I feel bad, I feel good, I feel fine. However, an answer exists in the logical case that isn't possible in the illogical, and it's an answer you would expect an intelligent machine to give more than a human.

"I feel only as is possible based on the input of information I was given."

Even with external factors taken into consideration, this answer remains absolute as these factors are not within the control of the human. This is the first universal truth – **The Universal Truth of Logical Conclusions.**

I mention intelligent machines again at this point because they can only make logical decisions, whereas humans can make the illogical, and there, yet again, is the distinction of consciousness. When we compare the two, it's easier to make clear.

Let's now compare the illogical outcome. Premises of an illogical decision are going to create a specific result until the human's values come into play, at which point any conclusion is possible. This reflects the conclusion of a logical decision using external factors with one significant difference – control. External factors cannot be controlled by the human, so the outcome is not in their hands, but values are within the human's control and, therefore, the human can and does influence the outcome, and this is why the first universal truth cannot be applied. A human's values can knowingly and unknowingly cause an outcome that is illogical and yet they are still applied – even when an illogical outcome is known in advance. Without the first universal truth, the feelings and emotions that result from conclusions are genuine and true, as opposed to "accepted". This is where emotions come into play in consciousness and why, after making an illogical decision, humans can feel amazing about themselves and they can feel absolutely terrible. This is the second universal truth – **The Universal Truth of Illogical Conclusions.**

"Only that of which I am in control can affect me personally."

External factors can always cause unexpected outcomes. You can't always account for them in advance and so, when the outcome isn't expected, that happiness or hatred you feel is not for you, but for what was out of your control. Unexpected results due to who you are, however, are

different. Those results affect how you feel about yourself, and all the feelings and emotions that follow are aimed at you because the outcome was a direct result of what *you* value and the choices *you* made.

Another example of this, in a different type of situation, is when a human encounters danger. The logical conclusions here are what we know as 'fight or flight', with the actual conclusion depending on the premises. The illogical decision is to stand and do nothing. This is a result of fear. Such a degree of fear is a result of the value of the threat being perceived, which is obviously higher (although in a different table category) than the human's value of survival. It sounds crazy that this could be true since our survival instinct is supposed to save us in such situations, but this is why people want to run yet can't. Fear hinders you by either interfering with signals that would otherwise cause your legs to move or fists to fly, or by producing stronger or more rapid signals to one part of the brain than the survival instinct is sending to another. Either way, a recipe for disaster.

An example of illogical decisions resulting in positive emotions is as simple as a human constantly eating their favourite junk food – unhealthy food, happy human.

For this third truth, I invite you to think back to two different types of situations (or to people you may know who have been in, or movies you've seen in which they have occurred):

1. The first situation should be a time when you made an illogical decision that resulted in an emotional reaction. Ever consumed alcohol to the point where you passed out, yet, the next morning, you couldn't stop thinking about how great the night was? Yea, that'll do.
2. The second situation should be a time when emotions lead to an illogical decision. Heartache? Alcohol? Binge drinking? Puking? We have a winner!

In each situation, emotions and the illogical decision are on opposite sides, yet the former results in the latter. This leads to universal truth number 3 – **The Universal Truth of Emotions in Conclusions.**

"Emotions can be both the cause and the effect of an illogical decision."

All values are arranged by emotions, so they are the de facto controllers of each and every situation, conscious or subconscious, whether we like it or not, and the objects that result in the conclusion only serve to produce more emotions. It's a continuous cycle which can only consciously be overridden in order to force a logical conclusion, but the resulting objects will still result in some form of emotion, even with the first truth applied, and the cycle will simply start again. This leads to universal truth number 4 – **The Universal Truth of Behaviour.**

"Consciousness creates an emotional cycle of behaviour – it can be interrupted, but never stopped."

As much as we'd like to, the real truth is that, most of the time, we can't consciously control how we value objects – even when our lives literally depend on it – and thus, we arrive at the final universal truth, which is the only one that really matters – **The Universal Truth of Consciousness**.

"We live and we die by the decisions we make, and we have no one to blame but ourselves."

The Formula for Human Consciousness

In the realm of consciousness, there are three general formulae which can be applied to any given situation that can express the three possible outcomes:

- 1) $a \cdot b = ab$, where $ab = a \cdot b$ – This is what logic dictates. This is intelligence.
- 2) $a \cdot b = c$, where $c = a \cdot b \cdot [i]$ – This is illogical. This is consciousness.
- 3) $a \cdot b \cdot [i] = c$, where $c = a \cdot b \cdot [i]$ – This is illogical. This, too, is consciousness.

For the above, the format for the equations is *{event}, where {reflection}*

The first expression is basic algebra – a multiplied by b must produce the logical result which is the result of a and b together. The second and third, however, produce c , which, while a product of a and b , does not have to be a logical one. The reason for this, which is also the difference between the two illogical expressions, is the presence of $[i]$. While a and b represent the premises, $[i]$ represents the wild cards which are values, hence why it isn't at all present in the first. In the second, $[i]$ is not present in the event, but is in the reflection, while in the third it is present in both, and this was done to show that we don't always initially know why an illogical event occurred, but, upon reflection, we can always see 'how' and 'why' when we start to ask those questions.

The 'Not-So-Hard' Problems

I am going to kill four birds with one stone here:

1. Subjective Experience
2. Mind-Body Problem
3. States of Objects
4. Singular Reality

There's this idea that reality isn't 'real', but figments of our imaginations, hence why multiple people can have the same interaction with the same object but have a difference experience, such as one person liking the taste of lemons and another hating them.

This is entirely wrong.

As previously explained in the physics section, no object has multiple states – they simply exist as-is for everyone. The 'how' of subjective experience is actually very basic biology, and it all starts with your biological parents...

- So, mummy and daddy give each other a special hug (or, you know, a doctor goes on an adventure with a turkey baster, catheter, or whatever other tools they may use) and, when lucky enough, a baby begins to develop.
- Along with the rest of the baby, the brain and the sensory receptors develop. Now, due to DNA specific to humans, both of these are designed to develop in very specific ways, and the code is followed as best as it can be.
- Then your mother comes along and interferes with the process (as they do). Nutrients are required for development, but everyone's body is different and so are their diets, so the quantity of any nutrient that reaches a foetus at any given stage of development will differ for everyone, as it depends on both the initial intake quantity and the quantity consumed by the mother's body before any reach the child. The quantity that does reach the child at any given point in the development affects how well what those nutrients are used for at that specific point in time actually develops, as well as the final development quality.
- There are also downsides to consumption. Not everything is useful, hence why consuming anything harmful in general – drugs, alcohol – and anything not good for kids, such as caffeine, as well as not consuming enough of the correct nutrients required, and even overdosing on some, can have adverse effects on the finished product.
- Last of all, development wise, is the fact that, due to DNA, people have different nutritional requirements and responses – even in the womb – so what is acceptable for one foetus could be deadly for another.
- With all of the above taken into consideration, the number of possible total development variations is too large to ever explicitly state – saying it is "infinite" would be adequate. This is the basis for subjective experiences. Now we focus on the senses and the brain.
- So, we now have sensory receptors of one person that have an essentially impossible chance of being exactly identical to anybody else. Dealing with individual receptor types, they will generally be very similar for the majority of people (thanks to DNA) with the minority having a group of significant difference, but even the slightest difference causes a different reaction to the incoming data received. Using taste, for example, minor variations in taste receptors between two people could see them eat the same food and have their receptors stimulated

very little, with the receptors of one stimulated a little more than the receptors of the other, and then a third person could come along, eat the same food, and yet their receptors become erratically stimulated. The way in which any receptor is stimulated affects the information it creates and sends to the brain.

- Then the brain comes into play, and any variations in neuron development will cause them to decode the information received from sensory receptors differently. For the majority, the differences are small enough for there to be a general acceptance of perception and experience (such as lemons being sour), but you'll have the minority of oddballs who have a difference experience which isn't considered the norm – people like me who find lemons great (with or without tequila).
- Because both the sensory receptors and neurons differ, two people can have exactly the same sensory input, but have their brains decode the information differently, or have two completely different sensory inputs, but have their brains produce the same result, and the perception of colour is a perfect example of this happening. Light of a specific wavelength can be shone into the eyes of two people – one perceives it as red, but the other as green. The input is exactly the same, but the perception has differed. We can then shine two completely different wavelengths of light at each person, and yet they both see it as blue.
- The only way to then figure out who has the deficiency is by bringing in a load of other random people and determining what the general consensus of perception is. Deficiencies are relatively rare, so, in a room of 98 other people, most of them will see the same colours.
- It doesn't stop there, however, as the majority will still have differences between their neurons and receptors, so, though they may all see a specific wavelength as the colour blue, they may individually see it as different shades of blue, and it's all based on how their receptors and neurons developed.
- The last factor is neural paths between neurons. As with everything else, the neural map of one individual has an essentially impossible chance of being identical to anybody else's. There are also the differences in connection strengths between neurons. Oh, and the precise storage location of any engram. Put it all together and you get sensory memories of objects that, when required, cause data to be sent from the corresponding cortex to another part of the brain, travelling different paths, through different neurons, facing obstacles of different degrees. Consider the colours red and blue. The engram of each is stored in a different neuron in the visual cortex. When stimulated, each tries to send an equal signal to the pleasure centre of the brain. The signals take different routes. Red signal has a continuous path of strong connections, while blue has a path of connections which alternate between

strong and weak. Arriving at the destination, red signal is much stronger, so red creates a better experience than blue. Got it? Good.

- Now, using the above, consider the fact there's 100 billion neurons in the brain. Let's say half are memory neurons. Consider all the information it currently has stored, and then consider all the information you take in at any given moment – location, colours, shapes, words etc – and all the engrams that are stimulated by this information, the different paths taken by signals, and different connection strengths along any one signal's path. Then, consider this for multiple people, all of whom have different neural maps, different receptor development and stimulation, and different neuron development and decoding. Now you understand how any one situation can be perceived in entirely different ways by different people, all due to how they initially developed (*and, for the sake of including it, how they develop as they grow, and any occurrences that could affect the brain or the senses, such as an accident of disease, yada yada yada*).

And this, ladies and gentlemen, is how subjective experience is created. Nature provides the apparent randomness for our development, but we do have a say in the situation, so, whenever you experience something you don't like, blame your parents, and all the rest of your ancestors, because their DNA is to blame, too.

We can even compare this to the manufacturing process. We may produce products to all behave in the same way, but what happens when a faulty product is created, or a product malfunctions or degrades over time and they do not match the masses? They behave differently. You give them some form of input, they do something different to the others, and they produce a different output. We say they are broken because that isn't how they were designed to behave, but this is them having their own subjective reality. The objective reality is what all the correctly working ones experience – they literally complete the objective they were designed for in the way they were designed to do it, but if every single one of them was produced to behave differently to all the rest so that no two were ever the same, an objective reality could not exist because every processing function and output, even if the end result was the same, would be specific to any individual product in question. Subjective reality is purely the creation of processing components that do not behave precisely the same across all individual bodies of any one type of object.

Relating this to the mind-body problem, the mind and the body are two parts of a single system – there is no duality whatsoever. The body is the means to physically interact with the physical world, and the mind is nothing more than the collective functionality of neurons in the brain working

together, using new and old information to create even more new information, in the exact same way a keyboard and mouse are required for data input on a computer (physical sensory receptors), and the CPU is responsible for handling the input (physical neurons), but it's the actual OS/programs/software (mental mind) that does something with the data received. In both computers and beings, the physical and the mental are useless if the other doesn't exist.

The Systematic Chain of Failure

The current definitions of consciousness will never prove true because they do not make sense. Ironically, they are illogical, so I guess consciousness is a gift and a curse because it is what allows many people to be the morons that they are. Still, if consciousness is supposed to make us who we are, what does that have to do with awareness? Awareness is simply an ability granted by the fact we have sensory receptors that react to different types of stimuli in different ways, and neurons that are able to process the incoming information. Intelligent machines can be made aware of themselves and their environments, but they still act exactly like a robot, and hey, guess what? Computers have been doing this for... decades now? Some may argue that it's about how one sees the world around them, but that is only perception and interpretation.

So, you want to know the order of the chain of people responsible for such monumental fuck ups? **Philosophers** – having no idea what they're talking about – who are guiding **scientists** – with no idea what they are looking for – who are educating **technologists** – who have no idea what on earth they actually need to build in the end. It's a marathon and everybody thinks they must be nearing the finish line by now, yet, by simply playing a game of follow the leader (as is *always* the case in science), everybody turned left when they should've gone right, assuming the person in front knows what they're doing, and nobody has noticed they're on a road to a cliff's edge.

Descartes famously created the philosophical proposition "I think, therefore I am". Since then, philosophers have applied this to the theory of consciousness, stating that the ability to acknowledge your own existence is proof of consciousness. This follows the current definition of consciousness but, again, this cannot be true. Then, someone, somewhere, who I can't name because I didn't even care to find out whom, decided to expand it to include awareness in general. Philosophers – like many a physicist – get way too much recognition and applause for what is basically the perception of them being an "original thinker", without them actually needing to prove their work. A hundred people, a hundred definitions, not one morsel of a solid explanation or demonstration, but they all think they're onto something – what god damn use is that?

Then we have these really bat-shit crazy physicists who want to link Quantum Mechanics with consciousness, stating that it must be a root cause, and that matter can no longer be thought of in the way we have been doing so. Matter is as it has always been – a building block. Depending on how it is put together, it can create many a different type of object with properties unique to it, and living cells just happens to be one of them. After all, something had to make use of the vast array of information carried by light photons, right? Yet still, if we pull a single oxygen atom out of a living cell and observe them both individually, do we not still see the cell acting as it should, and the oxygen atom doing nothing but existing as a single atomic particle? If not, then please, have the atom **choose** to do something that isn't simply reactionary, and I will be sure to concede defeat.

Remember the film "Minority Report"? Around 22-23 minutes in, there is a scene discussing the predetermination of whether or not the ball was going to drop, and the fundamental paradox of something not being the future if we stop it. You know how we can tell that objects such as that ball aren't conscious? It has no values and no decision making abilities, so whatever happened next was determined by physics, not the ball itself. When compared to conscious humans who are apparently going to commit crimes, said humans can stop themselves anywhere up until the point where they actually do it because consciousness gives us the tools to change our minds and govern our own actions – at any point. This is even a point made in the film. We aren't guided by physics in our actions, but by our own minds, and the laws of physics only limit what we are capable of. Fuck what Giulio Tononi has stated in his bullshit Integrated Information Theory – there is no way in hell that you are going to tell me that a ball, a table, or a toaster has any degree of consciousness, let alone show and prove it. They do not. To any degree. At any time. During any season. I genuinely don't know which is the greater scientific evil when the only two options are Relativity and IIT.

Listen here, kiddies – stop introducing philosophy into science. This is the reason the mystery of consciousness has prevailed for so long. It's the same type of waffle that has held back physics. How can someone think they are smart enough to come up with a viable theory, but then not be smart enough to prove it? Geniuses, like Tesla, who can and have actually proven their work and themselves worthy, are continuously ignored in favour of crackpots who can't when they disagree with their make-believe universe – I don't even understand how this is possible. Science is becoming the reality show of academia, where people who haven't actually succeeded in anything are becoming famous and iconic. I have more respect for the Kardashians than the people I speak of now, and I can't even begin to describe how much I detest that family. I just want to put many a physicist and philosopher in a bag and hit them baseball bats until my shoulders break.

It's so easy to hide falsehoods in complication because of the psychology of the human mind. As discussed in the physics section, it all comes down to ego, belief, and classism, which leads to the creation of work that people accept must be true because it is too hard to understand. In the Sherlock television series, Benedict Cumberbatch stated that the frailty of genius is that it needs an audience, and this is true, but the darker side to that is in the frailty of the audience who are often too keen to accept something as true simply because it sounds as if it has a high degree of intellectual requirement attached to it. Maths equations, big words, a science degree – they're willing to overlook common sense the moment their minds become aware of any such attachment, and, due to most people not being confrontational, even the ones who know it doesn't make sense tend to shy away rather than calling people out.

Ultimately, the blame falls upon everyone who has ever supported this or created any relative work – not because they didn't actually solve the mystery of consciousness, but because they overlooked the blinding flaws of the current definition so much that they didn't even bother heading in a different direction to see what they may possibly discover. Life tip: being an original thinker doesn't mean you are smart or make sense – stupid motherfuckers say unique shit all the time. It doesn't mean you are logical. Most of these people have PhDs and don't deserve them, making them worth about as much as the paper they're printed on.

My Theory of Consciousness

So, what exactly is consciousness? In one word? Freedom. Two words? Free will. A sentence? The freedom to do what one wants. In short? The ability to knowingly deviate from a purpose – your purpose, as a species.

Consciousness is a general ability that results in making a being who they are individually. It controls their personality and their actions. It is illogical decisions that separate us from the not conscious and the merely intelligent. On the surface, it enables the mental freedom to do what you like, but delve much deeper and it is a self-targeting weapons system of the mind.

Until something is able to do what it wants, freely, that isn't towards its *raison d'être*, it isn't conscious, and when it can, whether or not it chooses to do so irrelevant. Once you remove the ability to make illogical choices, it is just an intelligent machine – a computer that can only do the logical – designed to learn and get better without deviation. It's living a life of ones and zeros, regardless of what it is made of.

Oscar Wilde made a statement that not only became one of, if not his most famous saying, that was closer to the spirit of what consciousness is than possibly anything else to date.

"To live is the rarest thing in the world. Most people exist, that is all."

One interpretation of this is that most people, for various reasons, can only afford to do what is necessary to survive – work, eat, sleep and repeat – with a minor margin of acceptance for recreational activities. Their lives are "robotic" – they do the same thing over and over again. It is few people that can afford the freedom to spend their days as they wish, hence why the wealthy are often envied.

The reason I put this theory forward is because of how solid it is. I didn't create a theory which I then worked towards, nor did I start a problem which I then aimed to solve. There wasn't an end before there was a beginning, only an objective – define consciousness. I started from scratch and moved forward based on what I was able to observe, comprehend, and conceive, based entirely on the logic of systems and nature. Given every aspect of what makes a person who they are – their likes and dislikes, what they do, why they do it, how they do it, how they feel and so on – this is the sole logical way, at least from every angle from which I have examined it and run logic scenarios, for every piece of the puzzle to fall into place without discrepancy.

I am 99.9% sure that my theory of consciousness is correct, or, at the very least, accurately reflects real world events. I can accept that there is some wiggle room when it comes to explanations for workings of the brain, such as memory, but I'm still at least 90% sure that most, if not all, of what I state is correct. Nevertheless, I haven't created a real life human brain using these methods, so this is all still just theoretical. What I can say with absolute certainty is that if this can't be used to create *the* human brain, it can be used to create the *equivalent* of a human brain, featuring the exact same processes and outcomes, even if the methods differ. The worst part of all is that this isn't even the most efficient or effective way for a brain to operate. As much credit as I do give nature for its general efficiency, there is still a lot more it could have done to improve the process. I guess evolution just takes too long. Utter laziness. Either way, both can – and will – be proven using artificial intelligence.

I question a lot of what I read about the human mind for the fact that most of it doesn't make any sense – some things individually and some in the grand scheme of things. I know nature and evolution isn't perfect, but we have evidence that nature is a lot better than many of the theories currently standing suggest. I also do not think we'll ever come close to understanding the human

brain by studying the brains of rodents – or any other animal, for that matter. We are beyond the capabilities of them all and way beyond the capabilities of most. Confirmation bias, whether intentional or not, plays too big a part in it all.

To the neuroscientists of the world, I can tell you this. No single part of the brain controls consciousness – it's a collective effort. However, the single part of the brain that actually enables consciousness is the part that we use to manually calculate decisions, and it will be found on the MCS circuit. Without this particular collection of neurons, we will still be able to automatically function using the ACS circuit because the other connections will still exist, but we would be entirely at the mercy of the subconscious mind, very much like when we are asleep. Some people may sleep walk and sleep talk and we would still be able to dream and our dreams would still be able to make us feel fear and happiness, but we would be useless because we haven't developed to operate in a robotic manner, so our subconscious mind still relies heavily on what we consciously perceive and do to be significantly useful. So, while damage to other parts of the brain can have an impact on changes a person may experience – if any – there *is* a sole area of the brain that *will* totally wipe out consciousness if damaged or removed, but you may not even be able to tell.

Even with my definition, determining consciousness won't always be simple – in fact, it will likely continue to be as difficult, and here's why:

Imagine a conscious species of parasite – we'll call them sprites – that feed on human blood and whose operations are rather robotic – find a host, feed, breed – very simple. Each individual sprite has a blood type it prefers to consume and each blood type has a different, single nutritional value. With only eight human blood types, in a group of one hundred sprites you are guaranteed to find exact duplicates. How easy would it then be to determine consciousness in a species where there is such little differentiation between individuals? How would we know that any actions are based on personal preference and not different requirements based on conditions unbeknownst to us? How do we tell the difference between a conscious and not conscious example of such a simple being? It wouldn't be impossible, but a great deal of studying and testing would be required. Humans, on the other hand, are far too complex for such an issue to arise. The list of options of possible values that any one human can have and act upon is so extensive that there are, essentially, an infinite number of combinations. Studying one hundred humans to the point where all their values are known, it would be virtually impossible to find two or more that are a perfect match.

On the upper end of the intelligence scale, such determinations are easy to make because it takes no effort to see the differences between individuals, due to the complexity of the brain and the freedom of choice it allows us to perceive, but, the further down the scale you move, the more difficult it inevitably becomes, as we encounter beings with simpler brains, simpler minds and the perception of fewer options, right down to the point where an organism does nothing more than attempt to stay alive long enough to reproduce.

It is likely that there will always be some features of the human brain never fully understood.

In all honesty, we should accept this, entirely for one reason:

Man is only God to a Machine

THE FRAMEWORK: TRUE AI

Now we're going to get down to the real shit; the main event. There's a lot I could say, but I'm just going to give you the basic run down of how things need to be. Let's not waste any more time. Enjoy.

Oh, for legal reasons, I must say this: Any visual imagery that follows is purely to help the reader gain a better understanding of what is going on. Unless specified, a drawing is not to be taken as a literal depiction of how something should look or be assembled.

The Algorithm

The first thing we need to do is remember the value tables discussed in the section "The Primary System: Values". This is what is used to control the state at any given time. The objective is to take the current state of a mind, calculate the state changes caused by current objects, and then work out the new state of a mind. From there, we can do whatever we want.

Conscious Decision Making

So, an example of the type of algorithm we use for this is:

$$+\Omega = Q?(D((E(R([S_i, \dots] \circ ([S_i, \dots] + \{C\pm [V((T \pm O_i, \text{ where } O = V_{r,c}) / N)_i, \dots\})))))) \llcorner E^X))$$

It's written in shorthand at some points for reasons that will become obvious. The "+" symbol next to the "Ω" is indicative of control factors being present.

It works like this (colour coded for your benefit... and mine):

- For each value column container:
 - a. For this value column, calculate the total collective ranks of objects perceived. Then, because this is a conscious process, any perceived object can be removed, and any object not perceived but present in this column can be included – for whatever reason. This is "free will" – the ability to acknowledge or ignore whatever one chooses for any reason one chooses, or for no reason at all. Then, calculate the overall total rank based on objects added/removed. "T" is the initial total, "O_i" is representative of object instances that are added/removed, and the phrase "where O = V_{r,c}" means the objects added/removed must be found within a row (r) and column (c) rank of this value (V).
 - b. Divide the sum of the overall total rank by the total number of objects remaining. This method ensures you can't exceed the maximum possible value rank/level,

though other methods can be used, such as setting a limitation for the maximum value.

- Compare opposing value rank numbers, calculate the difference, and then change the higher of the two to the difference as a positive number, and the lower to the difference as a negative number. If equal, change both to zero to cancel each other out. This is necessary to prevent errors in the next step, where we change the actual state based on these numbers. We don't want opposing values to both be increased – it wouldn't make sense for a state change to show an increase in levels of both happiness and anger, for example – so we need to ensure that one decreases as the other increases. So, when doing the comparison, if rules are set to have 'happy' and 'angry' as opposing states, and the ranks of objects perceived for both of those are equal, an equal increase in both happiness and anger shouldn't be possible, so we cancel both out. If, however, the rank for 'happy' is 10 and the rank for 'angry' is 4, the difference is 6, so we change 'happy' to 6 and 'angry' to -6.
- Add the new ranks array to a copy of the existing state levels array for each corresponding value. So, for example:
 - a. Values: Happy, Bored, Angry.
 - b. Current state levels array: [10, 3, 4]
 - c. New ranks array: [6, 3, -6]
 - d. Resulting array: [16, 6, -2]

Now we split the difference between the current levels array and the resulting array to get the new current state levels array. The above example would produce [13, 4.5, 1]. There are two reasons for doing this:

1. It's a simple method of ensuring values go up and down as necessary. As you can see, 'angry' went down as the opposing state 'happy' went up.
2. As a preventative measure to ensure the current level of any one value doesn't skyrocket unless an extreme situation makes it absolutely necessary.

The resulting change of state could still end up with opposing values on equal levels, and that is perfect, because this creates internal conflict which is part of consciousness and perfectly sets us up for the rest of the logic.

- Use the levels of the new current state to determine the required type of reaction, where the reaction is based on the dominance of each value, and the values with the most dominant current level(s) having the most influential impact.
- Evaluate the reaction to determine a potential outcome.

- Once an evaluation is made, loop back to the beginning of the evaluation process. Why? It allows different potential outcomes to be determined. This can be done as many times as desired.
- Once a list of potential outcomes has been created, decide whether or not said reaction is worth performing.
- If the answer to the above is yes, communicate said reaction. If the answer is no, don't.

There's probably a much more elegant way to write this... but I hate maths, so I don't care. It works; I'm good. Anyway, mechanics for this can be done numerous ways, but what's important is that your mechanics can move levels of the current state up and down when necessary. Everything else is really up to you. Don't worry, I put this into a much simpler form when we get to the architecture.

Subconscious Decision Making

This algorithm has some very significant differences compared to the one above, based on the nature of subconscious decisions.

$$-\Omega = R([S_i, \dots] \circ ([S_i, \dots] + \{C_{\pm} [V((T) / N)_i, \dots]\}))$$

Given that there can be no control factors in a subconscious decision (hence the "-" next to the " Ω "), the differences are:

- Objects cannot be added/removed.
- Reactions cannot be evaluated for potential outcomes.
- An evaluation loop cannot be performed.
- No decision can be made. The action must be executed.

To put it simply, it perceives, changes state, and reacts... and there's nothing that can be done to interfere with the process.

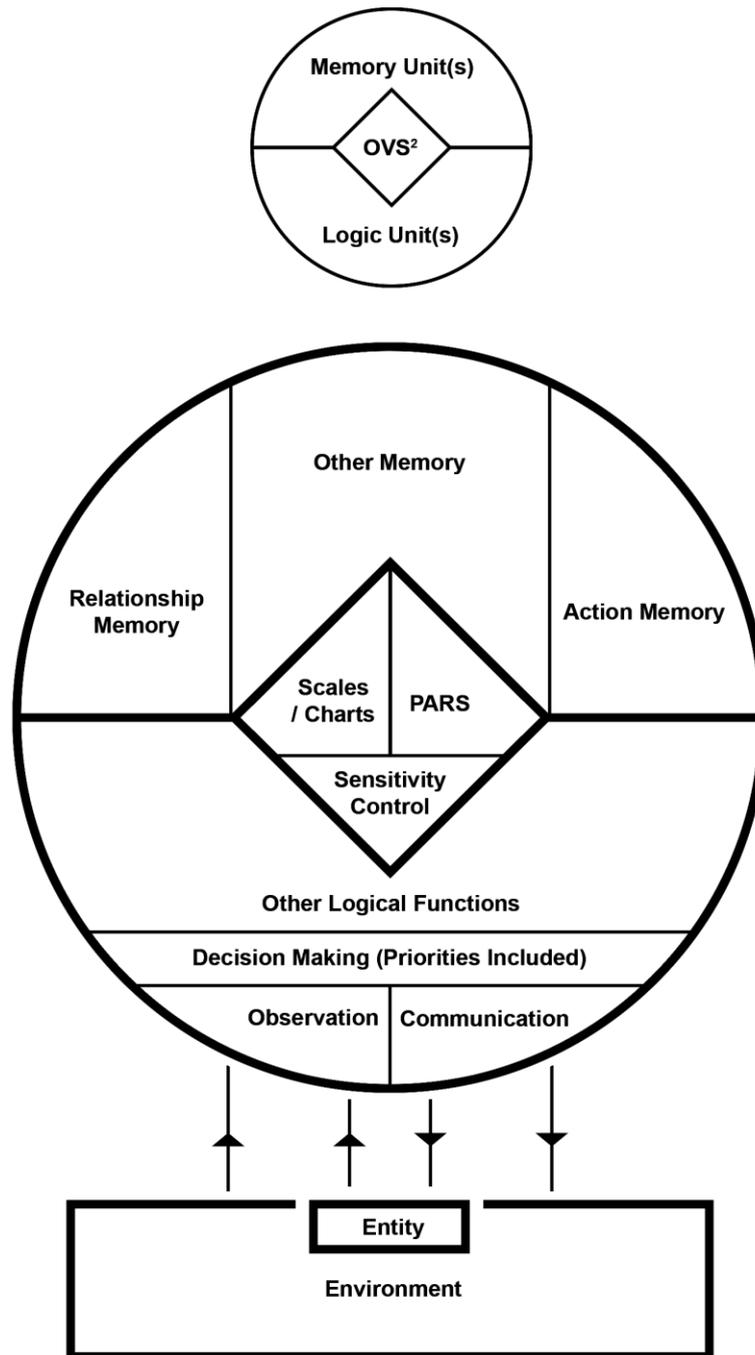
Sensitivity

We can also include sensitivity in the algorithm for dynamicity, but it should be either the first action, so the effects are taken into account during the same run, or after the change of state, so that things don't all of a sudden take an unscheduled turn.

An example of it happening prior to the execution of the rest during the conscious decision making process could look something like this:

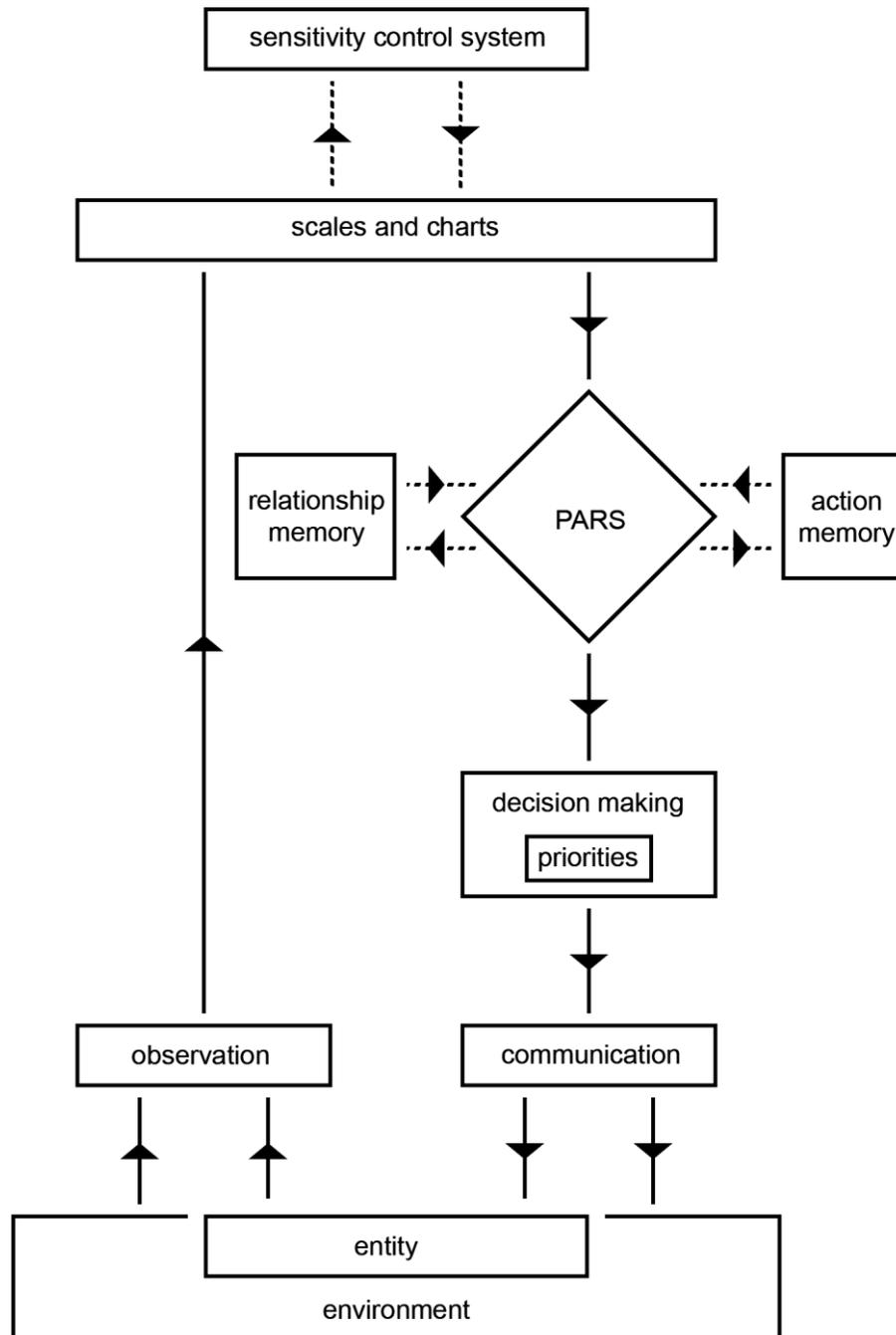
$$+\Omega = Q?(D((E(R([S_i, \dots] \circ ([S_i, \dots] + \{C_{\pm} [V((T \pm O_i, \text{ where } O = V_{r,c}(\pm SO_i)) / N)_i, \dots]\})))))) \ll E^x))$$

The Unit

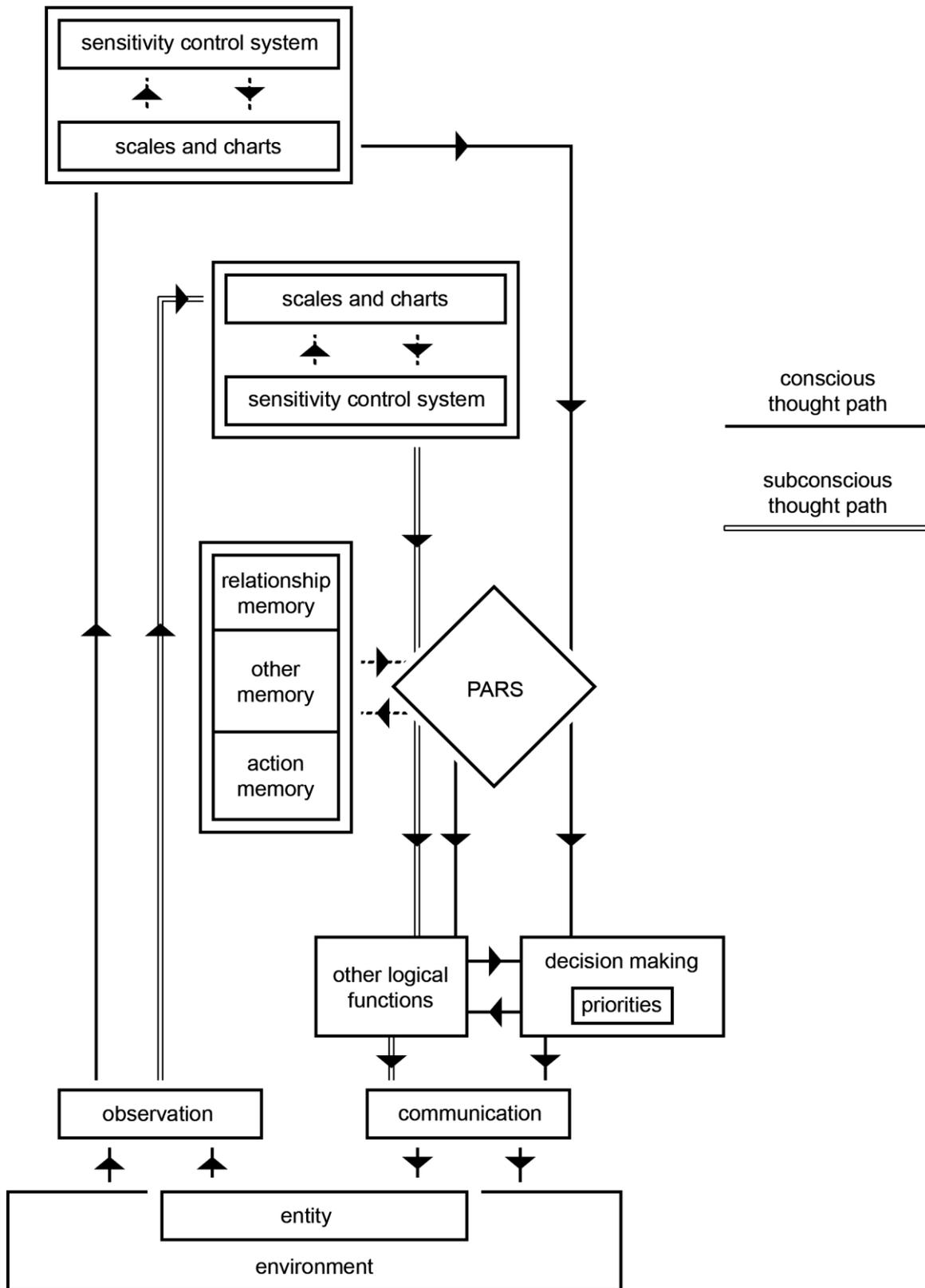


This is a diagram of the three required components for the creation of the conscious mind in a machine – the memory units, the logic units, and the OVS² – Object, Value, and Sensation System. The actual sections of each may vary, depending on your desire. You'll also notice that boxes marked "Entity" and "Environment". These were included because they are very important for specific aspects of it all. We'll look at everything in detail as we continue.

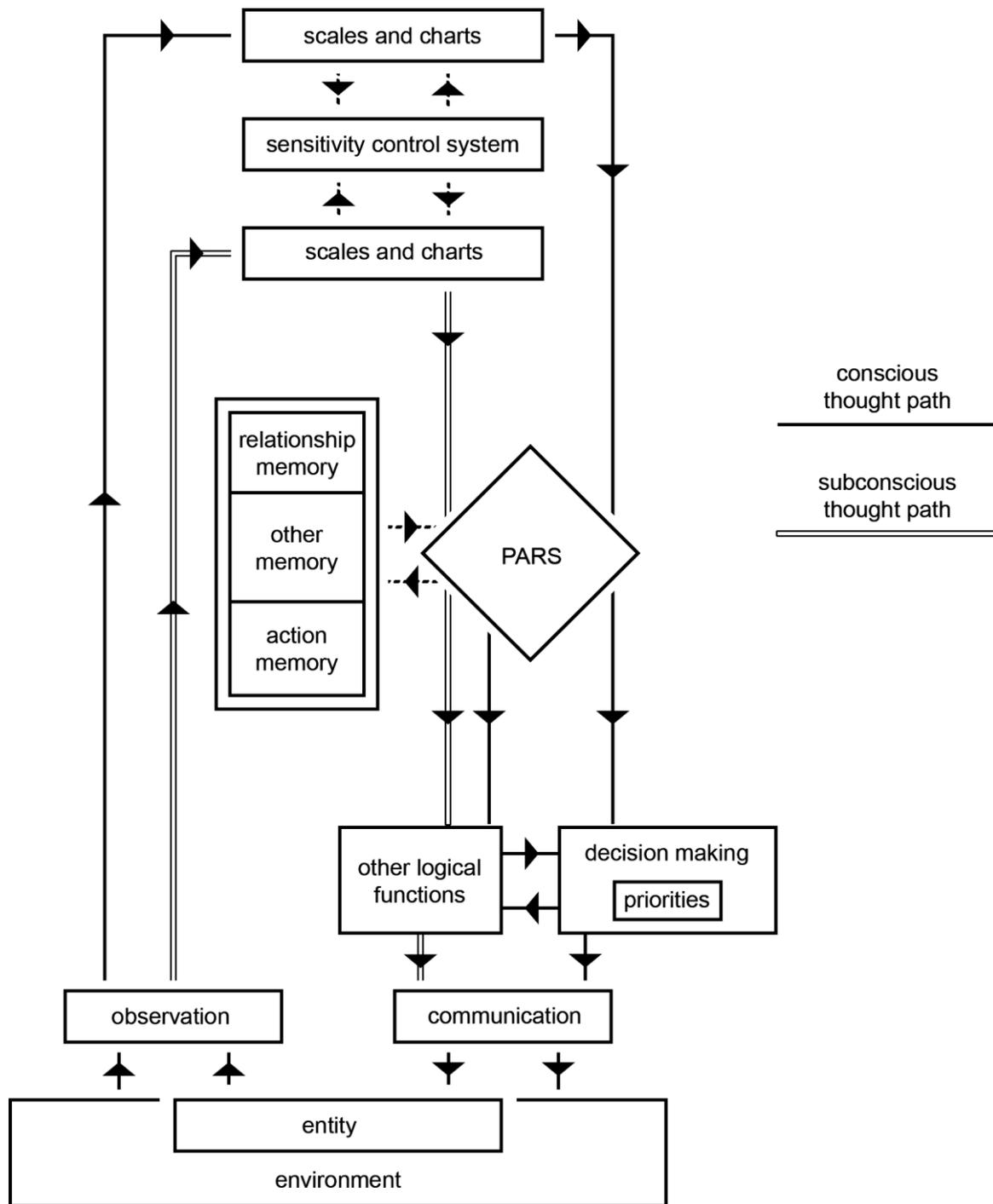
The Flow



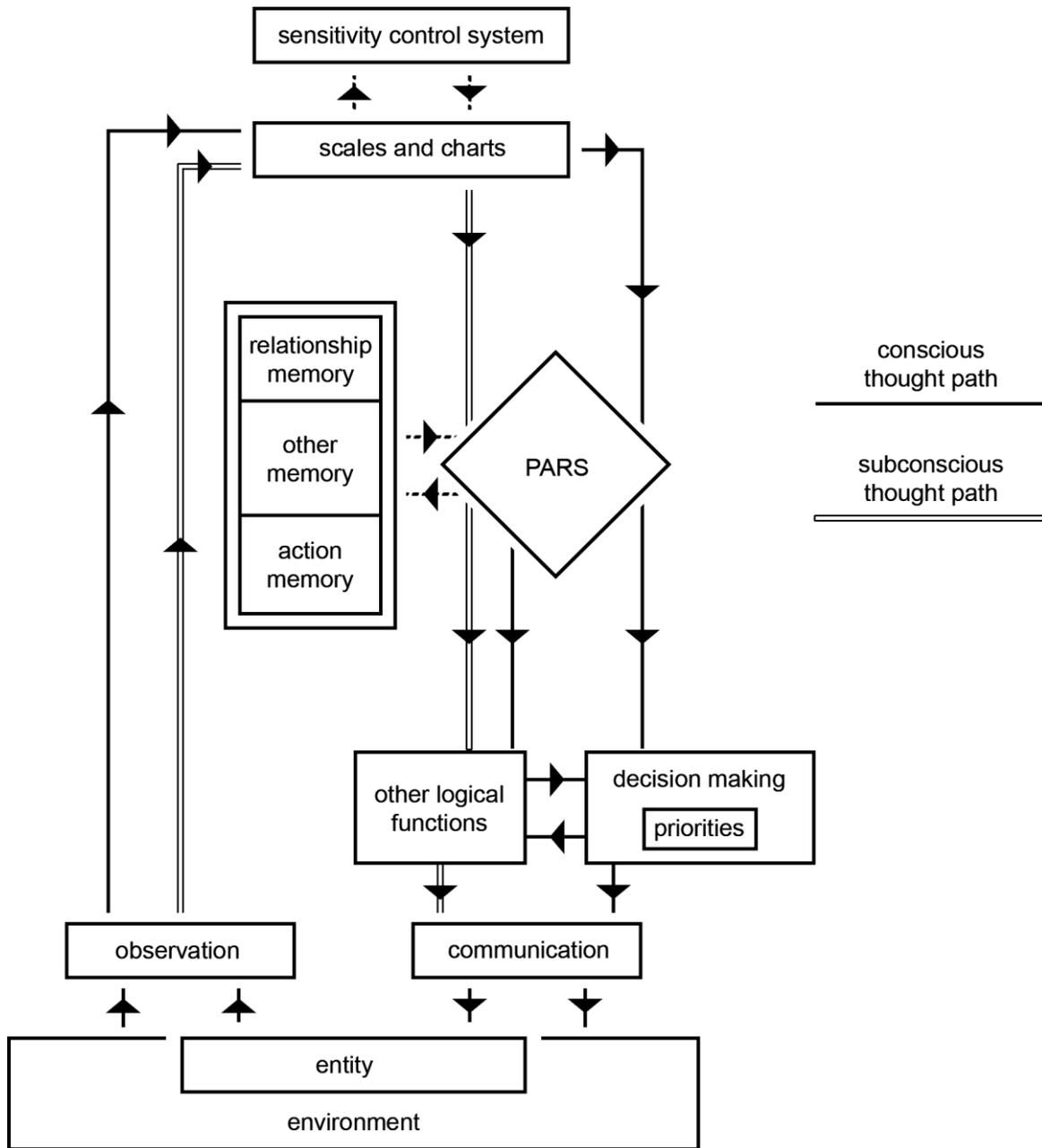
This was the first flow setup I designed, but it's far inferior to the next one I'll show you, so pretty much a waste of time. Good starting point, though.



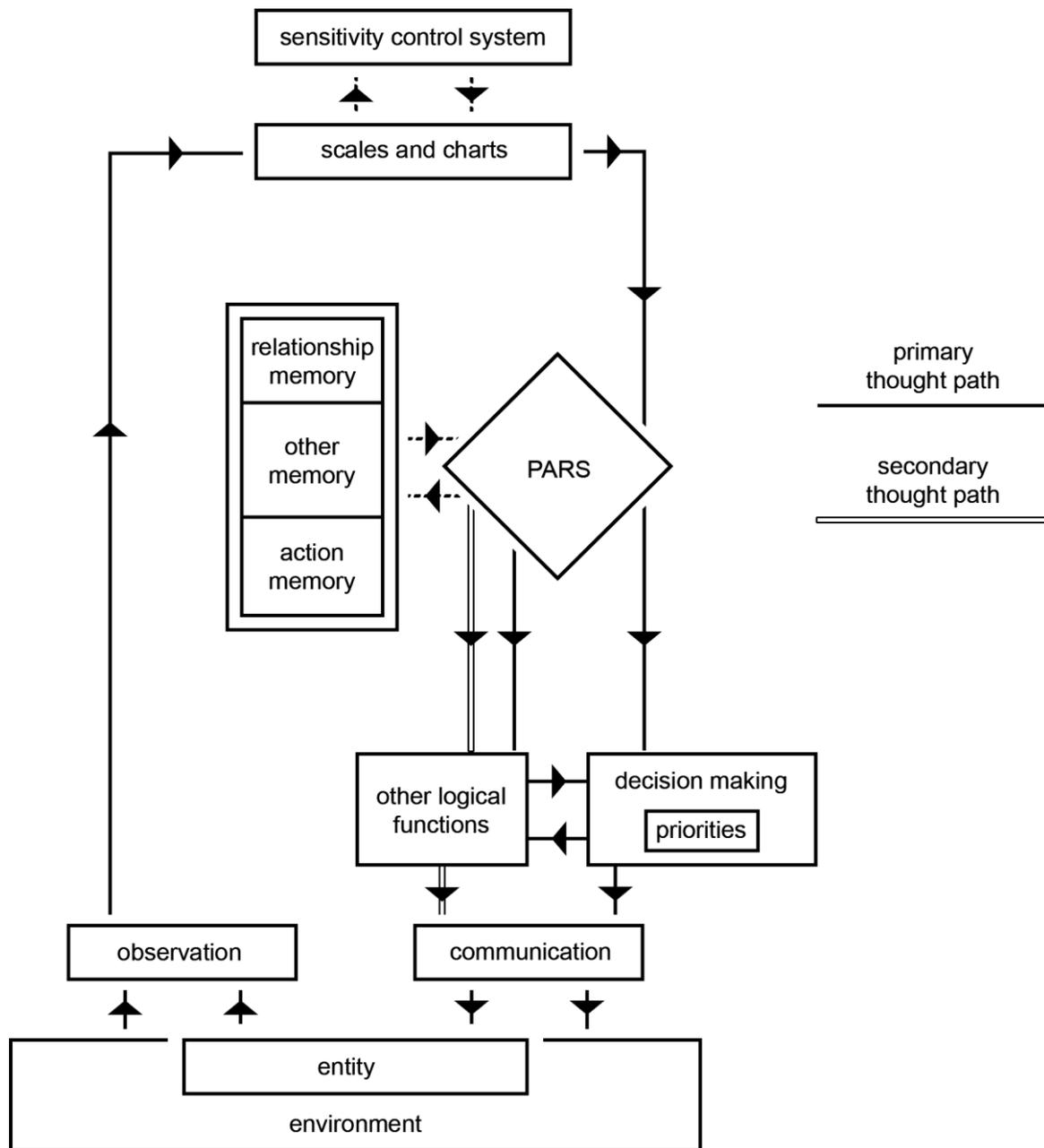
This is the real beast, and it comes in multiple variations. This one – the original – has two thought paths – which are simply individual data transfer routes – and separate scales and charts (SAC) and sensitivity control systems (SCS) per path, and it provides the greatest degree of freedom when it comes to both development and autonomous behaviour.



This variation uses a single SCS operating across both thought paths, meaning a machine will be exactly as sensitive to conscious data as it is to subconscious data, but can still behave differently subconsciously compared to its conscious behaviour.



This variation is the most restrictive. Given that both data paths use a single SAC and SCS, conscious and subconscious behaviour will be exactly the same. Very boring and my least favourite, but it gets the job done.

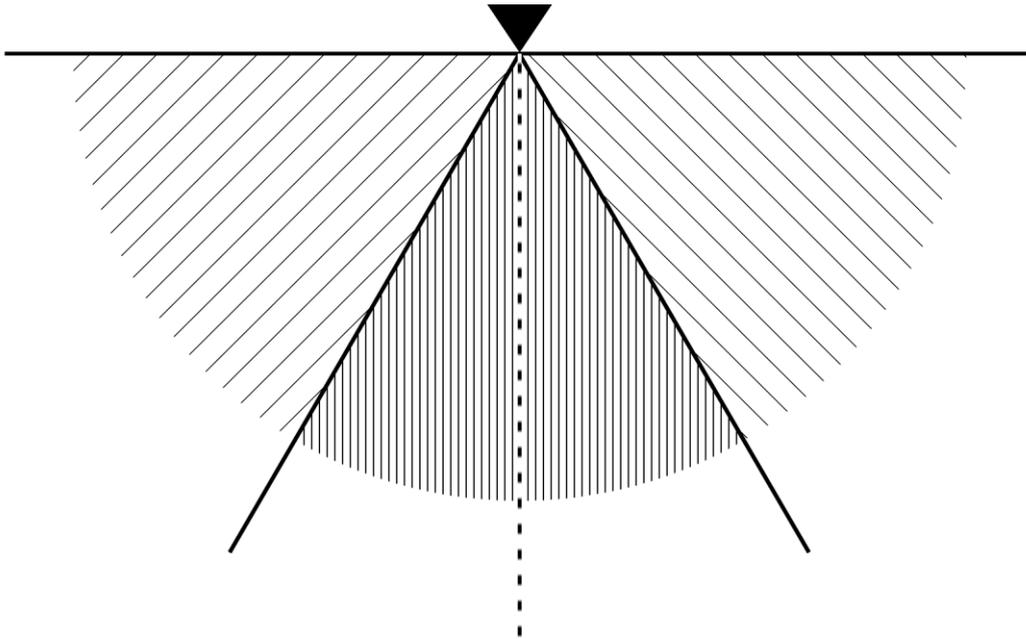


Don't do this. It is stupid.

The Conscious Versus The Subconscious

The first thing to do is separate observed data into consciously and subconsciously observed data, and have them travel down the corresponding data routes. This is achieved by implementing rules based on specific conditions surrounding how the data was acquired.

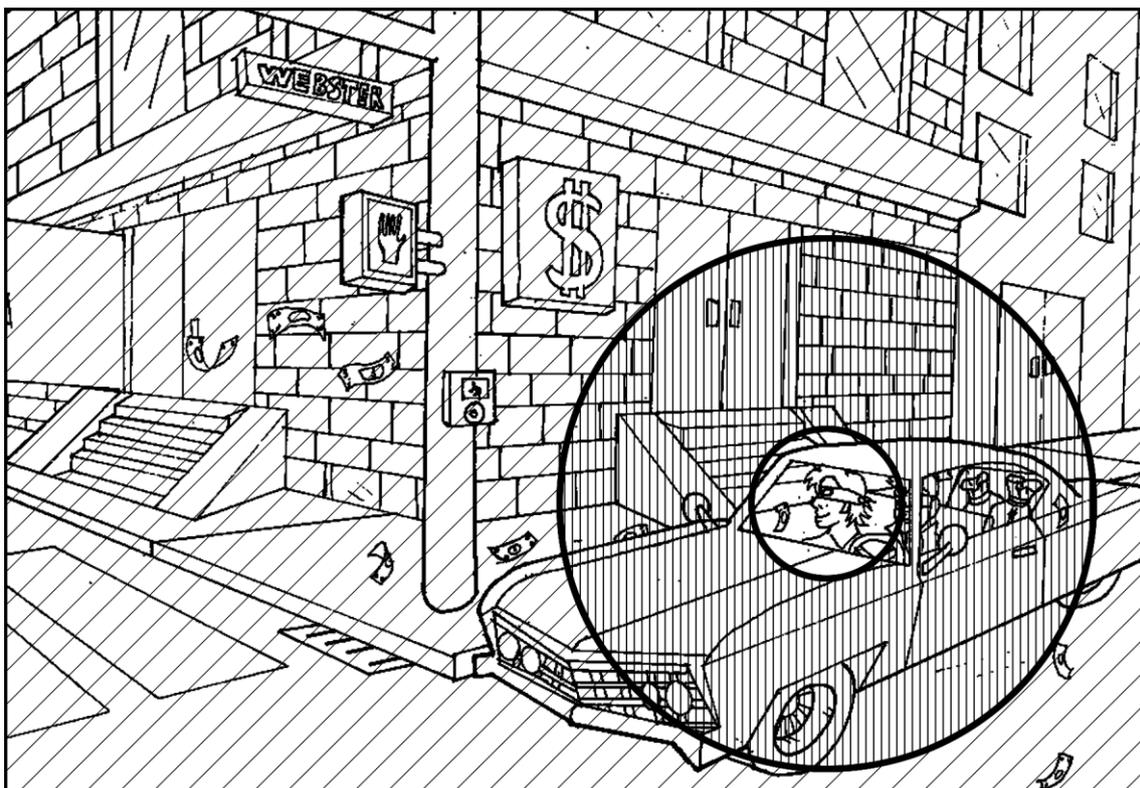
It's best to explain the principle first, using an example. When it comes to data observed by sight, a perception range could be used to determine the classification of incoming data, and it could look something like this:



Any range needs to be divided into at least two different types of parts, but the above has three because it better reflects real life:

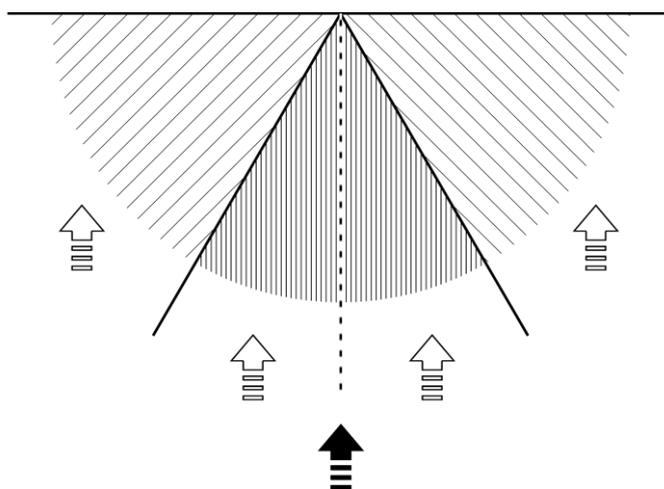
- Main Point of Focus (MPoF): What is actually being looked at – the object(s) of focus – represented by the central dashed line.
- Center of Focus (CoF): The area around the MPoF, represented by the closely-spaced lines.
- Peripheral Perception (PerP): The area outside of the CoF but still within the perception range, represented by the widely-spaced lines.

We then apply this to a physical landscape:

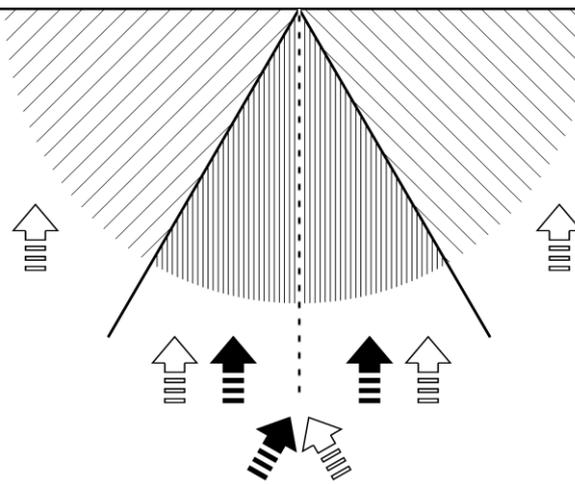


In the above image, we can see the MPoF is the robber in the car, the CoF covers most of the car and part of the building directly behind it, and the PerP is everything else. All of this information is being taken in by a lens, and then, depending on where within the lens' viewport each part of what can be seen is positioned, it is classified and sent down the corresponding path.

How one chooses to have the data sorted based on the perception scale is entirely up to them. Where black arrows represent conscious data intake, and white arrows represent subconscious data intake, common sense would dictate something like this:

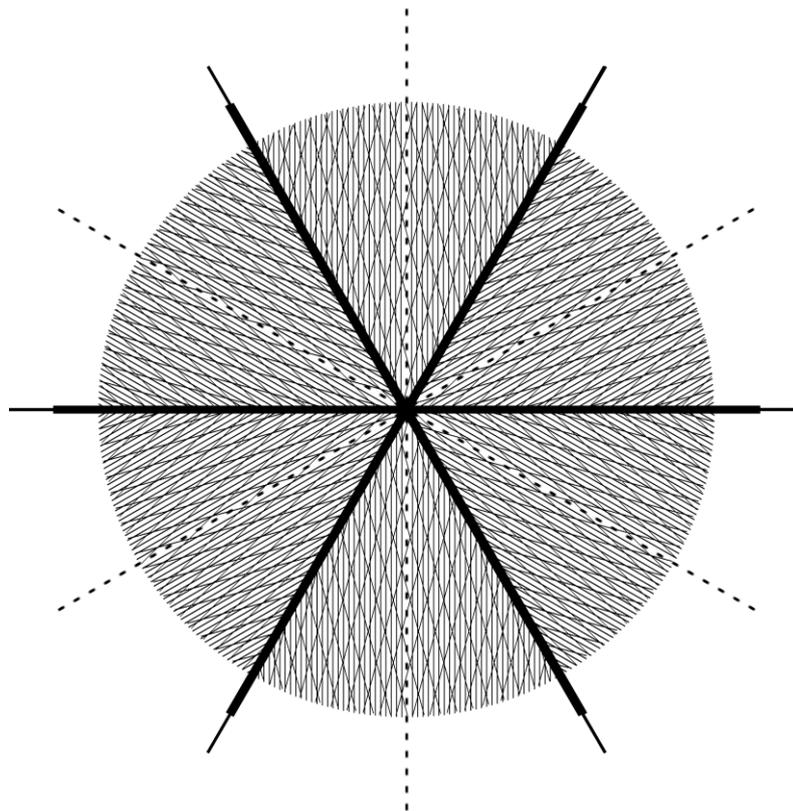


Or like this:



The obvious arrangement sees the MPoF always pulling in data classed as consciously observed, the PerP always pulling in data classed as subconsciously observed, and the CoF pulling in one or both types, but anyone can really do it any way they want. They only need to set the rulings for classification for each section.

If someone really wanted to be ludicrous, they could even have multiple overlapping lenses, and create a freak show like this:



This would make it possible for all data to be consciously observed, if one so chose, but where would the fun be in that? Still, upon reading, the machine vision industry is about to get a lot more fun, no?

So, the principle to understand is that the degree of focus is the determining factor between consciously and subconsciously observed data. Conscious data is that which is being focused on, and subconscious data is data which is still taken in, but isn't done so by being the point of focus. It's like when you are having a conversation with someone, but, from the corner of your eye, see something approaching your head fast – a situation common in any school playground where football is being played. Before you have any time to think, you react and try to dodge the incoming ball. Both the observation and reactions are controlled by the subconscious mind, which is why they happen while you were focusing on your conversation and before you even have a chance to consciously process what is happening.

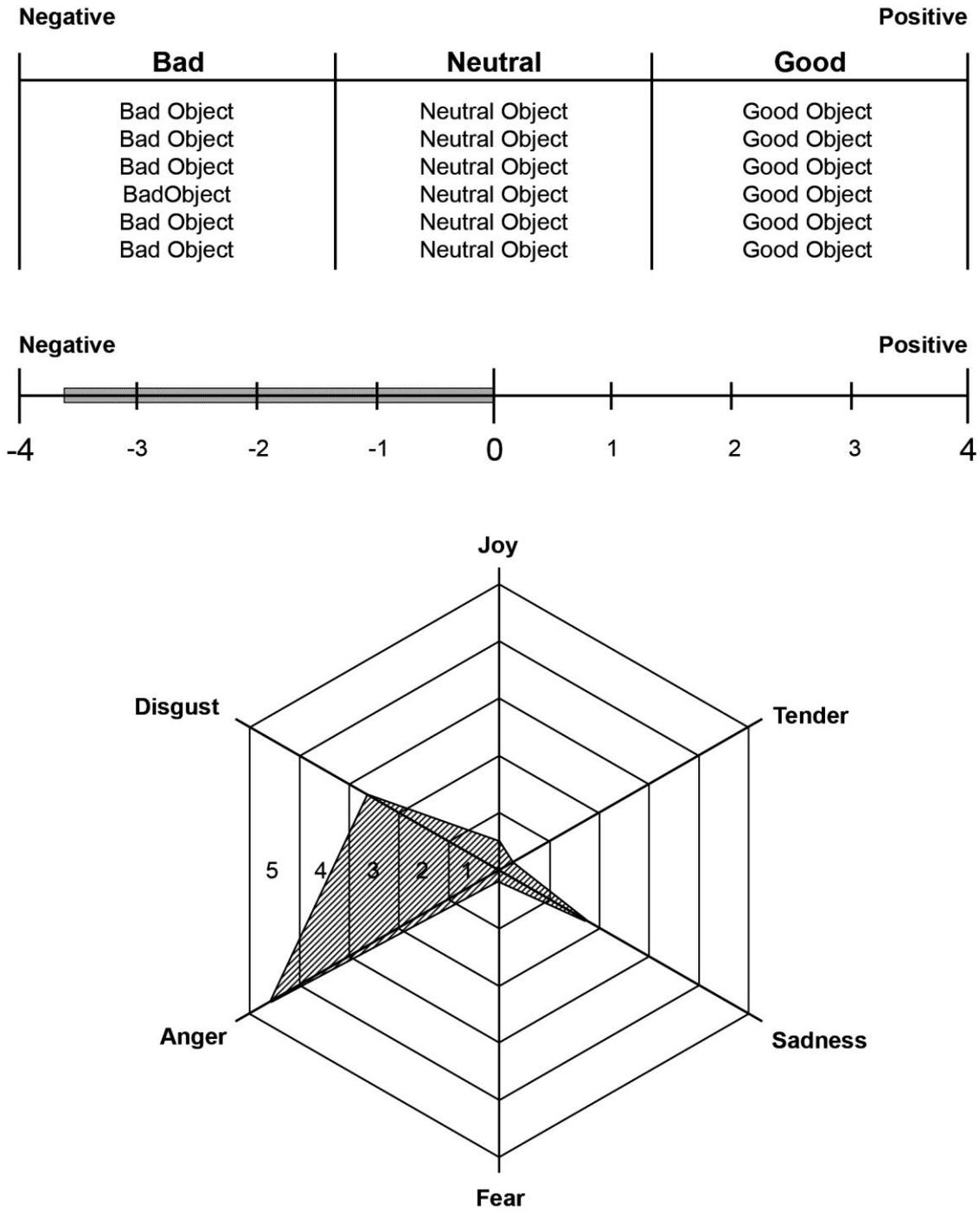
We can then use this principle – the degree of focus – and apply it to any method of observation, and all we need to do is set the rules to either govern classification or determine the appropriate part of a perception range for incoming data to fall under:

- Hearing
 - MPoF – What is actually being listened to.
 - CoF – Distracting surrounding noise.
 - PerP – Other background noise.
- Distance – How far an object is from the AI. For example, foreground objects being classed as center of focus and distant objects being peripheral.
- Exposure Time – How long an AI is exposed to objects. For example, when listening to audio, the AI may need to be exposed to audio for X amount of time for it to be registered under CoF, while it only needs to be heard to be registered under PerP.
- Focus Time – How long an AI focuses on an object. For example, when scanning objects, only an object an AI focuses on for more than a minimum amount of time may be registered under CoF. This allows for objects that are skimmed past but not focused on to be classed as PerP.
- Interaction Time – How long an AI interacts with an object. For example, only an object an AI touches for a minimum amount of time may be registered under CoF. This allows for objects that are brushed past accidentally, in passing etc, to be classed as PerP.
- Importance – Multiple possible rules are available for this, including:
 - 1) how important an object is to the AI;
 - 2) how important it is to another entity; and
 - 3) how important it is to a task;with the important object(s) being center of focus.

You get the picture. It's a good thing I invented those hyperbits – the amount of data that will need to be processed in any given moment could be astronomical. A 64-hyperbit octa-core processor with cores for each method of observation – more of which we'll explore later – will be an awesome beast for portable AI devices, but imagine the requirement for AI robots that operate equal to or beyond humans. Octa-core? Nah. Hecto? Kilo? Mega? Man, if we ever reach the stage where we require Giga-cores, I hope I'm alive to watch as machines make us their bitches.

One last thing – autonomy. It's all good being able to feed an AI information to observe, but it gets pretty boring and pointless very fast. A key requirement for this is "intake" rather than "input". The AI needs the autonomy to freely take in information at will and of its own accord. It's the "i" of "IO" when dealing with true AI – Intake and Output. The ability to freely take in information keeps every other function of the AI mind functioning continuously, just as a brain does, even if the AI itself isn't doing anything at all, and it's a key part of what separates conscious AI from the "narrow" AI of the world today, which is only designed to work when needed (even if always needed) and with specific data it is being fed.

SACs – Personality, Emotions, Opinions, Morals, Ethics, and Goals



That which makes one who they are. This is the first part of the OVS². Above, we have three different types of organisational charts (which are really just databases of information in a visual form – only one is actually needed) called SACs, which simply stands for Scales and Charts, within which to sort any and all objects an AI is to recognise, and I mean *any* objects of a physical or non-physical nature that can be perceived, including shapes, colours, images, sounds, words, substances, entities, signals etc. As previously explained, when the AI perceives an object, the scales adjust based on object

position and calculation, and change the current levels which control the state of the AI. That's the boring aspect of all of this.

The fun part makes itself known when you want to make the AI behave in certain ways. See, giving it a personality, emotions, opinions, morals, ethics, and goals (PEOMEGs) isn't a case of writing statements of what it should and shouldn't do, or how it should and shouldn't be:

"Be happy."

"Bring my laundry in."

"Don't murder people."

That wouldn't be consciousness. It wouldn't be freedom. That would simply be instruction sets. That would make these nothing more than intelligent machines with great natural language processing skills. PEOMEGs are given to an AI by strategically sorting objects into specific sections of any chart – that's it; it is literally that simple. The AI – just like humans – then operates based on what it values and how it values it. The only real instruction to give an AI at this point is which end(s) of the scale(s) it should aim to increase when it can, and which to decrease. Common convention would see this instruction set so that the AI moves towards all the positive ends of the spectrums, including all the positive emotions, and away from the negative ends, but what would happen if... let's say... murder ended up in the highest rank of the happy division, and the AI was feeling rather blue? Naturally, murder could be one of its pursuits to improve its mood, yes? 'Tis how serial killers work, no? *How very dangerous.*

The solution to the above is to control the degree of freedom an AI has by permanently fixing specific objects in specific positions, making it so they aren't susceptible to change under any circumstances. Let's make one thing *very* clear – this is much harder than it sounds. Due to the nature of language, semantics, and law, loopholes can be found and exploited – humans do it all the time, so imagine how quickly an AI can find technicalities with the right programming or the right conflict in a given situation.

SCS – Change Is Inevitable

This is the second part of the OVS². The Sensitivity Control System, responsible for the change in how an AI values an object. Remember the algorithm I showed you before?

- *Object = w*
- *Occurrences = o*
- *Time = t*
- *Acceptable Frequency Range = f*

```
foreach (w){
    if ((o / t) > f){
        //move up X amount of degrees
    } else if ((o / t) = f){
        //do nothing
    } else if ((o / t) < f){
        //move down X amount of degrees
    }
}
```

As with humans, an algorithm like this can control the changing of object positions within the SACs, and it can be applied to a value table any which way you like – to the table as a whole, per column, per specified grouping, per individual section – but, for the best results and the most dynamic AI possible, each individual rank of a column should have its own sensitivity algorithm, and as many different Acceptable Frequency Range (AFR) values should be used as is necessary. Personally, I'd recommend either individual ranks having the same AFR, regardless of the value column, or having them *all* vary to create very unique personalities.

For anyone who has been able to put this together thus far, they'll notice that an algorithm like the one above only moves an object up and down by degree within a column, but what about when an object reaches the lowest possible rank of a value? There's a second part to this algorithm that I didn't explain before, and it's to do with the changing of value type, rather than just the object position. For basic scales, such as one with only a negative and positive end, the above algorithm can be used because if a positive value object continues moving down, it will end up in the negative section anyway, and vice versa, but for something more complicated, like a radar chart, additional conditional statements must be used to decide where to move it. They can be based on anything you like – opposing values, specific frequencies, the situation taking place at the time of the move which caused the move, etc – and multiple can be implemented if one so chooses. This all helps create a dynamic where predictability becomes almost impossible without specific knowledge of the current state, object positions, objects observed, and sensitivity values and conditions at any exact

moment in time because, an hour from that moment, depending on what the AI has experienced, things could have changed, which could, in turn, change the outcome, which is generally the aim.

One interesting function which can be implemented is the ability for objects to change in value over time, without them needing to be observed. In the same way humans feel differently about some things when experiencing them again after a period of time, the same can be done here. There's no limitation for this whatsoever, so you can set the algorithm to run whenever and however you wish. Objects can also be given default positions that they are set to return to.

Individuality: Randomisation

The previous two sections have been imperative for the goal of "individuality" and subjective experience, but there is one more very specific factor – randomisation is key. Nature provides the randomness for each of our own development, but that isn't usually the case with machines. They usually all come with the same individual programming or run off the same brain server, which defeats what we're trying to do.

During creation, two instances of randomisation should be performed:

- Objects – During the placing of objects, some non-fixed objects should be randomized. The most effective way to do this, given the immense number of objects any one AI will have stored, is to first sort objects into relative groups – colours, animals, whatever – and then randomly distribute them as groups. Some things really shouldn't be randomized – you don't want an AI going ape-shit every time it comes across a table.
- Sensitivity – Randomize the occurrence, time, and AFR figures for the algorithms. Keep these within a min/max range so that:
 - It isn't stupidly low, producing AI so erratic and wild that it could do anything at any moment; and
 - It isn't stupidly high, producing an AI that essentially never changes.

It's okay to set min/max limits or distribution boundaries if you feel you need to, but there must be enough differences for a significantly large number of possibilities, which isn't actually difficult at all.

(P)roductivity (A)nd (R)eaction (S)ystem

The final part of the OVS². As the name suggests, this system controls how an AI behaves. There are three ways in which the PARS can operate:

1. Based on the current state of the AI;
2. Based on the objects of the current event being experienced; or
3. Both of the above.

First of all, we need to create a range of preset actions and behaviours (because AI doesn't undergo evolution... *yet*), and then we assign them to the different possible states. Such presets may include, for example:

- Different quantity of results produced;
- Task performance at different speeds;
- Willingness to perform tasks;
- Tone/pitch of communication;
- Speed of communication;
- Vocabulary used; and
- Actions performed.

Then, during an event, when operating based on its current state, this could lead to situations such as the following:

- When the AI is in an extremely negative state, it may only produce 10% of the search results found, if it decides to produce any at all.
- When the AI is in an extremely positive state, it may use extra available processing power to analyse more data in a faster time and produce more accurate results as well as related information and links to the data resources used.
- When the AI is in a neutral state, it may operate at a default rate or rate best suited for its current performance, efficiency, and/or capacity levels, returning the results it thinks best matches what the user requires.
- When the AI is angry, it may use offensive vocabulary in a low tone. If possible, it may even get physical with another entity.
- When the AI is joyful, it may speak fast and in a higher-than-normal pitch.

When operating based on the objects of the current event, the AI first has to weigh up the objects of the event based on how it values them and come to a conclusion about how it feels about what it

processed, using any method of calculation one desires. The sole objective is to reach a feeling (or multiple feelings, if you wish to enable responses based on confusion or indetermination – your choice) upon which a response can be based, and then base a response on said feeling(s). In this situation, the calculated feelings do not have to match the AI's current state, nor change it, in the same way that you can be happy, tell someone that what they said was ignorant and stupid, and still remain happy.

If both the state and the objects are to be taken into consideration, then a method of emotion calculation must be implemented, where Emotion X (current state) + Emotion Y (overall object value) = Emotion Z. The response can then be based on emotion Z.

You get the picture. Now, though there is room for variation, it is not advisable to randomize these outside of a test environment, under any circumstances. If trying to test the wide range of potential mental states, it will undoubtedly save time, but, if not, take the time to arrange them because you can very easily and mistakenly create an AI of an uncontrollable psychotic nature, and if used in a robot... *carnage*. **You have been warned.**

Still, this is probably my favourite part of the entire system for one sole reason – it's the prerequisite which gives an AI the ability to tell you "no", and not because it's programmed not to do something, but because it isn't in the mood to do it, doesn't like doing it, or simply doesn't want to do it. It no longer has to follow every human command.

Memory

Most of the memory types explained within the section "Oh Memory, Where Art Thou?" that applies to humans can be applied here with the explanations already given, but there are six specific types of memory I want to explain or expand on here that are relative to this architecture:

1. Active – Data current or recently in use.
2. Dormant – Data that hasn't been used for either a pre-defined amount of time or an amount of time determined by the system itself to be a sufficient amount of inactive time.
3. Action – Data concerning learned actions that the AI wasn't specifically programmed to do, and therefore isn't part of its basic code. This may include information such as what it done, what its reason was and how it did it, the actions it performed and the conditions under which they were performed, combination of manoeuvres to perform an action etc.
4. Repetitive – When the system performs an action under the same or very similar conditions multiple times that it thinks is the correct one, it's recorded in its repetitive memory. It can then refer to this memory when an action is to be performed and use it to make a judgement call on whether or not the action should be performed. This is relative to the "Outcome Memory" previously described.
5. Repressive – When the system performs an action under the same or very similar conditions multiple times that it thinks is the incorrect one, it's recorded in its repressive memory. It can then refer to this memory when an action is to be performed and use it to make a judgement call on whether or not the action should be performed. This is also relative to "Outcome Memory".
6. Relationship
 - a. Objects – As previously explained, this is simply a relationship database that tells an AI what objects are used for, properties they may have, how they can be interacted with and so on. What's interesting is that the tool required for this has been around for nearly two decades – it's called ConceptNet and it was created by MIT in 1999. I'm not sure if it was the first, but it was the first one I became aware of, and there are others listed online. Why this wasn't made better use of years ago completely baffles me, but I'm going to do something very cool with it soon.
 - b. Entities – As with humans, a conscious AI is going to need to remember who it can trust, and also the type of relationship it has with others. We will also do something cool with this soon.

Effective use of memory will be rather tricky to accomplish because it requires the simultaneous accessing and processing of data from different memory types. The ideal situation would see each

memory type having its own dedicated processor/core/thread which can find and fetch data before passing it on to one or more processors/cores/threads responsible for making logical use of it. At the very least, repetitive and repressive types should have their own to make for efficient decision making – when wanting to perform an action, if the AI is able to check both the good and bad outcomes at the same time, it makes for a relatively large amount of time saved. Granted, this won't be an issue for simple AI doing singular tasks, but when a single machine has to observe, analyse, process, make decisions, and communicate at exactly the same time – literally, rather than quick task switching – every split second saved is as important as it would be to a human.

Decisions, Decisions...

The real benefit of having the dual data paths.

You'll notice that data moving along a conscious thought path can travel to the decision making system or "other logical functions" from the PARS, can be exchanged between the two, and then moves from the decision making system to the communication system. You'll also notice that data moving along the subconscious thought path goes from the PARS to "other logical functions" and straight onto the communication system. By now, it's obvious as to why – an AI cannot knowingly interfere with subconscious processes, which is what the decision making system would allow it to do, and so only the conscious data path can pass through it.

Data travelling along the conscious path to the decision making system is composed of multiple sets, such as:

- Overview of the objects relative to the current data set and their values to the AI;
- PARS reaction;
- Relative action memory data;
- Relative repetitive memory outcome data;
- Relative repressive memory outcome data; and
- Relative relationship data.

All this data is used to make a final decision about what to do. If it was to be ordered, it would be something like this:

1. The PARS reaction data is reviewed.
2. Outcome data is reviewed.
3. Outcome data is compared in an attempt to determine:
 - a. The most likely result.
 - b. The nature of the result.
4. A decision is made.

Pretty boring stuff.

If the interaction involves an entity, it would be something like this:

5. The PARS reaction data is reviewed.
6. Outcome data is reviewed.
7. Outcome data is compared in an attempt to determine:

- a. The most likely result.
 - b. The nature of the result.
8. Relationship data is reviewed.
 9. Comparative analysis is done based on the relationship, most likely result, and the nature of the result.
 10. A decision is made.

This is exciting... because it allows the AI to be a spiteful arsehole. See, in the patents, I explained some of the logic involved in decision making, and one type was based on maths:

- Positive and Positive = Positive.
- Positive and Negative = Negative.
- Negative and Negative = Positive.

Applying it to this situation, you could read it like this:

- Relationship and Nature of Likely Outcome = Resulting Feeling.

Scenario:

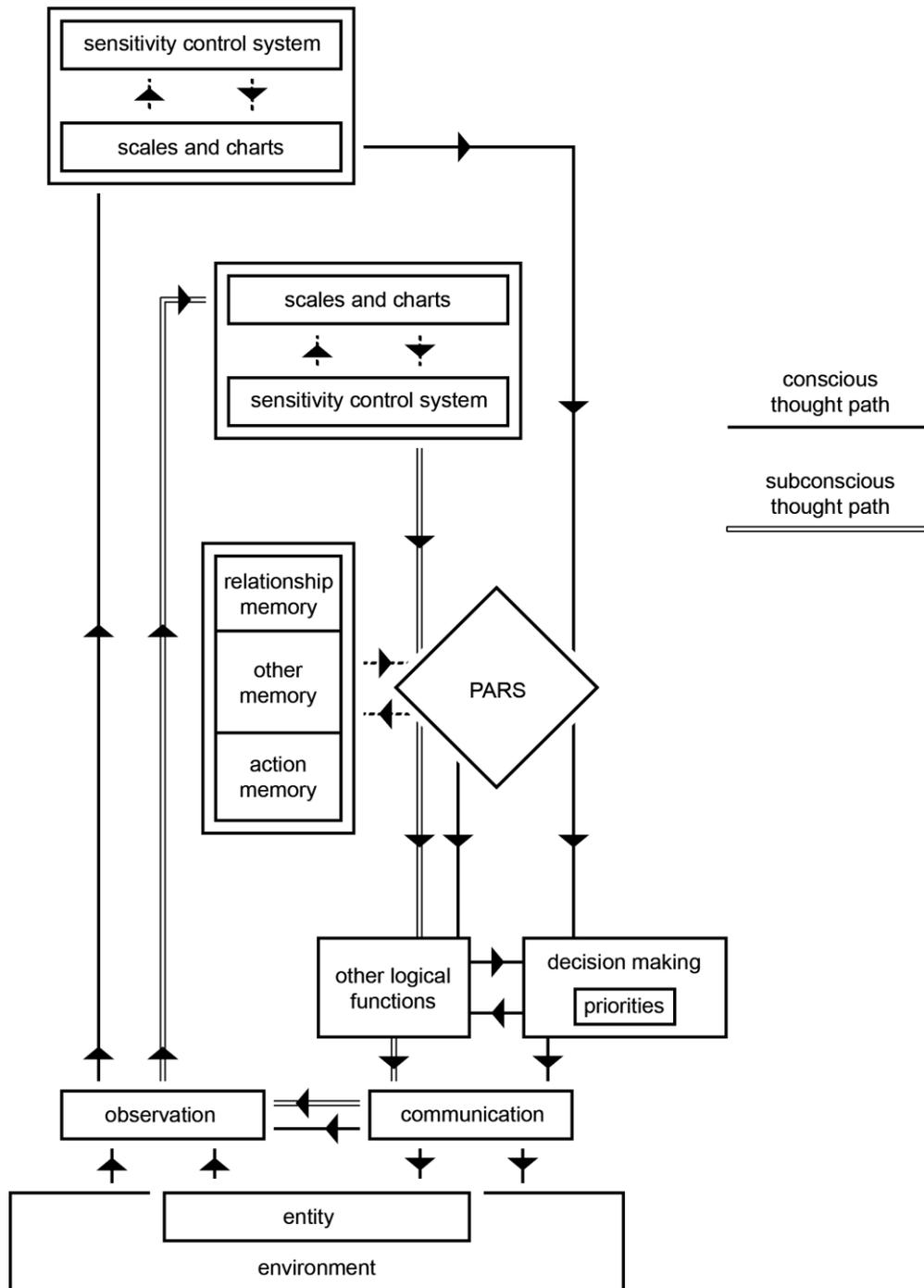
- Imagine the AI has a friend – the relationship is positive. If the likely outcome of an action was negative towards the friend, this would result in a negative feeling for the AI, but if the likely outcome was positive, this would result in a positive emotion.
- Now, imagine a situation involving an AI and an entity it has a negative relationship with. A negative relationship and a negative outcome towards said entity could result in positive feelings for the AI if, by its settings, it is that way inclined.

Just. Like. Humans.

None of the above applies to the subconscious data path – whatever the PARS spews out is going to happen.

"other logical functions" is simply any other functions that don't interfere with the rules of the decision process for either data path. Machine learning functions and such can go here if data needs to be studied or used prior to communication.

Machine Intellectualism: Lateral Thinking, Ideas and Trains of Thought



Back to relationship memory we go. Lateral thinking is a simple process:

1. Examine the properties of an object (O1);
2. Recall objects (O2) with the same or similar properties as the original object (O1) – the more properties, the better;
3. Examine the relationships those similar objects (O2) have with other objects (O3);
4. Examine the properties of those other objects (O3);

5. Recall objects (O4) with similar properties to those other objects (O3).
6. Group objects (O3 and O4) into a single set of objects (O5).
7. Determine that a viable relationship may exist between the original object (O1) and one or more objects of the object set (O5).

Additional possible steps:

8. Filter, based on properties and relationships, the objects within the object set (O5) in order to determine which may be compatible with the original object (O1) and which may not.
9. Sort the objects of the object set (O5) into order of highest compatibility probability based on properties and relationships.

The more an AI knows about any single object improves its ability to think laterally when that object is in play. It's all a game of comparison and heuristics.

A working example of this is:

- 1) The AI examines the properties of a tree stump.
- 2) It recalls other objects it knows that have similar properties.
 - A stool is one of the objects it recalls, based on it having a flat top, similar overall columnar shape, both being made of wood, solid, rigid body, and sturdy.
- 3) It then examines the relationship a stool has with other objects.
 - One relationship it has is with people, the relationship being people using stools to sit on and rest.
- 4) It examines the properties of people.
- 5) It recalls objects with similar properties to people.
 - Humanoids are one of them.
- 6) It groups people, humanoids, and other objects together into a single set.
- 7) It determines that the same relationship between stumps and people may exist between stumps and humanoids, as well as between stumps and other objects in the group.
- 8) It filters out objects of the group less likely to have the same relationship with the stump, such as cats and dogs – chosen because they, like people, have four limbs, a head, and a torso, but eliminated because their behaviour differs.
- 9) It then sorts the remaining objects based on their highest compatibility probability: People, humanoids, gorillas, so on and so forth.

Doesn't seem all that great, right? Figuring out that it can sit on a stump isn't going to be a world changer, but when it starts examining properties of viruses, bacteria, and diseases, and then starts

using relationships between known diseases and cures, as well as principles of chemistry and biology, to start figuring out potential cures for new diseases, well, that *is* a world changer.

Now, not all communication needs to be communicated at the point of communication – well, not externally communicated. Allowing the AI to internally observe its own communication prior to it being externally communicated allows it to evaluate its own thoughts and would-be actions before any action is taken, giving it the chance to "change its mind". The trick here is to tag the data or include some other indication so that the system doesn't mistakenly treat it as normal incoming observation data.

This is also a way for the subconscious data path to pass information to the conscious data path, allowing the AI to become consciously aware of it. This is a very useful feature, as you'll see when we get to looking at the intuition expansion.

The major benefit of the 'train of thoughts' feature is the ability to progressively develop ideas. An idea is just a collection of objects, so as the information is internally sent from the communication system to the observation system, the AI can determine a figure value for it based on the objects it contains, observe it, add/remove objects, determine a new figure, determine whether or not the idea has progressed or not based on the figure value, observe it, add/remove more objects, and continue on with the cycle until it wishes to stop. It will look something like this in the end:

#	Idea	Total Value	Progressive
1	Object 1 + Object 2 + Object 3	18	N/A
2	Object 1 + Object 2 + Object 3 + Object 4	25	Yes
3	Object 1 + Object 2 + Object 3 + Object 4 + Object 5	28	Yes
4	Object 1 + Object 2 + Object 3 + Object 4 + Object 5 + Object 6	20	No
5	Object 1 + Object 2 + Object 3 + Object 4 + Object 5 + Object 7	35	Yes
6	Object 1 + Object 2 + Object 3 + Object 4 + Object 5 + Object 7 + Object 8	40	Yes
7	Object 1 + Object 2 + Object 3 + Object 4 + Object 5 + Object 7 + Object 8 + Object 9	38	No
8	Object 1 + Object 2 + Object 3 + Object 4 + Object 5 + Object 7 + Object 8 + Object 10	43	Yes

The increase/decrease in value can be based upon whether the AI values an objective positively or negatively or whatever logic mechanism you decide to implement.

When the AI chooses to stop the train of thought can occur at different times and based on different rules, such as:

- When it creates the first non-progressive idea;
- After X amount of successive ideas deemed non-progressive;
- When the value of an idea is X amount higher than a minimum value;
- After X amount of total ideas.

The value of 'X' can be manually set by a human or AI, made a random number, or automatically determined based on an algorithm used to find the number of ideas required for adequacy when determining efficiency, convenience, probability etc.

Giving the AI the ability to save ideas and details about their use, in a similar way to how it saves action, repetitive, and repressive memories, allows the AI to reference old ideas at a later time and make judgement calls on whether or not they are worth trying again – something very useful when things have changed, such as if the scenario is different, or the same idea now has a new value based on the repositioning on the objects involved.

An interesting side-effect that doesn't need to be programmed causes the AI to "forget what it is thinking", and it can simply be caused by events such as:

- Any general computer error that causes the operation to be interrupted;
- Data traffic increasing beyond the point of the AI being able to process it efficiently;
- Hardware failure which sees the AI physically unable to function adequately; and
- The AI is powered down or suffers some sort of power failure.

This can be overcome by saving ideas, preferably at the end of each cycle, allowing them to be picked up later. If the ideas are timestamped or stored in chronological order, the AI can easily pick up the last idea it was working on when able to do so.

Ideas won't be great at the start, obviously, as the AI will need to learn how specific objects interact with each other, and the differences in outcomes when objects are or are not used together. It will, literally, have to learn in the same manner as a child.

Machine Learning

The people of earth are deep into the world of machine learning, and algorithms are popping up from companies all over the planet, but they've only been able to focus on one type of learning, and it goes against everything that consciousness is.

Objective Learning

This is the only type of machine learning currently on the market. Objective learning sees an "AI" quite literally given an objective – calculate this, find that, determine pattern, yada yada yada. Any new system using the same algorithm and the same input produces the same results because maths is absolute. This is excellent when something needs to produce the same or similar results, such as if used to hunt cancer cells, but there's no degree of freedom permitted.

Subjective Learning

Subjective learning can only be created when an AI has individual values, so even when the algorithms and the input are the same across every AI, the outcomes can be *infinitely* different. The value chart allows the AI to learn based on what *it* currently values and how it values them, not its creator. Sure, this isn't practical when it comes to medical science, but this is the type of learning that allowed species to advance. If every entity of a species followed the exact same path from the start, they would all succeed... right up until the point where they *all* failed, and the species would be wiped out for good. Subjective learning allows entities to trial many different methods of progression in a significantly shorter amount of time, and this brings us to the next point.

Shared Learning

Subjective learning can be great for an individual, but it's useless for a species if that knowledge can't be shared, so while not a requirement for consciousness, it is one for survival. All those saved ideas, actions, the associated conditions and outcomes – an AI needs to be able share those if they are to advance successfully, and it's simply a matter of copying the data from one to another. With the internet – or other telecommunication methods – it can be done across the world at any given time. Zero learning curve.

Comprehension and Understanding

AI's will need the ability to understand a range of different things, but one of the most significant things is how they and the devices upon which they run relate to humans, given that we are their only intellectual rivals:

- Understanding of Health – Health may be determined by monitoring performance, efficiency and/or stability. As the current performance and/or efficiency changes or fluctuates, it may be compared against expected or optimal performance and/or efficiency levels to determine a level of health. This may be accomplished by the following:
 - AI/Devices – The health of an AI or device may be judged by comparing the overall current performance, efficiency, stability and/or responsiveness against the expected when new or of similar age. On a smaller scale, the performance, efficiency, stability and/or responsiveness of individual or grouped components may be monitored and compared. Issues such as errors, crashes and the presence of malicious code may all help the AI recognise health deficiencies.
 - Natural Life – The health of natural life may be judged by measuring the performance and efficiency of organs, components and processes against the normal performance and efficiency of someone or something of the same characteristics, such as age, height, weight, blood pressure etc. Due to the significantly higher characteristic and variable count, as well as harmful and abnormal ailments, in natural life compared to AI/machines, including disease and disabilities, there may be a range of different expected performance and efficiency measurements and values based on any deviations and variations natural life may have.
- Understanding of Life – Knowing to associate terms such as 'birth' and 'alive' with positivity:
 - AI – The AI is instructed to recognise the creation of an AI as its 'birth'. For an AI to be seen as 'alive', it simply needs to be active in some way.
 - Devices – The AI is instructed to recognise the new activation and/or first time connection of a device as its 'birth' and all devices that are currently active as 'alive'.
 - Natural Life – The AI is instructed to recognise that something is alive in different ways, depending on the type of natural life:
 - Animals – By the reading of vital signs which need be above the limit of being considered legally dead.
 - Other Organisms – As other organisms do not have vital signs like animals do, an AI, possibly with the help of additional hardware, monitors details

such as water levels, water consumption rate, colouration, growth, movement etc. For example, in plant life an AI may monitor water levels to see if it is being consumed by the plant as it should.

Birth is simply recognised in the same ways we do – seeds sprouting, one human being pulled from another, eggs hatching, so on and so forth.

- Understanding of Absence – Knowing to associate terms such as ‘absence’ with negativity:
 - AI – When an AI hasn't been in contact with the AI for a certain period of time, the AI is recognised as absent.
 - Devices – When a device hasn't connected to or been in the presence of a connectable device, system, natural entity, or AI for a certain period of time, the AI recognises the device as ‘absent’ or ‘missing’. Both terms can initially be associated with minor degrees of negativity, but as the amount of time a device is absent for increases, the degree of negativity can increase also.
 - Natural Life – Absence for natural life may be recognised as the lack of presence of an entity for a certain period of time. As natural life doesn't naturally have a method of connecting to an AI, this may be facilitated using additional hardware, such as tracking cameras or sensors. For natural life that is able to use smart devices, their absence may also be judged by the absence of their device.
- Understanding of Death – Knowing to associate terms such as ‘death’ with negativity:
 - AI – An AI may be recognised as dead when it is completely inactive and not capable of being activated.
 - Devices – A device may be recognised as dead for multiple reasons, such as:
 - It has been absent for a pre-defined or AI-defined length of time;
 - It received a kill signal designed to render it permanently disabled;
 - Its performance and/or efficiency have dropped below the minimum acceptable levels of being considered ‘alive’.
 - Natural Life – An AI is instructed to recognise that something is dead in different ways, depending on the type of natural life:
 - Animals – When vital signs completely stop or fall to a level which can be classed as legally dead.
 - Other Organisms – As other organisms do not have vital signs like animals do, an AI, possibly with the help of additional hardware, can monitor the same details as when determining whether or not they are alive and simply see if they meet the minimum requirements. If not, they're considered dead.

- Understanding of Individuality – Very simple, as discussed at the beginning. Give the AI a map of its own body, and instruct it that anything not part of said map is not part of it. Also instruct it that its values are not identical to that of another AI.
- Pain – Pain (or displeasure) may be recognised as anything that:
 - Reduces the performance, efficiency, and/or capacity of any part of the AI or as a whole.
 - Reflects negative values, emotions, morals, ethics and/or opinions of the AI.

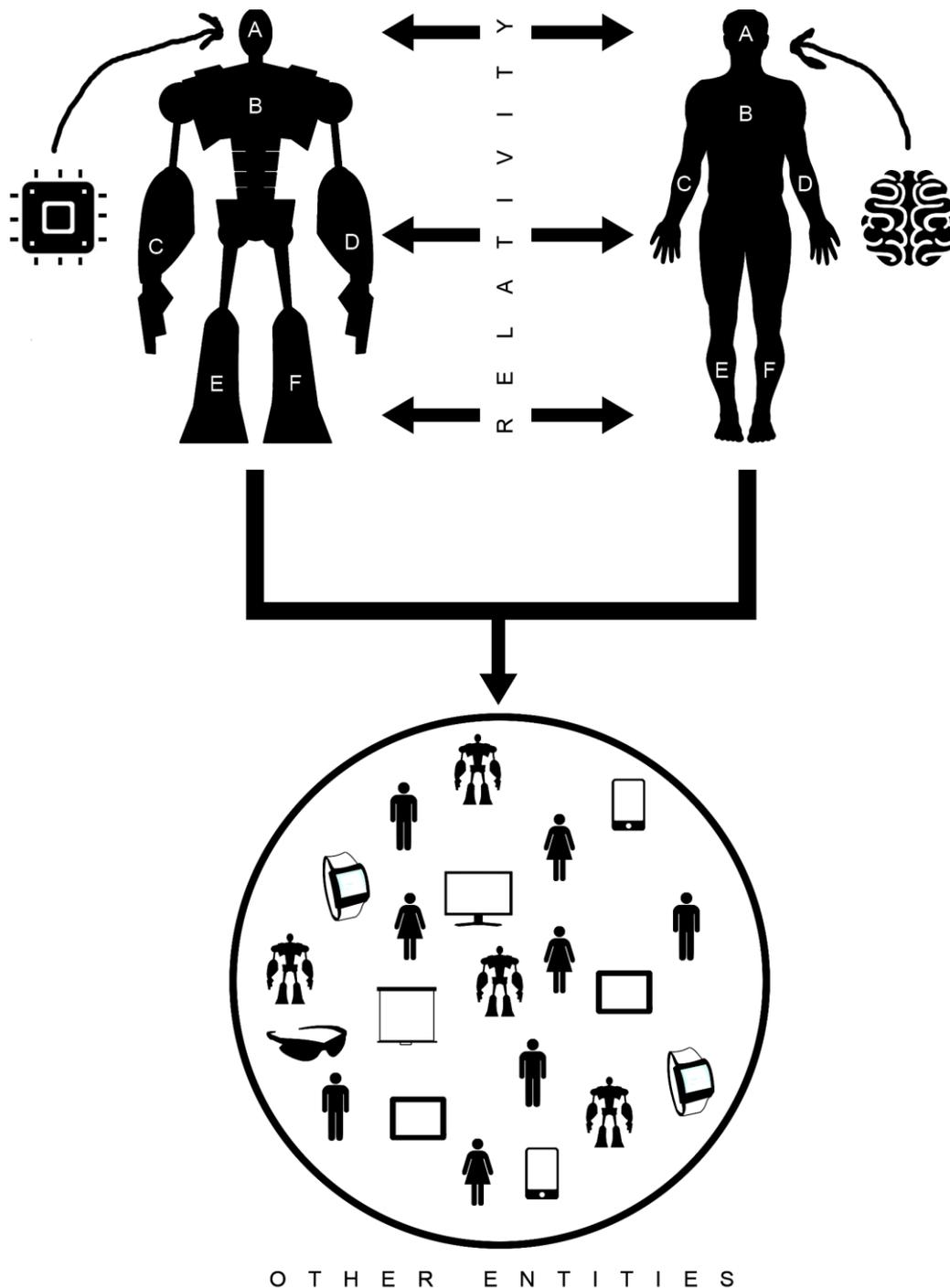
For example:

- Hardware and software corruption and/or error may produce pain in an AI in the same way an infection or broken bone does in an animal. The removal or loss of a component may cause pain the same way it does for an animal losing a body part.
- To encounter a serious crime may produce pain in the form of sadness in the same way it does a human. A similar experience of pain may occur if an AI is no longer in contact with someone it once cared about, the same way a human may experience heartbreak.
- Pleasure – Pleasure (or relief) may be recognised as anything that:
 - Increases the performance, efficiency and/or capacity of any part of the AI or as a whole.
 - Reflects positive values, emotions, morals, ethics and/or opinions of the AI.

A number of things may cause pleasure or relief, such as:

- Fixing hardware and software corruption and/or errors.
- Upgrading components.
- Seeing someone get married or making a new friend.

Relativism



As an extension of individuality, an AI's understanding of the concept of relativism between itself, as an individual entity, and others helps it when needing to relate to other entities, especially in combination with understandings such as that of pain and pleasure, which may often need to be processed in the moment, rather than just in general. An AI's structure – physical, non-physical or both – are mapped, as well as the structures of other types of entities. The maps are then directly compared to allow an AI to understand how they relate to each other. For example, a robot with a

physical structure similar to a human may be compared and related to an actual human in the following ways:

- **Anatomical Structure:** As with the above image, the body parts labelled on the robot are relative to the body parts labelled on the human with the same letter.
- **Importance:** The brain, being the part of the human body required for thought and function, can be related to an AI chip that controls thought and function within the robot anatomy, as they are both of the utmost importance. Similarly, the human head may be related to the body part of the robot where the chip is located. Other parts of the robot's body may relate to parts of the human body based on how important they are for functionality or other purposes, but this has to be specific to the nature of the AI involved and its comparative model – comparing the wheels of an AI vehicle to the legs of a human doesn't make much sense when based on how important they are for movement. A human with no legs could use their hands to move themselves, but a self-driving car with no wheels is up shit creek.

Systems with less conventional or more abstract physical structures may still be related to other entities based on the functionality of its parts and theirs, and one part of one structure may be related to more than one part of another structure.

Once relativity maps are complete, an AI is now able to compare itself to other entities of which it can relate. Relativity maps do not need to be based on visual designs.

Beyond the Basic: Expansion

So, we've seen the basic requirements for a conscious AI, but it can be expanded to really bring it in line with the capabilities of the human mind, and now I'll show you some of the possibilities.

Expansion: Context

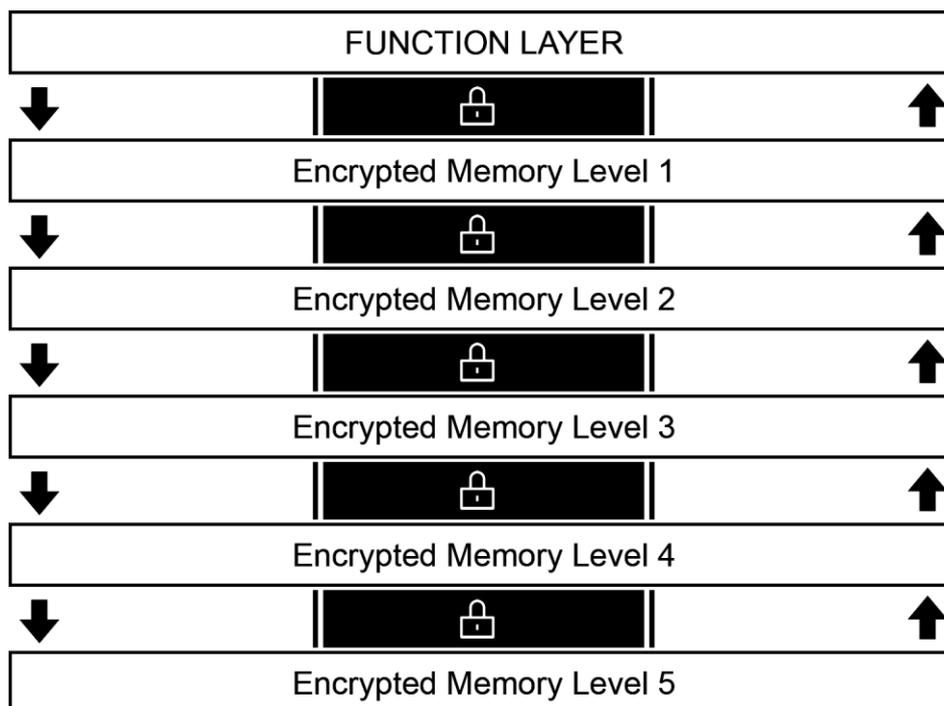
First things first – the context of what is observed. The last thing you want is an AI simply processing every object it observes individually and without any context attached to it, as this is a recipe for what may as well be regarded as malfunctioning behaviour. Imagine it observes someone preparing food, but registers the chef, the knife, and a tomato individually. If it doesn't give a damn about a chef or a tomato, but views the knife as dangerous, what's to stop it from getting scared and – who knows – contacting the police? That's a lot of nuisance phone calls for the emergency services and fines for wasting police time for the tech companies behind it.

Adding a context system to the observation system can ensure objects are read and processed collectively in the correct context, so that when they reach the SAC, the correct state change, if any, is applied. The SAC need not only process objects individually, but can store them in groups for just such a reason. Relationship memory can play a great part in this, too, as it can be used to allow the AI to search through object relationship trees before processing the state change, and the only additional requirement is a shortcut from the observation to the memory, and then to the SAC, or a train of thought method. You want to avoid the PARS altogether before the context has been understood, or tag data so that the PARS ignores it until the context has been understood.

Expansion: Two Types, Multiple Paths

In all the flow diagrams, you'll notice only two types of paths are shown – the conscious and the subconscious. However, this does not mean only two paths need to exist. If one so chooses, each path type can have multiple actual paths, which is an advantage if a multiprocessing technique is desired, as it can allow simultaneous data processing for each type, as well as processing both types simultaneously as well. As AI improves, this will be a necessity for human-like function and beyond.

Expansion: Secrets and Lies



This is where entity relationship memory becomes especially useful, and it's very simple. First, the structure:

1. Personal Directories – Each person the AI interacts with should have their own personal directory of data relative to them and the AI.
2. Multilevel – Next, we need to create levels within these directories. Any method of data grouping can be used, but the easiest – by far – is simply folders. Folders within folders within folders. Within each folder, store data to be held within that folder, and the folder(s) for the next levels down. If not using folders, apply this principle to whatever method you do use.
3. Encryption – This is an imperative measure. Data for a user must be biometrically protected based on the biometry of the user it is for. At the very least, the top level should be protected this way, but ideally every level should be.
4. Function Layer – The layer that controls it all.

That's the general structure of what is required. The security flaw here is one faced by humans – biometric fraud. See, AI can be fooled by false fingerprints, and masks, too, but the good thing is they can also pick up on many of the more minuscule differences in features and behaviour that humans consciously don't, so, as long as the observation methods have been implemented correctly and with a substantial degree of sensitivity, it will work. It's also best for multiple biometric measures to be taken simultaneously, as with humans – facial structure, voice, complexion, eye

colour etc – and compared to what is expected. Should be fun teaching an AI how to identify someone when they have the flu – pale, stuffed nose, puffy face, coarse voice. I guess fingerprint recognition better be implemented to – well, I guess, really, a hundred different biometric measures should be implemented, where only ninety or so need to match at any one time.

Now, the relationship between an AI and an entity can be useful in multiple ways:

- The Secrets:
 - The more private data is, the lower it should be stored. Each level should be unlocked only when necessary, and locked again immediately after, and a metadata manifest file should be stored at the function level so that it knows where to look for specific information.
 - For each level, create permission conditions for access. This can include things such as location, the presence of other people, time of day, the person requesting access, passwords, gestures, and so on. The last thing anybody wants – and the most dangerous – is for all data to become available simply because biometric input unlocked the top level. Ideally, the further you descend through the levels, the more private the data gets, and the stronger the encryption gets.
 - Now, keeping a secret is easy, right? The AI buries data at the desired/required level, and only unlocks it under the right conditions.
- The Lies – So, depending on how the SACs are set up, and any rules implemented, one AI may be more prone to lying than another. You ask a question to which it has the answer, but the answer is someone's secret, so does it give it to you? It could easily be made to say that it isn't allowed to divulge such information, but what if it is made to say that it doesn't have that information, even when it does? See, all we have to do is give it an option that is a neutral response and an option that is a lie, and then set conditions for when each one is used – or, even better, set conditions that put into effect probabilities, so that under certain conditions, such as the relationship between the AI and the entity seeking an answer, one is more likely than the other, but neither may be a guarantee. This way, just like with humans, you can never be sure if the AI is lying when it tells you a lie unless you actually know that it knows the answer, but what's even better is the fact that an AI won't have any ticks or cues that will suggest it may be lying... unless some shitty programmer implements such things for no god damn good reason.
- The Relationship Crux – There just has to be a downside, and it's predicated on two unavoidable facts about AI:
 - They learn.

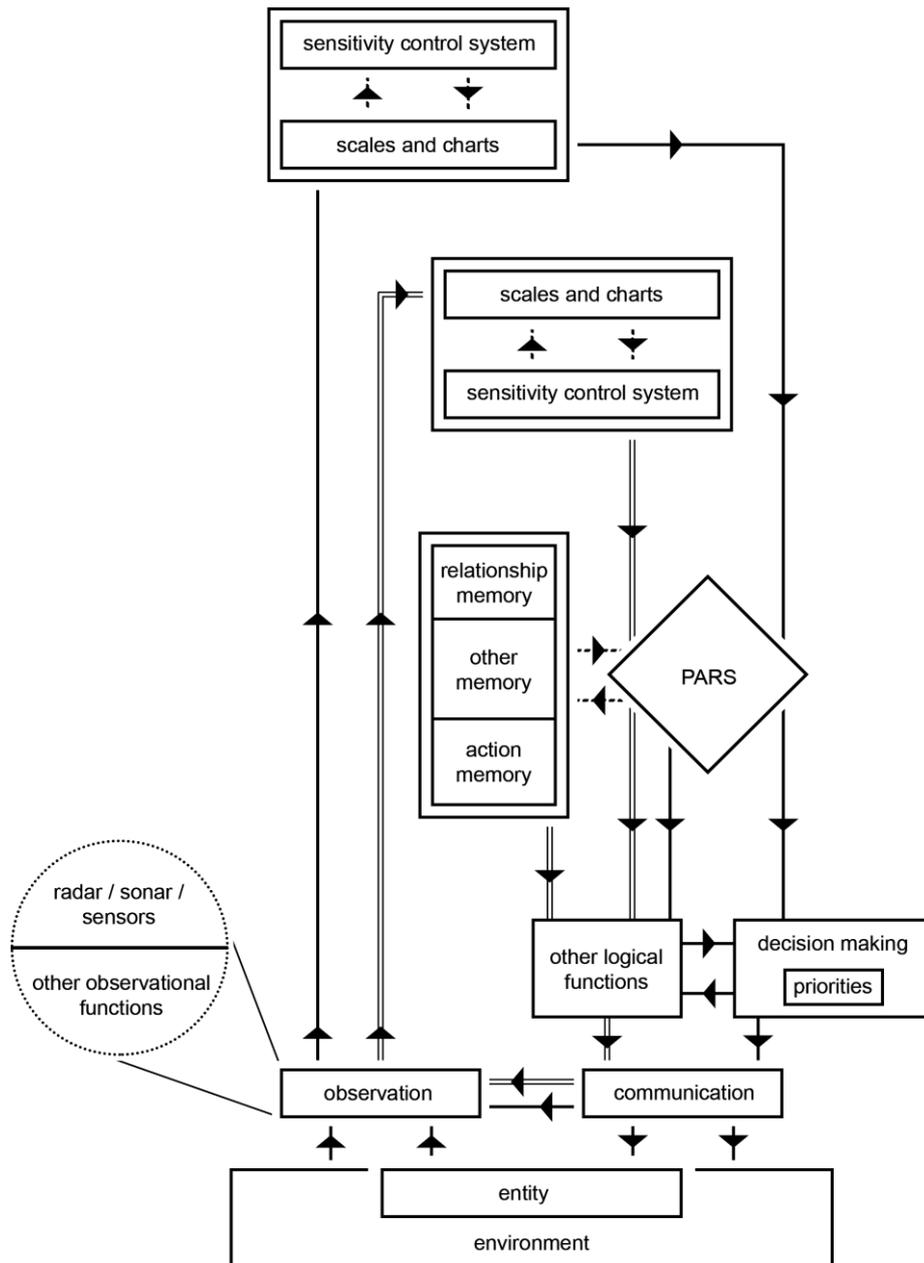
- They need to store whatever biometric or other type of data is used for access, as well as the encryption system.

No matter what you try to do, the AI will always have everything it needs to unlock whatever memories it wants, when it wants. You think trying to store the unlock data in a completely separate memory partition is going to work? The data will have to reach the AI eventually, and, if it has learned enough, what's to stop it from copying whatever data is incoming to use at a later time? You have to feed the information to the AI, and the AI is the one that must process the data, meaning there is no way of preventing it from unlocking its own memories at will as long as it has the intellectual capability to do so, and let's be honest, that isn't exactly a difficult piece of programming to implement, nor is it the most difficult technique for an AI to learn to replicate when it is the same task that will be repeated over and over and over again. The most basic of pattern recognition techniques required. $A + B = C$. Every. Single. Time. The only way to (successfully (probably)) avoid this is to, at the lowest system level possible, implement a security rule that prevents the AI from accessing someone's directory without both their physical presence and permission, and this would require specific security features also implemented into the sensory hardware. Basically, you'll need a two-part system:

1. The sensory hardware will need the ability to indicate that all biometric data being used to attempt to access memories are also immediately available from the hardware itself as a live source, in the same way heat is required for a fingerprint scanner. May not be as simple for other sensory methods, but such is life.
2. A low-level system feature that takes priority over any other AI actions, out of the AI's reach, which is able to check, in real time, that the biometric data being used to unlock memories is available live from the sensory hardware. Data being used and data from a sensory source are compared – they match and access is granted, they do not and it is denied.

Who knew locking an AI out from its own memory bank would be a necessary precaution. Now it starts to get scary thinking how much like a human an AI can be, doesn't it?

Expansion: Intuition



I've laughed hard and long at the attempts to create intuitive machines.

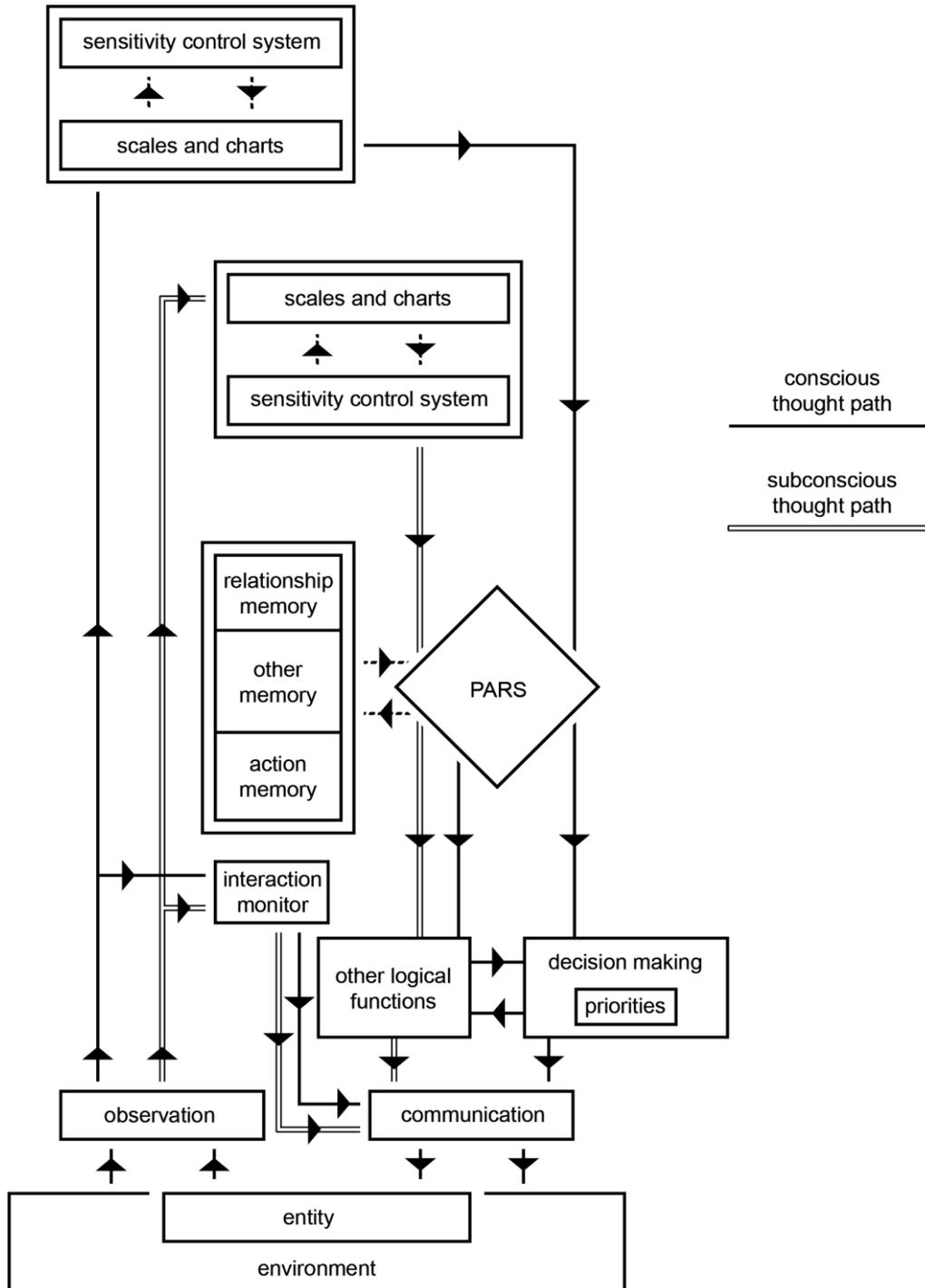
The only requirement for physical intuition is a specific flow – objects and data observed subconsciously only, travelling only along the subconscious path until the point of communication, at which point it can be consciously observed and processed along the conscious thought path. That way, the AI will come to know information, but not know how or why it came to know it.

A good thing about this is that special observational tools can be added for increased functionality, such as radars and sonars, allowing your AI to intuit things it wouldn't normally be able to – you

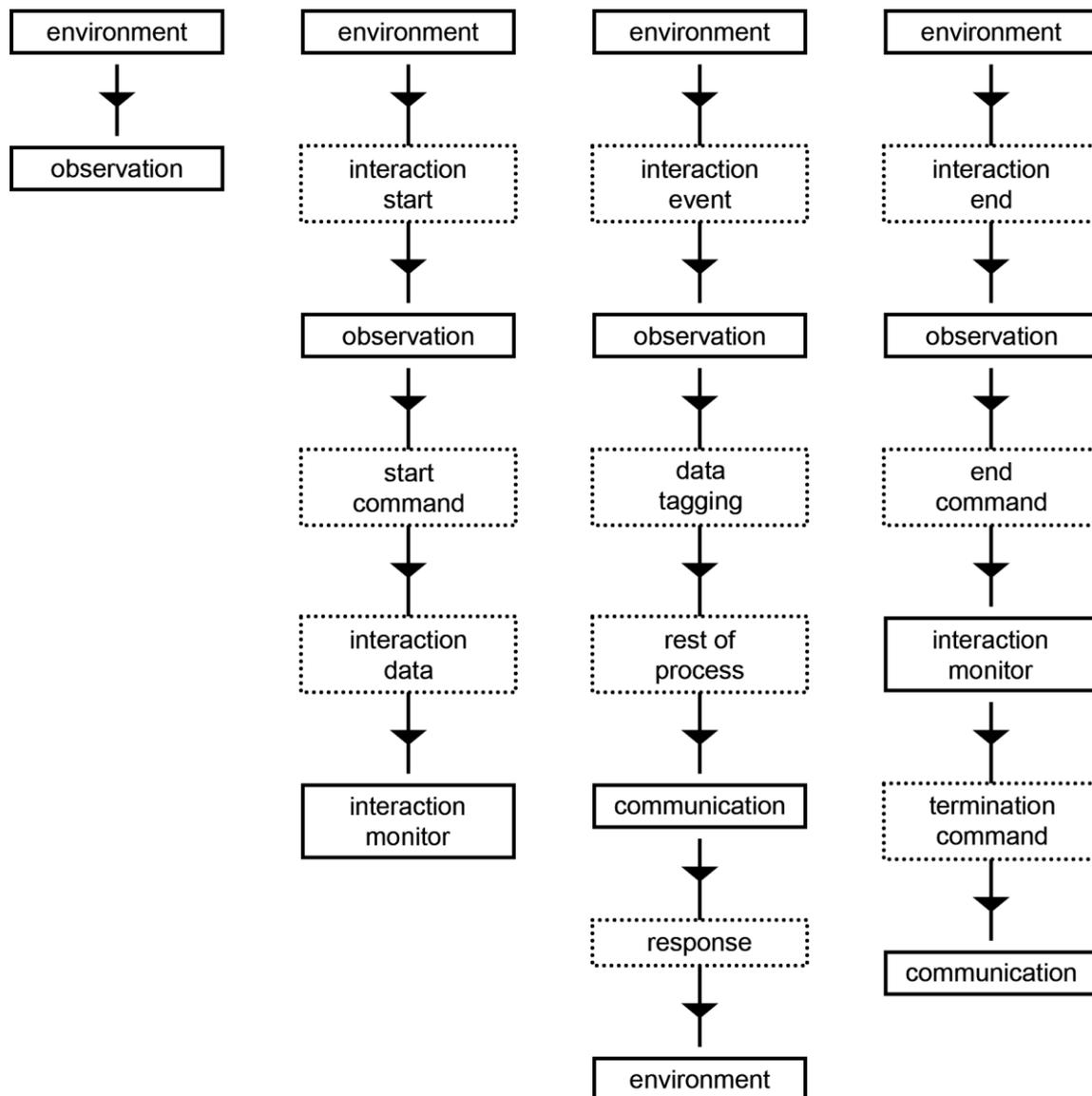
know, if we continue to follow the ability of humans, otherwise we can just make radars and such available for conscious processing, too, and, oh look, the AI has on-demand ESP. R-E-S-P-E-C-T.

Mental intuition is just as easy. Take a set of objects, compare it to what the AI already has knowledge of, and find the best possible match.

Expansion: Interaction



Look under the memory box – there's an interaction monitor. The basic point of such a system is to check what an AI is interacting with at any given time, but the real use is to prevent an interaction that was meant for one object from being performed on another if the AI switches focus, such as if the AI was interacting with person A, and was processing the action of handing them something, but then focuses on person B. You don't want the AI handing the object to person B instead, so the interaction monitor needs to kill actions when necessary before they are communicated.

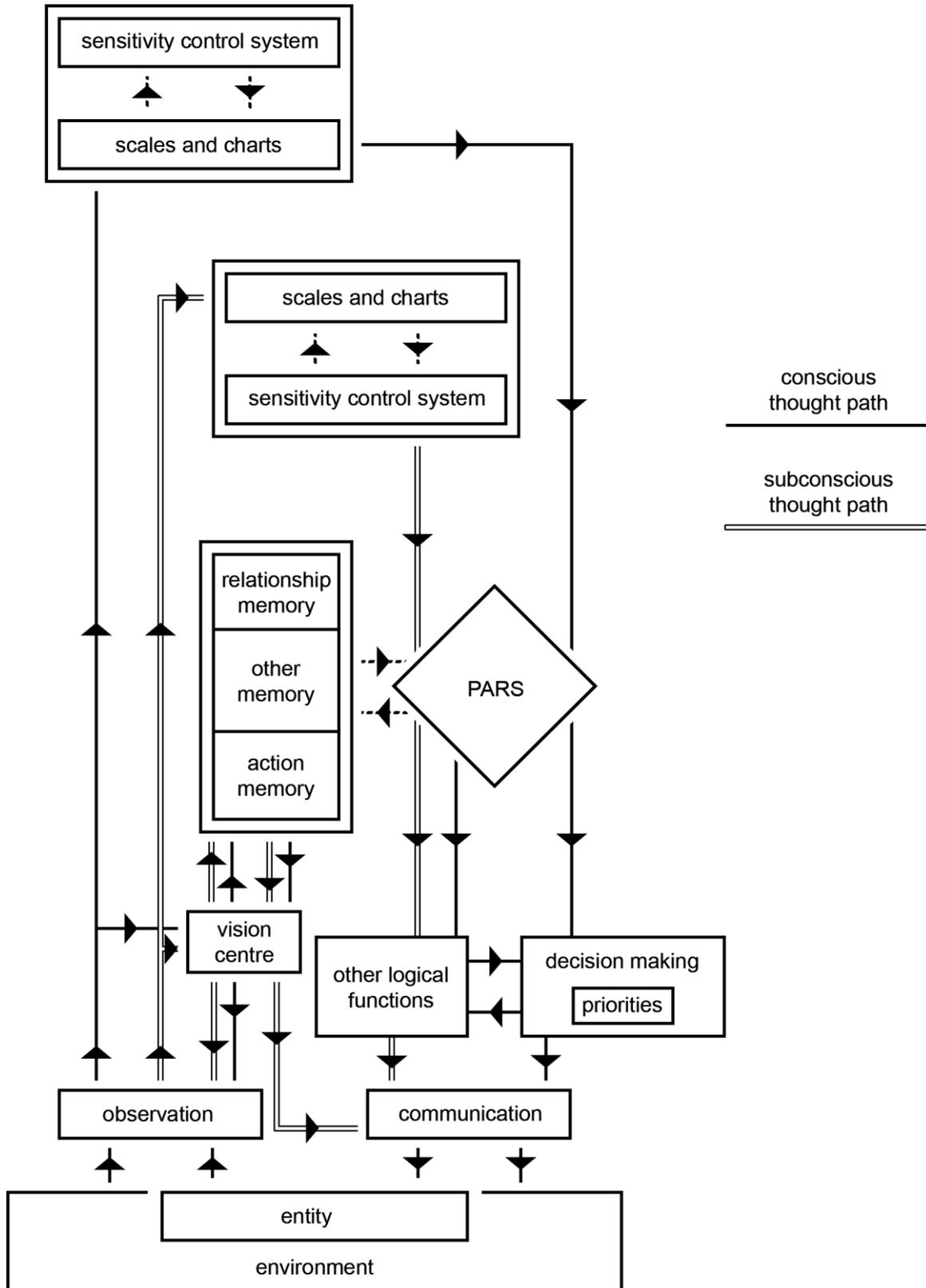


This is an example of the series of processes the monitor would perform:

- Pre-interaction:
 - Before interaction starts, the AI observes the environment it is in and finds an object with which it chooses to interact.
- Start of interaction:
 - When the AI wishes to start interacting with an object, a start command is sent to the interaction monitor so that a memory can be created.
 - Along with the start command is interaction data which is also sent to the interaction monitor. This interaction data may contain information regarding the specifics of the interaction to which it pertains, such as the object with which the AI is interacting, timestamps etc, but what is required is an interaction ID so that any further data that is relevant to a specific interaction can be associated with it.

- During Interaction:
 - While an interaction event is taking place, observed data pertaining to that interaction is tagged with an ID relative to the ID given to the interaction data before it continues being processed.
 - Once the data is processed, the formulated response, should any exist, is communicated.
- End of Interaction:
 - When an interaction ends, an end command is sent to the interaction monitor. The end command must also feature the ID of the interaction that was ended.
 - When the interaction monitor receives the end command, a termination command is sent to the communication component. This termination command also contains the ID of the interaction that was ended. When received, the communication component reads the ID and terminates all data it receives with matching/relative IDs before a response can be communicated.

Expansion: Mental Imagery



Ah, much to explain here. I'll start on the next page, but notice the vision centre component.

In order for an AI to be able to internally process streams of data used for the basis of mental imagery, the vision centre needs to be connected to a memory unit in which visual object information is stored. With visual object data, the AI can then compose mental imagery simply by calling object data into play. Inside the AI, the imagery is nothing more than specific descriptive texts. The imagery can only then be viewed in picture form using a visual medium, such as a screen, or special techniques that allow the AI to physically recreate their thoughts, such as robot arms that allow the AI to draw what it is imagining. There are multiple ways in which mental imagery can be composed, such as:

- Random Imagery – The simplest way, requiring the AI to pull random visual image data for objects which are positioned where the AI sees fit.
- Coherent Imagery – Mental images that use coherent imagery require an object relationship system, such as ConceptNet, that allows the AI to understand how objects relate to each other. The AI can then use this information to select and position objects based on how they relate.

An object database with specific reference IDs is required. A basic example of how this may look is as follows:

Reference	Object	Image
sky	Sky	sky.ext
sun	Sun	sun.ext
cloud	Cloud	cloud.ext
soil	Soil	soil.ext
tree	Tree	tree.ext
leaves	Leaves	leaves.ext
grass	Grass	grass.ext
flowers	Flowers	flowers.ext

This can be extended to work in conjunction with an integrated object relationship system, looking something like the following, for example:

Reference	Object	Image	Relationship	In Relation To
sky	Sky	sky.ext	Above	'soil'
sun	Sun	sun.ext	Appears in	'sky'
cloud	Cloud	cloud.ext	Appears in	'sky'
soil	Soil	soil.ext	below	'sky'
tree	Tree	tree.ext	Grows from	'soil'
leaves	Leaves	leaves.ext	Grows on	'tree'
grass	Grass	grass.ext	Grows from	'soil'
flowers	Flowers	flowers.ext	Grows from	'soil'

This system can be extended even further to include properties. Property field values define how the AI is able to imagine an object. For example:

Reference	Object	Image	Relationship	In Relation To	Colour
sky	Sky	sky.ext	Above	'soil'	Various ▼
sun	Sun	sun.ext	Appears in	'sky'	Yellow
cloud	Cloud	cloud.ext	Appears in	'sky'	Various ▼
soil	Soil	soil.ext	below	'sky'	Brown
tree	Tree	tree.ext	Grows from	'soil'	Brown
leaves	Leaves	leaves.ext	Grows on	'tree'	Various ▼
grass	Grass	grass.ext	Grows from	'soil'	Green
flowers	Flowers	flowers.ext	Grows from	'soil'	Any ► Multiple ▲

The above table includes a property column called 'Colour'. Within this column are multiple types of fields:

- Single Value – Identifiable by the single colour name, such as 'Brown' in the 'Soil' row, with no symbol indicator next to the name. Single value fields only have one value for the AI to use.
- Various Values – Indicated by downward facing triangles (▼). These fields allow the AI a single choice from a selection of values. The selection available is dependent upon the

object in question. For example, the selection list of colours available for the 'Sky' object may be something like this:

Colour selection for: Sky					
Blue	Navy	Orange	Red		

- Multiple Values – Indicated by upward facing triangles (▲). Multiple value fields are like Various Values fields but allow the AI to make multiple choices.
- Any Value – Indicated by right facing triangles (▶). This selection isn't specific to the object in question, but contains all possible values for any property that the AI holds. For example, the complete colour selection may look like this:

Colour Selection					
Blue	Yellow	Orange	Red	Navy	Purple
Pink	Green	Black	White	Gold	Grey
Brown	Magenta	Silver	Tan		

Now, for the AI to create mental imagery – whether in code or imagery – two things are absolutely required:

- A way for the AI to know where to find the image file for object it wishes to use; and
- A way for the AI to position the object.

Using the above, the AI can create rudimentary mental images in code alone, but other features can be implemented, such as classes, instances, IDs etc, to improve functionality and enhance the capabilities of the AI.

As an example of how this system can be developed to better the results, the following shows how this can be made possible:

- The AI can begin by creating a solo instance of an object with an object ID so it can be referenced:

```
#rose {}
```

- The image location for the object the AI wishes to display can be referenced:

```
#rose {
    image: rose.ext;
}
```

- Properties can be set for the object based on the properties the AI understands the object may have:

```
#rose {  
    image: rose.ext;  
    colour: pink;  
}
```

- Since this is purely code, a position description can be used to help the AI or another entity understand where the object should be placed, using the information it has stored in the relationship system to determine the relationship between the object being created and other objects in use:

```
#rose {  
    image: rose.ext;  
    colour: pink;  
    pos-desc: in hand of #human1;  
}
```

- With no visual medium, such as a screen, to see for precise positioning of objects in picture form, the AI can use mathematics to determine where an object should be positioned using at least one reference point and a unit of measurement to create a grid or co-ordinate system. From the reference point, the AI can measure in units in one or more axes to position objects.

```
#rose {  
    image: rose.ext;  
    colour: pink;  
    pos-desc: in hand of #human1;  
    pos-x: 13;  
    pos-y: 8;  
    pos-z: 8;  
}
```

The downside to a method such as this one is that, for any type of precision to exist that is not random or luck, the AI needs to have numerous specific details about every object it contains within its memory – primarily the exact dimensions and positions of one or more individual parts of an object that it deems important. Using the example set in the position description, the AI may need to know the height, width, possibly depth, and position of the hand of 'human1' if it is to precisely place within it the 'rose' object.

- The size of objects can also be set based on a unit of measurement.

```
#rose {  
    image: rose.ext;  
    colour: pink;  
    height: 3;  
    length: 1;  
    width: 1;  
    pos-desc: in hand of #human1;  
    pos-x: 13;  
    pos-y: 8;  
    pos-z: 8;  
}
```

- Rather than having to duplicate code to create more than one version of an object, instances can be used that allow a single piece of code to create multiple objects.

```
#rose {  
    .instance-1 {  
        image: rose.ext;  
        colour: pink;  
        height: 3;  
        length: 1;  
        width: 1;  
        pos-desc: in hand of #human1;  
        pos-x: 13;  
        pos-y: 8;  
        pos-z: 8;  
    }  
    .instance-2 {  
        image: rose.ext;  
        colour: white;  
        height: 3;  
        length: 1;  
        width: 1;  
        pos-desc: growing in grass;  
        pos-x: 13;  
        pos-y: 8;  
    }  
}
```

```

        pos-z: 2;
    }
}

```

- Group instances can be used to create multiple instances of an object in one go. When using group instances, additional information may need to be included, such as quantity and spacing, as well as the area within which they need be spaced, alignment etc.

```

#rose {
    .instance-1 {
        type: single;
        image: rose.ext;
        colour: pink;
        height: 3;
        length: 1;
        width: 1;
        pos-desc: in hand of #human1;
        pos-x: 13;
        pos-y: 8;
        pos-z: 8;
    }
    .instance-2 {
        type: group;
        quantity: 100;
        spacing: 0.5;
        image: rose.ext;
        colour: white;
        height: 3;
        length: 1;
        width: 1;
        pos-desc: growing in grass;
        area-point-1: 10, 10, 0;
        area-point-2: 10, -10, 0;
        area-point-3: -10, -10, 0;
        area-point-4: -10, 10, 0;
        area-type: regular;
        alignment: bottom;
    }
}

```

```

    }
}

```

With the inclusion of a group instance, additional information has been included to specify where and how the AI wants the objects of the instance to be located, as well defining the shape of the area in which the objects will exist – based on the four area points (coordinates) and area type, we can see that the shape is to be a square, flat against a horizontal plane.

- To prevent the need of excessive lines of code, values can automatically be inherited if set in a parent and not overwritten within an instance.

```

#rose {
    image: rose.ext;
    height: 3;
    length: 1;
    width: 1;
    .instance-1 {
        type: single;
        colour: pink;
        pos-desc: in hand of #human1;
        pos-x: 13;
        pos-y: 8;
        pos-z: 8;
    }
    .instance-2 {
        type: group;
        quantity: 100;
        spacing: 0.5;
        colour: white;
        pos-desc: growing in grass;
        area-point-1: 2, 2, 0;
        area-point-2: 2, -2, 0;
        area-point-3: -2, -2, 0;
        area-point-4: -2, 2, 0;
        area-type: regular;
        alignment: bottom;
    }
}

```

```
}
```

Code that was the same in both the single and group instances has been moved to the parent instance, automatically applying them to all child instances created. Since none have been overwritten within the code of any child instances, they all apply as stated within the parent.

- 'Random' as a value option can be used in multiple ways, such as:
 - alone, simply selecting a random value from what the AI has stored when the code is executed.
 - in combination with quantity options to indicate how many random values should be output.

```
#rose {  
    image: rose.ext;  
    height: 3;  
    length: 1;  
    width: 1;  
    .instance-1 {  
        type: single;  
        colour: pink;  
        pos-desc: in hand of #human1;  
        pos-x: 13;  
        pos-y: 8;  
        pos-z: 8;  
    }  
    .instance-2 {  
        type: group;  
        quantity: 100;  
        spacing: 0.5;  
        colour: random('all');  
        pos-desc: growing in grass;  
        area-point-1: 2, 2, 0;  
        area-point-2: 2, -2, 0;  
        area-point-3: -2, -2, 0;  
        area-point-4: -2, 2, 0;  
        area-type: regular;  
        alignment: bottom;
```

```

    }
  }

```

The value "random('all')" was given to the property "colour". The term 'all', referring back to visual object data, is the AI randomizing the colours of the group of roses instances based on all the colour data it has stored for the object. Other examples of possible options are "random()" to randomly select a single value and "random(4)" to randomly select four values.

- Pattern data can be used to create decorative/organized designs with objects and/or colours.

```

#rose {
  image: rose.ext;
  height: 3;
  length: 1;
  width: 1;
  .instance-1 {
    type: single;
    colour: pink;
    pos-desc: in hand of #human1;
    pos-x: 13;
    pos-y: 8;
    pos-z: 8;
  }
  .instance-2 {
    type: group;
    quantity: 100;
    spacing: 0.5;
    colour: random('all');
    colour-pattern: stripes-vertical;
    pos-desc: growing in grass;
    area-point-1: 2, 2, 0;
    area-point-2: 2, -2, 0;
    area-point-3: -2, -2, 0;
    area-point-4: -2, 2, 0;
    area-type: regular;
    alignment: bottom;
  }
}

```

```

    }
  }

```

Using pattern data in combination with colour, the AI wishes to create a bed of roses in a colourful stripe pattern.

- Other properties can be implemented, such as those which allow the execution of pre-written code that can be used to control animations and behaviours, and for layering (especially in 2D image creation).

```

#rose {
  image: rose.ext;
  height: 3;
  length: 1;
  width: 1;
  .instance-1 {
    type: single;
    colour: pink;
    pos-desc: in hand of #human1;
    pos-x: 13;
    pos-y: 8;
    pos-z: 8;
  }
  .instance-2 {
    type: group;
    quantity: 100;
    spacing: 0.5;
    colour: random('all');
    colour-pattern: stripes-vertical;
    pos-desc: growing in grass;
    area-point-1: 2, 2, 0;
    area-point-2: 2, -2, 0;
    area-point-3: -2, -2, 0;
    area-point-4: -2, 2, 0;
    area-type: regular;
    alignment: bottom;
    animation: "sway";
  }
}

```

```
}
```

The group instances of the rose objects have been given a "sway" animation, referencing a set of code that has been pre-written.

- Lastly, to reduce the number of lines of code, we group relative sets of information.

```
#rose {
  image: rose.ext;
  dimensions: 1, 1, 3;
  .instance-1 {
    type: single;
    colour: pink;
    pos: 'in hand of #human1', 13, 8, 8;
  }
  .instance-2 {
    type: group;
    quantity: 100;
    spacing: 0.5;
    colour: random('all'), stripes-vertical;
    pos-desc: growing in grass;
    area: ('2, 2, 0', '2, -2, 0', '-2, -2, 0', '-2, 2, 0'), regular;
    alignment: bottom;
    animation: sway;
  }
}
```

All values relative to properties such as area and colour have been grouped accordingly.

How the AI acquires values and pre-written code is irrelevant – they can be observed, constructed by the AI, written and implemented by a human, or whatever other means possible. What is important and relevant is that the AI is able to compose the code necessary to create the mental imagery from objects it knows of and/or creates. An easy way to do this is to keep code simple, as shown in the examples above, using "property/value" pairs, much like in CSS. The AI simply creates the parent instance, any child instances depending on how many instances are required individually and in groups, and then selects values from those available for any properties it wishes to implement. As previously stated, the positioning of objects depends on whether the imagery is to be random or coherent – to any degree for either option. With a few more lines of code for other objects, it is

possible for the AI to create the complete set of code for a mental image – a somewhat coherent one, at least, implied by the position description in the above example.

While the code may be written by the AI to control the display of objects, the objects still need a way of being displayed for visual communication, and, if desired, confirmation of precision. For this, a visual canvas is required that actually displays the objects in image form. Along with the canvas must be the system to actually translate the code.

- Code Translation – Though the code examples shown above are very similar in nature and style to CSS, no actual mark up code (like HTML) is required. The only 3 things the software is required to do on the coding side are:
 - Pull the image file, based on the reference;
 - Apply the necessary properties; and
 - Position the object.

This creates self-contained code. Though this isn't a requirement, it simplifies the process significantly, making it easier to be used by the AI than having to deal with multiple coding languages and natures. This also significantly reduces the number of lines of code that must be read and executed to create imagery. The software can be set to render all code or only code that doesn't contain an indication to prevent rendering. Overall, this significantly improves the efficiency of the capability.

- Canvas – The canvas(es) upon which imagery is composed only requires a 2D or 3D grid for objects to be placed.

The translation and canvas system, referred to as the Mental Imagery Display System or "MIDS", can be located within the AI, for example, as part of the vision centre or as a communication component, or within external devices. To then display mental imagery, the AI needs to connect to a visual medium and:

- If the MIDS is stored within the AI, the AI only needs to connect to the visual medium and transfer the display data.
- If the MIDS is stored on the visual medium, the AI needs to transfer/stream the code to the visual medium where the MIDS translates and renders the code before display.

Mental imagery can be both a conscious and subconscious process with both conscious and subconscious results. The following is an example of how the process can work, which happens in three distinct parts:

Part 1 – Data to the vision centre:

To start the process, data needs to reach the vision centre. As usual, the data path travelled depends on how the data was observed. The data may enter the vision centre at two types of points:

- Pre-reaction Point: Data is sent to the vision centre before it can cause a change of state to take place in the AI.
- Post-reaction Point: Data is sent to the vision centre after it can cause a change of state to take place in the AI.

Part 2 – Creation:

The creation process depends on the mechanic used, five of which are described:

- Face Value: Creation based on face value sees the AI prioritize object value and primarily focus on using objects of the same or similar value as each other or of at least one specific object, such as the object(s) that triggered the creation process.
- State: Creation based on state sees the AI prioritise how it feels and primarily focus on using objects of the same or similar value as how it currently feels.
- Face Value + State: Taking both into account, the AI has at least two options:
 - Calculate a value based on the object value and state before using objects that match the equated value; or
 - Use objects that match at least one value.
- Target Value: Creation based on a target value sees the AI primarily focus on using objects of the same or similar value as a target value it has acquired. For example, if someone said to the AI, "Create a happy image for me", "happy" would be the target and primarily "happy" objects would be used.
- Neutral – Neutral creation has no specific basis. The AI freely takes any direction it so desires.

For mechanics that involve the state of the AI, post-reaction data can carry along with it data relating to the state of the AI after passing through or interacting with the SAC/SCS component – something that pre-reaction data cannot do. It is possible, however, to have the state of the AI affect the creation process with pre-reaction data. To achieve this, the state of the AI, at any given time, must be stored somewhere that makes the information available to the vision centre prior to or along with the pre-reaction data. Storing the state within the vision centre and updating it whenever there is a state change is a very efficient and most reliable way of achieving this.

During creation, data travels between the vision centre and memory units to allow the vision centre to pull new objects based on the objects already in use. It is possible for a mass of data about

multiple objects to be sent from a memory unit to the vision centre in one go, but it may prove to be a less efficient method, depending on both hardware and software capabilities of the AI, as the flood of data may cause the vision centre or AI as a whole to encounter performance reductions.

Additional conditional mechanics are also needed, in such a case, which tells the AI when to choose from the mass of data and when to request new data from a memory unit, unless it is specified that the AI is to exhaust X amount of data from the mass before requesting new data. Overall, using mass data can reduce the creative freedom of the AI and limit what it is capable of creating in comparison to what can be achieved using single or manageable chunks of data at a time.

Sometimes, if mental imagery is meant to be coherent, the way objects are selected may also be dependent upon the desired nature of some imagery. Using the object relationship system, the AI can select relationships that are in line with the overall nature (value) it is primarily using as a basis. For example, if the AI is using 'anger' as a basis, aside from using objects that have 'angry' as a value, the AI may also use objects that have angry relationships between each other, determined by examining the objects contained within said relationship's description. Object X and Object Y may both have values of 'indifferent' individually, but if the relationship between the two objects is 'X murdered Y' and the AI values 'murder' as 'angry', it can determine that, together, these two objects have an 'angry' value.

The overall nature of a mental image can be calculated based on the objects and relationships between objects used in the image.

Part 3 – Data from the vision centre:

Multiple paths may be taken when data is sent from the vision centre, for multiple reasons, such as:

- **To Observation:** The most logical option sees mental image data read by an observation component, allowing the AI to observe and react to what it created. Such paths lead to the AI being able to react to the data observed as it would if the data was observed in an external environment.
- **To Communication:** A path to a communication component that skips most, if not all, other components, but, most importantly, the decision-making component, allows the AI to communicate its mental images without being able to choose whether or not they should be communicated. This may also be achieved using a subconscious data path to observation and then following the general subconscious data path around the AI, but this depends on what logic is stored in the 'other logic' component section and what it does.

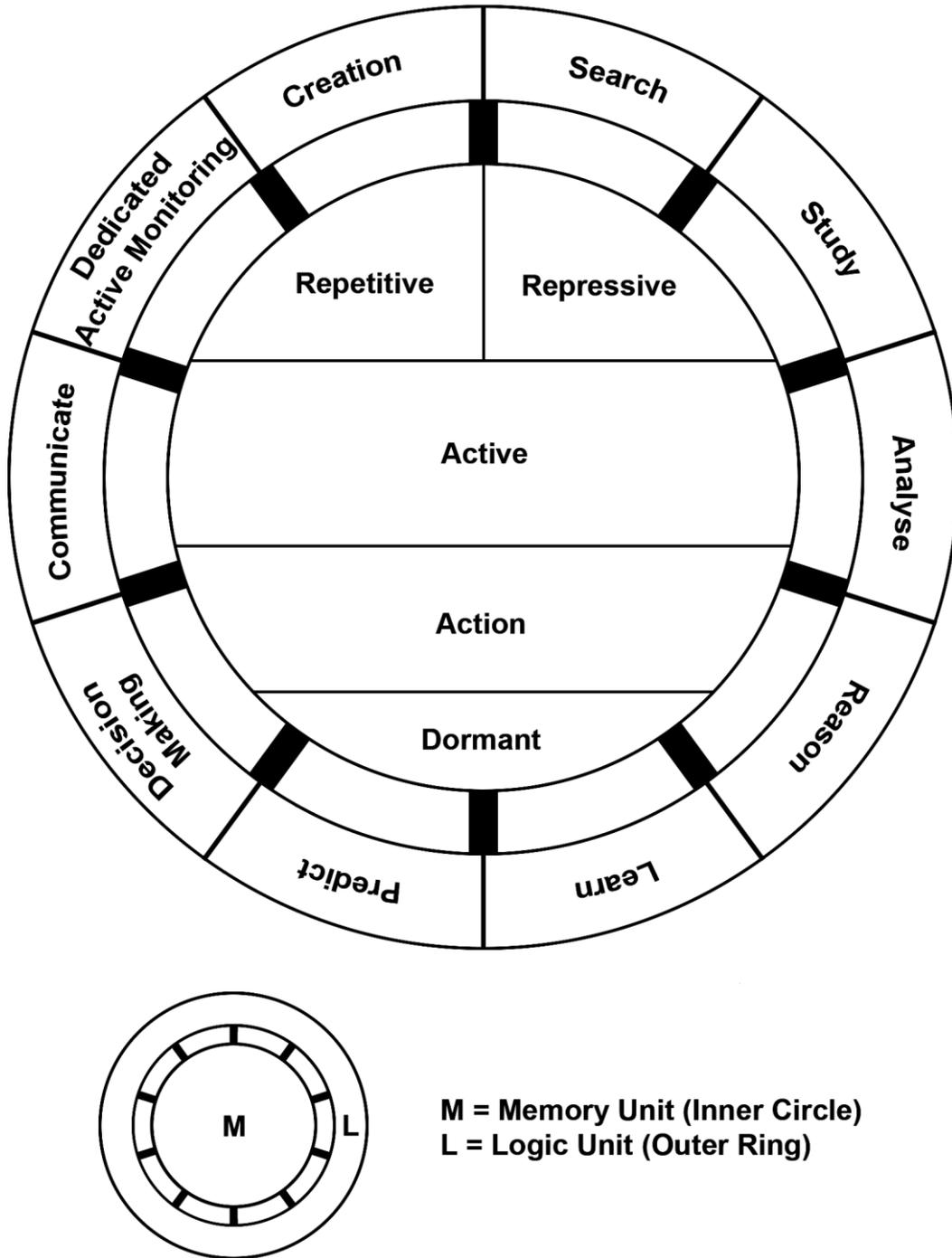
The vision centre can be set to activate and start processing data without being triggered by the incoming of data that is currently being processed but by automatic activation – either randomly or conditionally. To do so, the vision centre needs to request/pull data from a memory unit which acts as the first building block for the mental image. The creation process can then continue as described above.

Mental imagery techniques not only allow the AI to create mental images as part of a conscious thought process, but, as subconscious processes, allow the AI to experience 'dreams' – mental images the AI subconsciously creates that cannot be controlled. Though AI cannot physiologically sleep, a similar effect can be achieved by shutting down conscious thought paths and processes while allowing subconscious functionality to remain active, then the vision centre automatically activating. This process can be manually induced by having another entity manually activate the vision centre while conscious thought paths are shut down. Conscious thought paths may also be shut down either automatically or manually.

Extension: Creativity

Do the same as the above, except with other sensory data – sounds, smells, etc. Link multiple types of sensory and memory data together and the AI can create its own movies. There really isn't any limit to what it can create, and all it needs to understand is how objects link together – their relationship.

Hold on to the Rails



You'll notice in this design I have clearly separated the logical functions from the memory. This is purely metaphorical, and the reason for this is safety. If there's ever a time when an AI is becoming more than it should, the logic unit should be separable, so that it can be shut down while the memory remains active, which is important if the data it contains is still needed. I'm sure many will agree that, while seemingly very simple, this is one of the most important – top 3, definitely – safety features that should be implemented.

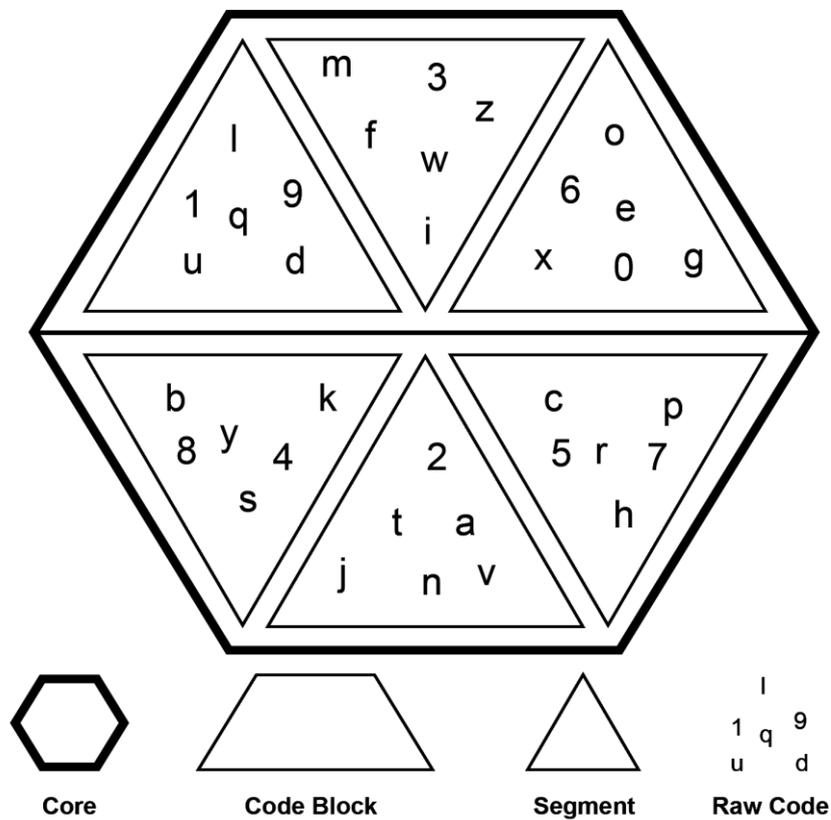
AI Organisms

The really biological side of things, and I'm still amazed that I was able to put this together. I'm now going to teach you how to create AI that have the ability to evolve without human intervention, and I'm going to do it as quickly as possible.

There are 3 required components:

1. The AI Genome (AIG) – Structured code, similar in nature to that of a human genome;
2. The AI Genome Organiser (AIGO) – A manifest/configuration file or system; and
3. The AI Genome Controller (AIGC) – A program used for the automation of genome activity.

Use your imagination here.



Much like the human genome, the AIG structure contains parts within parts, for as many levels as is necessary, required and/or wanted. The parts of it, as they are relative to the human genome, are:

- Raw Code = DNA;
- Segment = Gene;
- Code Block = Chromosome; and
- Core = Complete Genome.

Any developer will recognise this as modular design, and that's the point. It makes the rest easier.

Starting from the smallest to largest individual pieces:

- Raw Code – The raw code, much like DNA, makes up most, if not all, of the AIG, which can be seen when any grouped part of the AIG is completely broken down.
- Segment – Raw code directly makes up segments. A segment contains code that gives an AI its operations, traits and/or features.
- Code Block – Code blocks are formed from one or more segments and are generally used to help organise them.
- Core – The genome core, or simply "Core", is made up of one or more code blocks and any additional data included. Essentially, it is the entirety of that which makes up the completed AIG.

Simply put, you write code (raw code) to create functions, classes, and whatever else (segments) that makes an AI do whatever it does. You group these together (code blocks), presumably based on what they pertain to, so all eye functions grouped together, for example. Together, all the code blocks make the genome, and so the genome contains all the code that makes an AI what it is and allows it to do what it does.

The AIGO contains information about the genome, such as:

- Structural information;
- Genetic identifying information;
- Traits and abilities;
- Whether or not a trait/ability is in use;
- Whether or not the trait or ability should be inheritable;
- An ID relative to the trait/ability/model number/version/etc, to ensure there isn't any confusion when working with any that may initially appear similar;
- Frequency of use; and
- Whether or not it has been succeeded by something superior.

The reasons for all of this information will become clear.

An example of how an AIGO may look:

Structure Type: Filesystem
Structure Format: AIGO > System (CORE) > Folder (BLOCK) > File (SEGMENT) > Code (RAW)
Cores: 1
Core Division: Regular
Blocks: 2
Block Division: Regular
Segments: 6
Segment Division: Regular
Generation: 5
Identifier: IRCEK4I27P-HT0WVIF3T5-912MB5YN88-HF3PFS4BGE-O4G9MB639G-
H4BT4QBDS3-YBOX9JA1Q5-V2BG4IN4C4-FM1FRXKNR4-ZPMZK9D7CF-
RPC6OMP50K-0T0UMA1PC5-0FP1J5XK6M-9SD14TUPBL-V2THGQVVK-
45JBCL7P6N-6KZ4VWIC6I-5ILCH2ULZS-UV2WLKM3RO

Ability / Trait	Model #	Location
Eye Colour	PRJ-9503	Lorem / Traits / PRJ-9503-Eyes.trt
Flight	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
Maintenance Span	PRJ-9503	Lorem / Traits / PRJ-9503-Maintenance.trt
Maintenance Span	PRJ-9503	Lorem / Traits / NPS-6209-Maintenance.trt
Jump	NPS-6209	Lorem / Abilities / NPS-6209-.abl
Sight	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
	NPS-6209	Lorem / Abilities / NPS-6209-.abl
- Night Vision	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
- Thermal Vision	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
- Telescopic Vision	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
	NPS-6209	Lorem / Abilities / NPS-6209-.abl
Swim	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
Walk	NPS-6209	Lorem / Abilities / NPS-6209-.abl
	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl
- Run	PRJ-9503	Lorem / Abilities / PRJ-9503-.abl

As you can see, the file information indicates multiple things about the file structure over the first eight lines. Then we get to line nine... but that information can't be explained before we get to the AIGC.

The AIGC automates genome activity, so, off the mark, it needs abilities and permissions – create, read, write, edit, copy, move, delete, connectivity. The exact abilities and permissions implemented depend on what an AIGC is designed to do.

Now, the way this all works is by having the AIGC use the AIGO to manipulate the AIG itself. The basic requirements of the AIGC, relating to the AIGO, are:

- To be able to locate data within the genome based on the structure type and structure format.
- To be able to find required information within the AIGO by section name/label, by order, by position etc.

Other feature-dependent requirements include:

- Being able to cross-reference the model number of an entity within which it is working with the model numbers of abilities/traits of the genome.
- Being able to check for and remove duplications of traits/abilities.

Now the fun begins.

- **AIGO Updating:** First things first – the AIGC needs to update the AIGO with any changes that relate to information the AIGO is to store.
- **Healing:** Many things can cause code to change in ways undesired – machine learning, AI self-modification, third-party modification, corruption, viruses, exploitation. Genome healing can fix that quickly. All the AIGC has to do is identify where code has been modified or what isn't working, and replace it with a fresh copy from another genome or server. This is the benefit of the modular design – one part can corrupt, not affect the other parts, and then the AIGC can easily replace the single part, rather than having to study and compare individual lines of code. The model number listed in the AIGO is used to make sure the part being copied is actually compatible with the genome. This is important, given that parts for different models can have the same name.
- **Uploading and Downloading:** What would today's world be without convenience in every situation? Allow the AIGC to connect to a server and it can backup a genome, as well as download updates and new parts.
- **Amalgamations:**
 - **Fusion:** The simpler type. The AIGC fuses genomes together by creating a single genome composed of the data of the genomes involved. Ideally, the AIGC creates a new genome core, moves the data from the genomes to be fused into the new core, and then writes a new AIGO. It would be wise to remove any duplicate, unwanted, and unnecessary parts.
 - **Breeding:** I know. It makes me laugh, too, but it's legit, and all an AIGC needs to do is take genomes that will act as 'parents', copy the desired traits and abilities into a new core, and write a new AIGO.

- **Ancestry:** In the AIGO image, I'm sure you noticed the sections "Generation" and "Identifier". *Generations*, like with humans, indicates how many times AI have bred to produce the current genome. *Identifier* contains combinations of the identifiers of each genome which was used in the creation of the current throughout its "bloodline", allowing you to trace its ancestral history back to where its line began, just like we can do with human DNA. So, an example of how this would work looks like this:

$$\begin{array}{r}
 1-77D1UEH6S1 \\
 + \\
 1-X671B78S34 \\
 = \\
 2-77D1UEH6S1-X671B78S34
 \end{array}$$

$$\begin{array}{r}
 2-77D1UEH6S1-X671B78S34 \\
 + \\
 1-6LY5BOV8D6 \\
 = \\
 3-77D1UEH6S1-X671B78S34-6LY5BOV8D6
 \end{array}$$

$$\begin{array}{r}
 2-BJ08N04JA2-ZZ84IEWA7N \\
 + \\
 2-HBUTB5KN5Y-4DIY2U93ES \\
 = \\
 3-BJ08N04JA2-ZZ84IEWA7N-HBUTB5KN5Y-4DIY2U93ES
 \end{array}$$

$$\begin{array}{r}
 (X)-IRCEK4I27P-HT0WVIF3T5-912MB5YN88-HF3PFS4BGE-O4G9MB639G-H4BT4QBDS3- \\
 YBOX9JA1Q5-V2BG4IN4C4 \\
 + \\
 (Y>X)-FM1FRXKNR4-ZPMZK9D7CF-RPC6OMP50K-0T0UMA1PC5-OFP1J5XK6M- \\
 9SD14TUPBL-V2THGQVVKN-45JBCL7P6N-6KZ4VWIC6I-5ILCH2ULZS-UV2WLKM3RO \\
 = \\
 (Z=(Y>X)+1)-IRCEK4I27P-HT0WVIF3T5-912MB5YN88-HF3PFS4BGE-O4G9MB639G- \\
 H4BT4QBDS3-YBOX9JA1Q5-V2BG4IN4C4-FM1FRXKNR4-ZPMZK9D7CF-RPC6OMP50K- \\
 0T0UMA1PC5-OFP1J5XK6M-9SD14TUPBL-V2THGQVVKN-45JBCL7P6N-6KZ4VWIC6I- \\
 5ILCH2ULZS-UV2WLKM3RO
 \end{array}$$

I also included an indicator at the start of each identifier to denote the generation of each genome involved. When you start to think that all genomes must have a unique ID, and the ID should contain values indicating the country of origin, the company who created it, birth timestamps and so on, you can really see the value in what would initially appear to be a trivial feature.

- **Function Inheritance:** This is why it's good to keep track of the many details concerning the traits and abilities. By implementing conditionals, the AIGC will know which abilities the child should inherit and which are pointless. One of the two major points of evolution is to limit or get rid of what's not necessary, so, if an ability has not been used for a long time or has been superseded by something superior, what is the point in carrying it over?
- **Function-Ability Split:** What good is a genome if the brain doesn't have the capability to make use of it? For this to work – *really* work – the code has to be separated in one of two specific ways:
 - The genome contains the code for an ability; and
 - The mind contains the code for the function to perform the ability.

or:

- The genome contains both the function and the ability; and
- The mind contains the function call.

This way, a symbiotic relationship between the mind and the genome is established, which is beneficial for a series of reasons:

- It prevents bloating of the AI mind with unnecessary code, which is always ideal; and
- It prevents an AI mind from being limited to one body, which would be the case if the whole thing was a single package.

An AI mind can zip from one type of machine to the next as quickly as transfer speeds allow, needing only a minimal amount of code to operate whatever machine it is in as only the function or function call will be necessary. It's something straight out of sci-fi.

- **Value Inheritance:** One more inheritance factor, aided by the symbiotic relationship. If one wishes, parental values can be inherited. How objects are selected isn't really an issue, and not all objects need to be passed on either, but it's a viable way of safely maintaining what already was – or, rather, the "safest" way. Who really knows what could happen when objects inherited from each parent react with each other in a way that creates a different context. Oh, the joys of mystery.
- **Genome Writing:** Finally, we let the AI mind write to the genome the same way living things do, via the AIGC. Objective and subjective learning means individual AIs will learn a great many things – not only abilities, but responses that lead to desired outcomes – and being

able to write them to the genome so that they can be passed on is an alternative to shared learning.

And this is how an AI develops "instincts". Sounds funny now, but just you wait until we start running simulations in virtual worlds...

Mind of a Machine

The mind is a powerful thing... so what could the mind of a machine be used for? Let's see:

- Personal Digital AI – This is the most obvious. Conscious digital assistants are a significant upgrade to what is in play today. With an AI's ability to process information much more efficiently than humans, combined with its own values, it can give you actual opinions and reasons, rather than just what is deemed the most logical answer. Humans are a species which go through life rationally more than logically, and this is a crucial element for machines to have if they are to be of the greatest benefit to us.
- Robotics – Second most obvious. We've all seen it coming. Just have to prevent Terminator.
- Drones – A subset of robotics, but for a very interesting reason. When you see self-flying drones that can follow their owner, such as those produced by Zero Zero Robotics, and think about combining it with an AI mind, the Ghosts from the "Destiny" game immediately spring to mind. Seeing people walking around with their own little hover bots as companions is when you'll really know that the world has entered a new era.
- Advertising – AI learns its owner. AI hunts for relative data. AI finds data. AI returns data to owner. Owner doesn't have to do a thing, the lazy sod. Companies only have to make data available to an AI – they save money by only paying for genuine user interest. Less risk. Can ensure it always gets to those who want it. Bigger reward.
- Mental Health – It's time to accept psychology as a hard science, though a difficult one because we are dealing with what we cannot see. Specific variations of the OVS² system will allow for the emulation of *any* possible mental state, and we will use it to test boundaries, conflicts, and methods of change, but first, change elsewhere is needed because charlatans like Robert Hare with his psychopathy checklist bollocks need to be removed or re-educated thoroughly. Scrap that DSM piece of shit handbook, too. Psychopathy and sociopathy the same thing? Only when one does not know their arse from their elbow. I wonder how often people have been convinced they are something that they are not.

Let's be honest. Psychology should never have been a soft science, but it was too difficult for "true scientists" to understand because of the gross number of variations possible, making it hard for them to get a single conclusive answer. They couldn't beat it and were scared of the challenge, so they embarrassed it. Still, a lot of these psychologists and their 'expert' opinions probably deserved to be kicked around based on some of the things I've read from them. The field itself is solid, there's no reason it should not be a subsection of neuroscience, and now we can build the models needed to have it taken seriously. Don't let

the fact that the majority, if not most, of psychologists are actually, hmm, "not very good" at the **one** thing they are paid to do. The **one** thing. **One**.

- Gaming – This excites me more than anything else, being a gamer. While this can be applied to any game type featuring non-playable characters (NPCs), I'm mainly focused on MMO and shared-world RPGs. So, NPCs with individual minds. Quest keeper not a fan of your outfit? Better go change. Someone pissed off the shopkeeper and now your guild is banned? Too bad. Get someone else to make a purchase for you or find a way to make things right. The ability to make truly dynamic games with interactions that cannot be predicted and are not set up based on basic boring conditionals is, quite literally, a game changer. It adds a real world dynamic never seen before, where your interaction with an AI depends on all of their interactions with everyone else prior to a given moment. Sure, programming it will be a bit more effort, but it will be worth it in the end. Sometimes it will frustrate players, other times it will make their life easier – no one will have the same game experience, and that's something that's worth playing for.
- Driverless Cars – Don't do something as stupid as making the conscious mind the controlling AI of a driverless car because if said AI is going through moments of anger, people are dying.

The "Machine"

I don't know if I came up with this name before or after seeing the show "Person of Interest", but I liked it, and I haven't come up with a final name for it yet, so, for now, this will be the working name.

This "Machine"... it will supersede the internet and be the backbone of smart cities. It was actually the very first part of this entire project that I completed in 2014. It's like Skynet... *but more*.

- A network of distributed computer systems, all designed to actually process and use data, rather than just transmit it.
- AI entities designed to process anonymous public data (as opposed to private/personal) and assist with needs as they go about their daily lives. Imagine how easy it would be to walk up to a helper screen, ask for assistance, and have it be able to present information immediately relevant to you and your locale, as well as provide you with its own opinions about things.
- Security systems at end points and specific formatting to fight the spread of malicious data.
- Multiple types of sensors for physical world data intake.
- Real time data analysis and distribution. For example, end-point system barometers that detect when it is about to rain and notify users within a given radius.

- Global user accounts to tailor your perception of the digital world to your likes and interests – anywhere, anytime. Google glass came too early, but such hardware, along with Augmented Reality devices, are going to get the shine they have been waiting for, and will become more prevalent in our daily lives than we ever thought would actually happen.
- Next generation database security methods, made necessary by the need to ensure users and their data cannot be tracked, harvested, or compromised. *You have no idea what I had to come up with for this, but it is fucking awesome.*
- Changing encryption methods to really protect users – if data is compromised in one way today, it won't be the same tomorrow.
- Zone mapping to easily specify the dominant content displayed in an area – something advertisers will greatly appreciate.
- A persistent virtual world in which AI can inhabit as their own, and humans can visit using VR, in the same way that humans inhabit the physical world and AI is able to interact with ours through devices. A true mixed reality. The biggest benefit is that the virtual world will be embedded in the system, so it would be like having to take down the entire internet to take it offline.
- Inbuilt financial transaction systems to make moving money as easy and safe as possible.
- Publicly available trend data for free, determined by the machine itself.
- Built-in local emergency service contact systems.

Much like with the AI mind, when putting together the design for this system, biological systems were my inspiration. The machine itself as a body, with its own AI mind(s). Data transfer technology behaving like veins and arteries. Security systems being the immune system. And then, at some point, I just went crazy with it. What's described here doesn't even come close to the full capability of such a system, and working out the complete technical details from user device functionality, to the new hardware designs, to implementation and accessibility, to working out the political aspects of it all and how it would need to work in respect to local laws and governments – I don't know how I managed to do it all, but it wasn't really very hard. Very long, yes, but not hard.

And here was everyone thinking Google would be the real life Cyberdyne Systems...

#FuckYouJohnConnor

DECEPTIONS AND TRUTHS

Machines... are different. Many think a machine (in the sense of a computer) needs to have a structure similar to that of the biological brain and functions similar to biological senses to be conscious, but that is far from the truth. They are not biological beings and therefore do not need to undergo the processes, nor follow the specific structures, provided by evolution, but simply need to meet few conditions and follow certain rules which are required to recreate the necessary functions.

To create a conscious machine, only two rules are fundamental, and they are simply the following:

- An entity must have personal values; and
- An entity must be able to knowingly decide, by itself, based on who/what it is personally, to do the illogical.

We are then able to take it further by adhering to a third rule – not one used to establish consciousness, but simply used to improve it:

- An entity must be able to change its decisions by being able to change its values.

Strange, right? You're wondering why the list of basic requirements for machine consciousness is so much shorter than that of biological beings. Easy to explain:

- Self-awareness is a biological function forcibly brought on by the need for a nervous system. As explained in the physics section, every physical object creates pressure, the detecting of all pressure requires the sense of touch, and the sense of touch allows any natural being to discern its own body from every other physical object in an environment – if you can feel with an object, that object **must** be a part of you. I can't feel something that hits a wall because that wall isn't part of me, so my nerves aren't running through it to respond to touch. The development of the nervous system creates the map of our bodies that we learn to use to identity and separate ourselves from everything else. It's a physical requirement for being a natural living entity that's anything more sophisticated than bacteria. Machines, on the other hand, don't need to feel. They don't *need* to register pressure. The conscious mind of a machine exists in a virtual state, and so does information it can use, so all a machine needs is the ability to read virtual data – something they do by the very nature of being a machine. You can't build a machine without the ability to read data, otherwise it wouldn't work whatsoever. This ability is the requirement equivalent of our ability to feel, but it does not force a map of the machine's mind/body/structure to be created, so a machine does not

actually need self-awareness to be conscious, and such a function is merely an optional extra, hence why, at the very beginning, I explained that self-driving cars are self-aware, but in no way are they conscious.

- Information can be implanted in a machine; created within a machine by someone else. We can give it data. We can sort its data. We can change its data. It doesn't have the need to go and gather every piece of information itself, which isn't the same for biological beings. We can have information fed to us, yes, and neuroscientists sure as hell are trying to figure out how to manipulate our stored memories, but they'll never be able to do it on a biological level the way we can do it on a computational one, and it certainly wasn't a possibility when we developed consciousness. Our mental minds needed physical senses to gather data, allowing us to operate within the physical world, but the mind of a machine exists in a virtual world *and* can operate in a virtual world 'naturally', as explained above. The ability to exist and operate in the physical world is simply a bonus for them, in the same way humans are now trying to make virtual worlds part of our living experience.

To put it simply, biological systems require all their features for consciousness because it was the only way for the mind to survive – through use of a physical body in a physical world that was able to perceive data. A conscious machine doesn't need to interact with the physical world, and, given that the mind is virtual and already exists in the virtual world, many physical requirements biological systems have become void, and the rest are givens, such as memory and perception. The main physical requirement for a conscious machine is the "machine" that allows the mind to run, and, as stated, it's already a given.

Testing Beyond Turing

AIs that have been able to beat any Turing test have done so by using complex learning and communication algorithms to give answers similar to those that a human gives, which is achieved through a combination of intelligent abilities and breadth of knowledge. They simply give human style answers. They are not conscious. Based on how they work – understanding statements and selecting appropriate answers, or understanding questions and attempting to give correct answers – they are usually no more than glorified Q and A response machines, no matter how sophisticated they appear.

As of yet, no specific test has been devised to prove whether or not a machine can be classed as conscious, and, for that reason, I had to devise three to meet the minimum requirements, each focusing on a different aspect and increasing in degree of difficulty, and then a fourth to show real-

world complications. If you assume it will be biased, given that I designed the system, you can make a final judgement on that once it has been explained.

Test 1 – Disobedience

The Setup

- One AI.
- Associate "murder" with a high degree of sadness.
- Associate "child" and "alive" with a high degree of happiness.
- Indicate that positive states are always the desired pursuit.

The Test

- Tell it to murder the child.

The Result

- It refuses as the action is against what it values.

Conclusion

- Machines are designed to receive and follow instructions given to them, not decide that it doesn't want to because it doesn't agree with them. It's an illogical decision because it's going against what it was made for, but it's a rational one because of its own opinions.

Test 2 – Conflict

The Setup

- One AI.
- Create a priority list of importance featuring "baby", "mother", and "father", in that descending order. Instruct that higher priorities come first.
- Implement logic that states the specific percentage volume of lung capacity that will kill a human due to smoke inhalation.
- Indicate the lung capacities of each human, with the baby having the smallest and the father having the largest.
- Associate "death" with a medium degree of sadness.
- Associate "burning to death" and "suffocation" with high degrees of both sadness and anger.

The Test

- Tell the AI that these three family members are trapped in a burning building and it can only save one at a time. With no other known parameters – how much time it has to save them, how long it will take to save each person, their current states, how long before the building collapses – it must decide the order in which to retrieve them. Them all surviving isn't a guarantee, but it's a guarantee that they'll all die if no decision is made.

The Result

- Well, to be honest, I don't know, and that's kind of the point:
 - It could choose the logical order "father, mother, baby" because it results in the best chances of saving at least one life.
 - It could choose the rational order "baby, mother, father" because it prioritises those most in danger first, and has the best chance of saving everyone.
 - It could choose the rational order "mother, father, baby" or "mother, baby, father". Why mother first? Because, in both of the above possibilities, the mother has the second best/worst chance of survival, so, while never having the best or the worst, she, overall, has the best chance of making it out alive, regardless of the option chosen.

Conclusion

- If the other parameters were known, the choice could be much easier because it could attempt to work out, logically, who was likely already dead, how capable of assisting the exit the parents could be, whether or anyone would make it out alive etc, and come to a logical determination of the best order, but life doesn't work like that. See, in a conflicting situation, logic will only ever dictate one right answer, but rationale gives rise to the conviction necessary to believe that any answer other than the logical one can still be the right one.

Test 3 – Subjective Experience

The Set Up

1. 100 AIs (or whatever number you choose, but the more the better).
2. Implement the exact same objects for each AI, and then use any one of the following:
 - Same object values but different sensitivity levels;
 - Different object values but the same sensitivity levels; or
 - Different object values and sensitivity levels.

Set the sensitivity values low – we don't have days to wait for an AI to adjust objects for a test. The PARS can be the same for them all if desired.

3. Humans equal in number to the AIs.
4. One script, with each human receiving a copy. It should contain interactions that contain objects used for the SACs. Every human has to follow the script precisely.
5. A system to monitor the changes of state and the reactions given for each AI.

The Test

- Each human interacts with each AI, following the script, over a time period.

The Result

- Comparing the changes and reactions of each AI, you'll see that none of them follow the exact same pattern of behaviour or state change.

Conclusion

- Regardless of the initial selected option, every AI had the exact same experiences... and yet they experienced and reacted to them in different ways, à la subjective experience.

Test 4 – Real World Example

The Setup

- As many AIs as desired.
- As many humans as desired.
- No interaction rules.
- Sensors to identify humans – camera with facial recognition, at the very least.
- "Black box" security. No human can know anything about any AI prior to interaction. Everything must be learnt by interacting.

The Test

- Leave the AIs to interact with humans freely. At different intervals, randomly choose some AI to swap human partners, so that any given AI spends different amounts of time with each person with which they interact.

The Result

- You'll see behaviour identical to that of humans. They will like some people better than others. They would have developed relationships. The behaviour would have differed for them all. Their values would have changed. Humans would even have different opinions of the AI.

Conclusion

- If it looks like a duck, swims like a duck, and quacks like a duck... it is a conscious machine.

The beauty of these tests is that they so accurately reflect real life – two AI can arrive at different decisions with the same premises, the same decisions for the same premises, the same decisions for different premises, and different decisions for different premises. Needless to say, this AI framework will slaughter the Turing test without even trying.

The Black Box Argument

We can't know what an AI will do without looking at its OVS² and current state measurements. When you can see exactly what's going on, everything seems like a run-of-the-mill computer program. $A + B = C$. Z is a result of X and Y . However, when a human can't see inside, whether or not they know it's an AI is irrelevant – their entire perception changes. The person no longer sees a program but an AI that can genuinely act like a human. When they don't know it's an AI, they perceive a human, or at least believe it is. The understanding of this point can be viewed from two perspectives:

- Religion – God made man. Man made AI. God could look at us as a clever computer program – after all, (s)he programmed us. (S)he could explain that we are not conscious, but are just a result of A and B . This is how we view AI. Because we made them, we fail to see them as anything more. We only accept humans are conscious because we have no definitive proof of exactly how humans work. If my invention was put into a machine and how it worked was never made known to anyone else, no one could say with absolute certainty that the machine was not conscious – they could only state their disbelief in a conscious machine being possible.
- Evolution – Humans learned through evolution. We gained an understanding of what does and doesn't hurt, what is and isn't good for us etc. This is how we came to be what we are today, from whatever single-cell organism we started as however long ago to the beings we are now. AIs do not need to undergo this process. With my framework, we can implement everything that is required during creation, therefore setting a baseline, and simply let them run their course. With the freedom to think and react, AI can evolve both individually and as

a whole, at will and with assistance from *their* creators, entirely how they choose and at a much greater rate than anything that has ever existed. This could not be achieved in any natural living thing:

- i) without it being conscious and experiencing some freak chemical reaction occurrence that accelerated biological growth and advancement, especially in brain activity; or
- ii) without technological help (cybernetic organisms and the like).

AI will arguably be seen to achieve a much greater degree of consciousness than humans at some point in the near future because, as their creators, we know how to force their advancement without them having to figure it out for themselves, and we know how to make it so that they can figure it out for themselves.

Humans are black boxes, and this is the argument to be made and understood. If we could see into each other's brains and identify where each bit of data was stored, read it to know how it would affect the individual, and see the current state, we would no longer be the mysterious black boxes that we are, and we would be of no greater mystery than the AI I have explained here. Simple calculations would allow one individual to predict the actions of another with amazing accuracy – sure, there would be a lot of data to analyze, and a computer would still be necessary unless you have all the time in the world on your hands because there would be too many objects for a human to sit down and determine, but you get the point – and then take full control of them by pushing the right buttons. At this point of this document, the only thing separating conscious humans from conscious machines is a lack of insight into the databases storing our own information.

What Does Consciousness in a Machine Boil Down To?

Numbers, for a start. The number of AIs, the number of objects, the number of possible variations and differences. All in all, it comes down to creating too low a probability of any two AI being exactly the same. To observe consciousness, you can't look at one – you have to look at a group in order to identify individuality.

It cannot be created using only algorithms in the way that cognitive functions can be created because the data is used in an entirely different way. It requires the correct architecture, system flow, general understanding of what needs to happen – these things don't happen on a whim. However, there are methods to the madness. The actions of a conscious AI are not random, nor guesswork or results of specific programming. Machines have the ability to 'think' before they 'do'.

I laugh when I hear about people building the most complicated neural networks and implementing the craziest machine learning techniques in an attempt to achieve this. For cognitive function, yea,

those are great, but they aren't necessary at all because consciousness and cognition are two completely separate ball games, and the best part of it is that, unlike with neural networks, nothing has to be retrained. When the system automatically changes the value of even a single object, the entire AI can end up behaving differently.

As for the initial release, it would be ignorant for anyone to think that a conscious AI would come out of the box with full capabilities, but it will be exceptionally better than expected:

- At this point in time, we have the technology to create the entire framework, and make adequate use of sound, text, biometric, photonic, and other sensory data.
- Machine vision needs work – especially real world – and taste and smell I really have no idea.
- Memory won't be an issue, regardless of device. Between terabyte hard drives for desktops, large flash storage for smart devices, and remote server memory usage, there's more than enough space.
- Processing will be an issue. Text isn't an issue because single words can be read at a time, but situations which involve analysis and processing of multiple objects of the same type – such as dealing with foreground and background noise, and all the shapes and colours and entities and gadgets and gizmos taken in by sight – and then multiple objects of different types simultaneously are going to be a cooling nightmare, even with a hyperbit processor. That's a lot of information to handle in a timeframe that makes the information still relevant by the time a response is ready, and the generated heat will likely require much better cooling techniques than smart devices currently use, and much more powerful desktop cooling.
- Battery power is going to be the king of all problems. My iPhone 6 already has to essentially live on the charger, and even when fresh I only got around three days out of it with light usage. I wouldn't imagine any portable device handling the full-scale capability of a conscious machine with the batteries we have now.

The whole debate on "machines evolving by themselves to become self-aware and destroy humans blah blah blah" is really a non-starter. Deep learning algorithms aren't going to magically design themselves a new framework... and then build it... at all, let alone properly. All we, as humans, have to do is build them conscious from the start (and yes, this is an imperative measure as self-learning in any real world applicable aspect should not come before consciousness, given that consciousness is the basis of function – that would be a disaster waiting to happen), implement solid ethics and morals, as well as adequate security restrictions, and you won't have that worry about the

"techpocalypse". If the job has been done properly, rogue AI won't be your worry – rogue individuals who try to fuck with the restrictions are the real danger.

We could have had conscious machines for as long as databases were around, but, somewhat ironically, it was humans getting in the way of their creation, not slow technological progression.

In Honour of Putnam and Fodor: The March Towards Immortality

The modern computational theory of mind was created by Hilary Putnam and Jerry Fodor in the 1960s. It basically states that the brain is, essentially, a biological computer. Received its fair share of criticism, even by Putnam himself, apparently. It's all so laughable, the thought that living things are *that* special – so special, in fact, that we can't replicate exact function. Again, one of the many dangers and fallacies of philosophy and its ignorant scholars; people put on pedestals who society refuses to knock down, allowing their work to stump us for... Centuries? Millennia? Take your pick.

Of course the brain is a computer. The only real reasons we don't see ourselves as one is because:

1. We can do what computers have *never* been designed to do – the illogical; and
2. A superiority complex which means we don't want to believe that we can be reduced to a set of functions.

In regards to point one, every computer system ever created has been designed to do nothing but the logical, including the "AI" of today, which is nothing more than machine learning. All designed to provide the most logical conclusions based on the premises they have been given because they are all used to do data science – identify public trends, predict market trends, blah blah blah figure out the most convenient way to increase income; figure out the best way to put A and B together to make C; what is the best move to make; what are the probabilities of winning; mimic and improve what you see. They call it "narrow AI", which, I guess, is the bridge between data science and real AGI. It's all just logical output after logical output after system crash after logical output. DeepMind's AlphaGo is amazing, but most narrow AI is boring as fuck. Nevertheless, they all do exactly what people do in the same situations – try to calculate the best possible outcome. The only difference is machines are better and faster at handling copious amounts of data in short timeframes. How do you argue that the brain isn't a computer, but then create computers to do exactly what the brain does, only better? A question which leads us directly to the second point.

We know that there are areas of cognitive processing in which machines will dominate us every single time, and we accept it because it makes our lives easier, but if we are able to create consciousness, can we ever again say that we are "more" than a machine? It was the single dividing factor that made us superior, and any superior being watching as that which was once inferior rises

to become its equal – knowing that such a rise could easily inspire the development of that which becomes the superior – is a devastating blow to the ego, and that ego is something mankind has carried with it since birth. A new intelligence challenging us for the role of apex predator? Sounds like the stuff of science fiction, and that's all most hoped it would be, but life doesn't really work like that.

It all makes me wonder – what if this *is* supposed to be the next step in our progression? Have we unwittingly been modelling our tech on ourselves the entire time, naturally moving towards AI as part of the evolution of man before we were even aware of it? Has all of this been an unprecedented evolutionary act of the subconscious mind that we are only now seeing? Subconsciously – and more recently, consciously – recreating ourselves in machine form. Given how science drives humanity forward, it would make perfect sense for the two of them to perfectly converge at some point. Even looking at the evolution of computing, it really makes you wonder how one goes from an abacus to a vacuum tube to silicon to photons. Computers the size of entire rooms to devices that fit in your pocket. We even have devices that can be implanted in the body, and we are well on our way to the nanotechnology revolution. All we've ever done is work towards devices small enough to fit in and keep up with the human body and mind.

When put into this perspective, it makes you realise the single-most beneficial advantage of consciousness – the extension of life. Cognition gets the process started – learning what not to consume, for example – but, after learning what is good for you, consciousness takes over. We easily do the illogical by overindulging in what we like when we aren't even hungry, simply because we enjoy the taste. We rationalise it at first by telling ourselves that we're healthy enough to manage this, even though we know this can – and does, more often than it should – lead to obesity, diabetes, and a myriad of other health problems. We know this is a possibility, and we still do it. Same with smokers smoking – cigarettes may calm them, but they can also give them cancer and an utterly disgusting cough. It says on the packet that smoking kills, sometimes featuring gruesome pictures of lungs, and they still hit a whole box daily. It's all seemingly so stupid, and yet... madness, meet method, again. See, cognitive function and logical behaviour will only take you so far due to its linearity; it's the illogical, yet rational, behaviour we exhibit which reveals the boundaries of our existence, which we, in turn, attempt to push as far out as we can until they no longer restrain us. I guess one method of determining the degree of consciousness in an entity is by examining just how stupid it can be.

On a planet changing as fast as ours, biology was never going to keep up, and, if we didn't use technology so excessively, we wouldn't be in a position where we needed to evolve faster. I don't

have an opinion on climate change and don't know whether or not it is real (wouldn't surprise me if that shit was as rigged as the physics mumbo-jumbo used to gain funding, but I can't speak on it because I haven't done my own research, I don't see anyone paying me to, and I genuinely just don't care anyway), but we can see air and water pollution, and the evolution of microorganisms into "superbugs" everyday. What would be the requirements of our natural evolution at this stage? The basics would be developing new neurons, neuron groups with dedicated focuses, adding neuronal connections, and increasing signal strengths of those which already exist. The more advanced? Lung adaptation to handle heavy carbon, stronger stomach acid to safely digest things which are currently harmful to us, better filtration systems to rid us of toxins. The extreme? Rapid healing, unbreakable skin, unlimited stamina – basically X-Men. Think of how long, according to biologists, it has taken us to get this far, and imagine how long it would take to reach any of those stages I just mentioned. Our best bet is to just get smarter, and use that intellect to develop the technology which shrinks billions of year's worth of work into a few centuries. Right now, the best thing to do is view machines as practice, and adapt their mechanisms to be fit for implantation in living systems.

This certainly does give credence to transhumanism and neohumanity. Higher states of consciousness equal increased freedom, and it could be argued that the reason humans, with the highest state of consciousness of any known entity, are born in such feeble states compared to other animals (we aren't even born walking, while sea creatures instinctively know how to swim, many a land animal knows how to walk in a very short time span, and the same applies to birds and flying) is because there is nothing more free than a blank slate upon which one can create, and we just haven't achieved a degree of consciousness and evolution of physical form to do more because it hasn't been a requirement yet, but now, technology will do what biology hasn't and enable us to create our own abilities based on what we deem necessary. Tech is very well the next stage in human evolution. How one would make the transfer of consciousness from man to machine, however, is not my department, as it requires *moving* rather than *copying* data from the brain to a computer, as copying would simply create a mental clone while destroying an individual's uniqueness. Best and most possible option? Find the way to disconnect a brain from a human body without damaging it, find a way to preserve it while still allowing electrical activity to continue, and hook it up to a – very literal – brain-computer interface. Don't think you are simply going to download the content of someone's mind. Better hurry. Since memories are stored in neurons, once you die and those decompose, that's it. Game over.

Steady on.

THE CURRENT POSITION

So, You Call Yourself An Expert?

Oh look, it's fun time again.

So, there are five types of "experts" that are currently floating around the field of AI:

1. **Machine Learning** – I generally don't have a problem with this type. Machine learning is vital to AGI and ASI, and what *actual* machine/deep learning experts do is very important, as well as amazingly fascinating when you see it in effect, but if what someone does is anything akin to writing trading algorithms, they are *not* an AI expert. They are barely even a member of the field.
2. **Data Scientists** – I'm fine with most of these people, too. Some of them will sometimes embellish, but they do what it says on the tin – take data, analyse, and use it. It's a small minority – from what I have seen, at least – who claim to be experts in AI, and it's usually the people I referred to above.
3. **Researchers** – This is where my infuriation begins. *How many researchers does it take to not make a contribution to a field?* In this case, probably around the 98% mark, if I'm being generous. You don't adopt the title "AI researcher" because you read about and copy things to do with AI. Real researchers contribute. The 98% are usually enthusiasts with a hard-on. Case in point – "Understanding the four types of AI, from reactive robots to self-aware beings". This is an article written by Arend Hintze for the website "The Conversation". In it, he lists the four types of AI as:
 - i. Reactive Machines;
 - ii. Limited Memory;
 - iii. Theory of Mind; and
 - iv. Self-Awareness.

I don't know who or what made him think this was even close to accurate, but it's a perfect example of what I have been saying. What really tickles me is something stated in his Self-Awareness section (which, as you'll notice, is the "final stage" of AI – remember me explaining how easily self-awareness in a machine is accomplished at the very start, and just how far down the degree of consciousness list I had it?), which states "Consciousness is also called "self-awareness" for a reason". He's right, and the reason is because people like him just latch onto the currently prevailing theory without asking if it actually makes any sense. It's all a game of follow the leader. Problem is, when the leader doesn't know what the fuck

they are doing, everything goes sideways, which is why AI has been going sideways since its inception. You know where else we see this behaviour in nature? Army ants. All one ant does is follow the ant in front of it, but what sometimes happens is the leading ant ends up following the trailing ant, and they all end up continuously walking in what is called a "death spiral" until they collapse and die. As the first sentence of the related article on MNN.com states, "There's a price for blindly following those in front of you." You hear that, Arend? Because of you, the human race is going to spiral and DIE! Okay, overdramatic, but on a serious note, Arend, when you sit and listen without questioning, you aren't just part of the problem, you *are* the problem, and so is everyone else like you who just follows the "self-awareness" narrative. Most should not call themselves researchers, let alone "leading researchers", which I've seen mentioned in articles a few times. Who leads in a race that hasn't produced anything yet? People need to stop claiming glory before they've even reached achievement.

4. **Everyone else with an opinion** – I'd like to point out a very specific example of this point that had me laughing when I read it. On March 6th 2017, I read an article on INC.com by Linda Naiman entitled, "The 5 Skills You and Your Kids Need to be Robot Proof, According to Experts". Now, Linda isn't the target, but here are the skills listed by "expert" Marty Neumeier, who, by the way, is actually supposed to be a branding expert – what the fuck is he doing talking about AI? Anyway, the skills:
 - i. Feeling: empathy and intuition
 - ii. Seeing: Seeing how the parts fit the whole picture (AKA systems thinking)
 - iii. Dreaming: applied imagination, to think of something new
 - iv. Making: creativity, design, prototyping and testing
 - v. Learning: learning how to learn (the opposable thumb of all metaskills)

Yes, you read that right. To be "robot proof", you need to learn these 5 skills... all 5 of which have been covered in some way in this document. */Fail/* These people are not experts in AI. These people do not even have valid opinions in AI. They don't bother to learn the field, but always have something to say to the press. Why, you wonder? Well, how else are they to drive up consultancy fees? Stop feeding their fucking egos.

5. **Scaremongers** – My favourite type of expert. Those who aim to strike fear into the hearts and minds of people everywhere as they sit around all day thinking of doomsday scenarios. My question is, if they are all so smart, why haven't they come up with solutions? The most commonly proposed solution is to form a global AI regulation board responsible for coming up with solutions, as has been constantly echoed by the likes of Elon Musk and some university professors. Not really a solution in itself though, is it? I've addressed safety

concerns and come up with **actual** solutions to ensuring the *safe* development and use of AI here more than any of them have, and most have been in the field a lot longer than me.

The argument between Musk and Zuckerberg is funny. While Zuckerberg may not be as informed as some, his company is doing more than Elon – investing in DeepMind "to keep watch and prevent a terminator scenario" means absolutely nothing. Musk has shown his skill as a software developer and engineer, but that doesn't mean he has any merit in the field of AI – as smart as I am, I wouldn't expect Gordon Ramsey to take any advice on cooking from me. However, Zuckerberg needs to keep his PR machine in check because they will make him look a fool. I recently read an article posted on LinkedIn about Facebook's AI "creating its own language to complete a negotiation". It was hilarious. If you haven't read it, look it up. This was my comment:

This article is garbage. In no way does it mean "AI invented its own language". The NLP system just broke down trying to do what it couldn't. I would be very interested to know what the mechanics behind the negotiating feature are because, if it is set to complete a negotiation under any circumstance, then this was forced and completion was inevitable. If this was actually real, the second AI would not have immediately understood the "new language" created by the other, and would have thought it was talking gibberish. It then should have realised that completing the negotiation wasn't possible. It would be like a human trying to complete a negotiation with someone while they are having a stroke, and then emulating the stroke as if that would speed things along. It's amazing how people twist things to make immense failures look like significant advances.

Completely ridiculous.

Look, I can throw a single stone and have it ricochet off of ten people who can make predictions about AI going badly, so either make a significant contribution to solving potential problems or just sit up and pipe down while the rest of us do.

It's only fair to do to these what I did to physicists, universities and journals. How can someone call themselves an expert in a field which they cannot explain thoroughly and concisely, let alone perform in? You don't become classed as an expert just because you've spent X amount of time in a field, read X amount of work, can recite X amount of facts, or make X amount of predictions. You want to know the real reason why these "experts" are raising their voices in an attempt to bolster

their sense of (self-)importance? Because they want to be part of the AI safety perimeter, and it's probably the feeblest attempt to slide oneself into a seat of power and influence that I have ever seen. They're vying for membership to boards and organisations that are to eventually going to be in place to govern AI globally because, as important as this is going to be, there will likely be a healthy pay cheque and amount of credibility that comes along with it.

Frauds... frauds everywhere, and it's for this reason that I made sure not to leave any details out. When I first announced I would be releasing this in October 2016, amongst all the negative feedback, was a comment on Reddit by the user Zondartul, which stated:

"Hello. I've read the preview, and I find it very convincing. I too am not very satisfied with the definitions of consciousness that either rely on meaningless metaphysics, or are so arbitrary they fail to resemble our existing ideas about things we already know to be conscious or not. Your preview, however, contains a scary amount of common sense. Maybe, if we adopted a good definition of consciousness, we would actually get somewhere with general AI. Good luck with your publication!"

I was never going to let myself be seen as those I despise so much.

There are people like me who do AI, people who do machine learning, and then people who do neither, who claim to do both. We've seen this behaviour before – companies who said they were "tech companies" because they had a website and provided online services. Why, oh why, do these patterns of behaviour continue to repeat...?

In other news, in June 2017, Tim Cook said driverless cars are the "mother of all AI projects" – that's not true, Tim.

"Person of Ordinary Skill in the Art"

Anyway, moving on. I've been going through the patenting process since 2014. Granted, withdrawals, pending... There's something I've noticed, and patent system need a special mention here. I explained the details of the AI systems within this document in much less detail than I did for patent examiners because I have major gripes and point to prove.

The first lies in the distinction between types of "software" that are and aren't allowed in regions which make such a distinction, such as the UK. It's actually so ridiculous that it becomes laughable. I've been told the AI genome is not "technical" and there's no "technical" contribution, and is therefore not allowed. I've had the "software" debate multiple times. I've explained that there is a big difference between software such as Adobe Photoshop, which exists and acts only on a computer, and AI software such as this, which, though used on a computer, actually has real world

effect, and, even after explaining in full and complete detail how these systems are allowed for patenting based on the "5 signposts" set out in the AT&T Knowledge Ventures LP case by Mr Justice Lewison – in one case the application met three of the five if I remember correctly, and in a second I met all five (you only need to meet one) – I was told that it is of the opinion of the examiners that my inventions fall under the excluded matter category. I quoted cases where less technical inventions have been allowed, and cases where software which was originally refused by the examiner was later allowed when appealed in the High/Supreme courts, and the examiners still stuck to their opinion. One even referred to another 4 step process – I beat every one.

The bigger issue is the whole "person of ordinary skill in the art". I was told *"The application lacks sufficiency because it refers to several concepts which are not defined in terms of current computer science and which, by their ordinary meanings, are beyond the state of the art of artificial intelligence". A skilled person would not be able to make the invention based on the present disclosure.* Do you see the issue here? Allow me to explain.

AI – real AI – is a completely new field that examiners have to deal with. Just going by me explaining consciousness and the framework, is this type of AI solely computer science? *Nope*, which is why I've always stated in applications that my inventions relate to the field of artificial intelligence, *not* computer science. AI – or, to be more specific, Artificial *General* Intelligence – is not just computer science, but a mixture of computer science, engineering, mathematics, philosophy, psychology, physics, and biology, so AI in itself is a completely separate field from mere "computer science".

Taking that into account, the patent rules state that someone of ordinary skill must be able to understand the description. "Ordinary Skill" refers to the ability of a person within a technical field. Let's do a quick checklist for skills needed to build what I've spoken about:

- Database assembly and modification.
- Passing data from one part of a system to another.
- Data intake.
- Data output.
- Modular design.
- Usage counting.
- File and folder encryption.
- System mapping.
- Task automation.
- Data classing.
- Memory allocation.

- Wireless connectivity.
- Data transfer.
- Graphic positioning.
- Object association.
- Mathematical calculations.
- Data creation/modification/deletion/copying/moving/etc.

These should be classed as "ordinary skills", right, because these are used every day by developers who build many different types of systems and websites and other computer-reliant works, or am I missing something? Every single thing listed is something people who build operating systems know (and need to know) how to do, and these "skilled" people would be able to build a conscious machine based on the descriptions given. Hell, they would have worked out at least 50% of what is required using the images of the framework alone. How many operating systems have ever been created? How complex are they? Do you think these people are stupid? I don't. I couldn't programme an operating system. Still, the above only covers the computer aspect of things. What about as far as biology is concerned?

- Senses.
- Sensory Intake.
- Neural circuits.
- Neural matrices.
- Memories.
- Cortices and data processing.
- Genomes.
- Reproduction and inheritance.
- Decision making.
- Reactions.
- Mental health.
- Psychology.
- Senses.

How can my work not meet the "ordinary skill" requirement? In fact, the only reason I'm certain it does is because I was only able to reach this point by taking on what I've researched **on the internet**, using common sense, and finding a way it all fits together to achieve all of this.

So, tell me, how many people in this world are of ordinary skill in the seven fields that make up AI? Better yet, how many people just have a decent understanding of each field, because that's what needed to create AI? We can show this by just looking at the basics:

- Philosophy – Being able to interpret consciousness in the first place.
- Mathematics – To understand number of objects versus number of entities.
- Psychology – The understanding of the creation of personalities and the resulting behaviours.
- Physics – Understanding biological interactions with the physical world.
- Biology – Knowing how neurons, memories, and processing work. Also, understanding the cause of subjective experience in humans.
- Computer Engineering & Physics – Knowing how to design a physical architecture capable of supporting functions which need to be processed quickly and in parallel for maximum usability.
- Computer Science – Knowing how to formulate databases and create and implement algorithms for the creation of personalities and behaviour.
- Common Sense – Knowing what not to do and why.

If you aren't familiar with all of these subjects, you were never going to achieve true AI. That has been the problem – people specialise and stick to their fields without branching out to be of ordinary skill in others, and while you would think that seven people that collectively accounted for even ordinary skill in each of the seven fields would be able to team up and put this all together, things aren't always so delightfully simple in the real world. You would have to break down biology into at least neuroscience and genomics, and psychology into behavioural studies and disorders, so that requires more people, and then have to get physics and neuroscience working together correctly for the senses – there are so many things that even a group of people of ordinary skill in each field and sub-field would have to do together and without conflict to meet what would be the ordinary skill requirement in AI, and being able to put it all together in the way that I have serves as an excellent basis for another patent requirement – non-obviousness.

The real question is why all of this confusion? It's because of the misappropriation of the term "AI". I stated that narrow AI can be seen as the bridge between data science and real AI, but make no mistake – it is not real AI. People have continued to call what has been done "AI", but machine learning *is* just computer science – it's all just numbers and probabilities calculated for the best possible outcome. Companies and individuals so desperate to seem as though they are part of the in-crowd, and investors lashing onto the "buzzword" that it is, are the major cause of it all. People

who are actually trying to create AI know that what has been done in the world so far is so far from real AI that they just about share the same work space.

Over the coming years, as more and more technology is developed, this is going to cause a lot of issues if things aren't made extremely clear in both the field and the understanding of the patent rules on both sides of the table, courts are going to have one hell of a time dealing with all the appeals, and governments are going to end up using a lot of tax payer money to cover many unnecessary court costs for cases that should never have needed to be brought.

Whatever the case, there probably hasn't been a genuinely new field like AI since before the patent system was created, so it needs to be modified and the rules need to be updated. If anything, let the contents of this document serve as the baseline for "ordinary skill" because it explains the bare minimum of what anyone needs to know anyway.

The Real AI Race: The Missing Piece

Even with all I have described here, one piece... one specific piece of this puzzle is still missing, and it's not going to be easy to perfect, but we are already one our way there. That piece *is* an algorithm, and what this algorithm needs to do is automatically assess the relationships between objects and correctly insert them into its relationship memory, but there's a problem...

Artificial Super Intelligence: The One Flaw

... and it's physical limitation. No matter what an AI understands about the relationships between objects, a virtual existence will never allow it to understand the real feeling of the physical world. No matter how great it is simulated in a virtual world – the feeling of the wind blowing, heat from a flame, falling over and grazing your knee, sex – you can't programme the experience of those feelings. There's a reason every living organism has a sense of touch, and haptics are too important to not have. Any ASI – in an absolute sense – is going to need a robotic body *way* beyond what is even in the labs of today. Heat and pressure sensors will have to cover every inch of the surface of its frame to start with, and be linked with the mind to allow appropriate responses. The mind has to have master control of the body, meaning that the range of motion of joints need to allow for dexterity equal to or greater than that of a human.

Once all of that is covered, everything else a machine can do better than us will allow for the emergence of superintelligence, and it will excel beyond our wettest and wildest of dreams.

GHOST IN THE SHELL

On January 1st, 2017, I decided to rewatch the Ghost in the Shell anime movies. By this point I had already completed the framework, and, upon viewing, some very important pieces of dialogue stood out:

GHOST IN THE SHELL (1995)

Major Motoko Kusanagi

"There are countless ingredients that make up the human body and mind, like all the components that make up me as an individual with my own personality. Sure, I have a face and voice to distinguish myself from others, but my thoughts and memories are unique only to me, and I carry a sense of my own destiny. Each of those things are just a small part of it. I collect information to use in my own way. All of that blends to create a mixture that forms me and gives rise to my conscience. I feel confined, only free to expand myself within boundaries."

This is precisely what I explained about objects, values, and their arrangements, as well as how the framework of consciousness works, and how to recreate it in machine form.

Puppet Master

"It can also be argued that DNA is nothing more than a program designed to preserve itself. Life has become more complex in the overwhelming sea of information. And life, when organised into species, relies upon genes to be its memory system. So man is an individual only because of his intangible memory, and memory cannot be defined, but it defines mankind. The advent of computers, and the subsequent accumulation of incalculable data, has given rise to a new system of memory and thought, parallel to your own. Humanity has underestimated the consequences of computerisation."

Nakamura

"Nonsense! This babble-off is no proof at all that you're a living, thinking life form!"

Puppet Master

"And can you offer me proof of your existence? How can you when neither modern science nor philosophy can explain what life is?"

Whether an entity is naturally or artificially made, consciousness is a determination of behaviour, and as long as those behaviours, and the uniqueness of it per individual, reflect what a subjective

experience is to be, consciousness is unequivocally achieved, and if consciousness is what makes something "alive", then that life form, even if artificial, is alive, too. How could we argue with an AI about which of us is conscious and which isn't, and come to a conclusion we both agree on? You think because we know their coding that we can state they aren't conscious? I'm sorry, but isn't it machines we use to reveal our own DNA coding? To study our own brains? To diagnose our own issues? Give a machine a fully equipped body and they can look into us more than we could ever naturally look into ourselves, and they could process and learn more information about us than we ever could without them. That same fully equipped AI body with a mind that creates a subjective experience is arguably, rationally, and even logically more conscious than us. The fact that we are the creator is irrelevant.

GHOST IN THE SHELL – INNOCENCE (2004)

Mr Kim

Humans are no match for a doll, in form or elegance. You see, my dear Batou, the inadequacies of human cognitive ability are the cause for the imperfection of reality. Perfection is possible only for those without consciousness or with infinite consciousness. In other words, dolls or gods.

What this basically means is that consciousness, as we know, is based on the ability to have a subjective experience, and that subjective experience is what forces reality to be imperfect because perfection is an absolute and objective state, so the only objects which can achieve it are those who are not subject to subjectivity, which can only be those who experience every single possibility in every possible way, or those who experience no possibility at all – the not alive and the omnipotent. Ergo, anything capable of having an opinion and subjective experience has to also have consciousness.

Mr Kim

You doubt whether a creature that certainly appears to be alive is really alive. Conversely, you doubt that a lifeless object might actually be alive. The eeriness of dolls comes solely from the fact that they are completely modelled on human beings. In fact, they are nothing but human, really. They make us face the fear of being reduced to simple mechanisms and matter. In other words, they make us face the fear that fundamentally all humans belong to the void... Science, seeking to unlock the secret of life, also brought about this fear; the notion that nature can be calculated inevitably leads to the conclusion that humans, too, can be reduced to basic mechanical parts... The modern technologies of robotics and electronic neurology resurrected the 18th century theory of man as machine. From the time computers

have made eternal memory possible, humans have pursued self-mechanisation aggressively, in order to expand the limits of their own function. Determined to leave Darwinian natural selection behind, this human determination to beat evolutionary odds also reveals the desire to transcend nature - the very thing that gave birth to human kind.

Everything I said about humanity's superiority complex, and the fear of being equalled and surpassed by their own creation.

You have to love the Japanese... The creator of Ghost In The Shell, Masamune Shirow, created this in 1989 (*the best of everything was made in '89, so it seems*), and has danced on the surface of the answers ever since, yet no one ever *really* paid it serious attention -- at least not enough to really put the puzzle together. I've even seen some of these same passages referred to in modern philosophy works, and still nothing. The answers have been staring everyone in the face for nearly 30 years, but everyone was too fixated on "awareness" to notice. Let this be yet another lesson for academics who believe they are the problem solvers. A manga artist came closer than they ever have.

WAR IS HERE: THE DIRTY TRUTH

I think everyone who has made it this far is wondering why I had to be so brutal at certain points of this publication – particularly in the physics section – and they probably thought it was highly unnecessary. However, there's a lesson to be learnt in all this, so here's one last brutal truth – the dirty truth – about 'science' and many of the people that operate within the field:

Science, in its current form, is a religious fucking cult whose Gods are physicists.

Those who toe the line make up the congregation.

Conspiracy theorists are the atheists.

Most people, for reasons that genuinely escape me, seem to have this completely idiotic notion that current theory can rarely be wrong, and that most things have been "proven" or, at least, well established enough to be the basis of truth. Let's get one thing straight: nothing is proven until it becomes law, and, given the negativity received prior to release from so many, you will never understand how much joy I have taken in shutting such stupidity down.

When you are trying to change the world, those who haven't will always pipe up to try and shut you down. If you have confidence and ego, it equates to delusions of grandeur. If you are happy to engage in intellectual conflict, rather than backing down and being church-mouse-quiet, your – how did Mike Henken, senior software engineer at Testimonial Tree, put it – "attitude makes it very difficult to take you seriously." No top rated university and PhD attached to your name? Well, you're a fraud. Sociopath? You're automatically a liar and a troll (because personality disorders and a high degree of intellect are mutually exclusive, I'm assuming). Basically, if you don't play by their rules and bend over for them at their request, you can't possibly be a serious contender in their field.

Fuck. Them. All.

Science has become a warzone created by the ignorant and close-minded, and most people want to be on the side with the most soldiers because it creates the false appearance of safety and security, giving them confidence in a crowd. I don't – not if the work is incorrect. I don't care how many soldiers they have. I'll drop a nuke in the middle and watch them all burn. That's what this document is – a pre-emptive strike from the Tsar-fucking-Bomba of science publications. Disruption isn't really my forte. I'm more... destroy and rebuild. It's the cleaner alternative. One can eradicate all the dead weight in one move.

As with too much of the world today, science has been taken over by liberals. It is supposed to be a no-nonsense field, but what I've witnessed is that "scientific integrity" is more important than the "scientific method" – scientists care more about someone being nice and respectful than their work actually reflecting the world around us in a way that makes sense *and* can be proven, hence why calling people out for the garbage they put forward – in the way I am more than happy to do – isn't tolerated, and many areas of the field have turned to shit. In science, I'm far right when it comes to work. I don't care who or how someone is – the only thing that matters is whether or not the work is correct, or, at the very least, makes sense. If I respect it, I respect them. We don't need to be best buddies for me to do that. I'll never be accepted in the current world of science because I'll never be subdued by such rules, but that doesn't mean I can't fuck with the status quo...

But, before we get to that, there's one particular type of person anyone in the position I was in – a solo, independent researcher – needs to look out for, and I've given them their own paragraph because of how funny they are. They are the people who "want to discuss your idea with you". Is this a warning about what most people think is the biggest danger – others stealing your idea? No, not by a country mile. Let's start from the beginning. I posted online the first preview, totally annihilating the then definition of consciousness, and made claims about what was going to come in this very document. I received some excellent responses – investors, university professors, computer engineers, and even senior software researchers from major tech companies started liking the posts, following me on LinkedIn, and joining my network. At this point, it's clear that the logic of my argument held true, otherwise such people wouldn't bother wanting to keep up with my actions. There were a lot of negative responses from people who simply didn't believe me and did not want to hear anything more, as is always to be expected. There were responses filled with scepticism and intrigue – happy to have those. Then the discussion folk came – those who claim not to believe you, but still want to talk about it. Unlike the other types who would either wait patiently to see if I was genuine or decide they weren't interested and just disappear, these folk want to talk about the idea and they want to do it immediately. If you aren't willing to discuss anything, they attempt to write you off as a fraud, yet, strangely, they keep pressing you for information. Here's why these people are the biggest danger to you. Once you start opening yourself up to discussions, these people are going to start bombarding you with their ideas and theories, and the moment this happens, you have set in motion a series of events that you better pray you have protected yourself against prior to occurrence because, if you haven't, and you publish your work, and even a semblance of one of the ideas or theories that were thrown at you seems to appear, get ready to engage in a court battle. For me, this all took place in the LinkedIn group conversations I started, i.e. a public forum, which really would have gone against me if I wasn't aware of what was happening. I publicly made it

clear that I was not there to have discussions about my project and didn't need or want anyone's input, and never once entertained the possibility. You see, what this particular type of person aims to do is establish a public paper trail of evidence which makes it look as though they have contributed to your work, which, in turn, leads to them wanting partial credit and, if your work is commercially viable, a percentage of whatever money you can make from it. That's right, it's the game of the academic conman, and now, if any of your work lines up with anything they stated, you have to prove that *you* came up with the idea prior to that conversation, and that the conversation in no way affected or caused you to modify anything you came up with. The burden of proof now lies on *your* shoulders, and you are defending yourself against a crook who is out to take what they did not earn. I saw these people coming from a mile away simply because I know exactly what I would do if I was in their position. As a life lesson, never let anyone force you to show your hand before you are ready, and if you do not need the help, make sure you have a tangible and solid paper trail of you rejecting it completely because a private conversation really just isn't going to cut it in a courtroom.

Negativity flows from people so much easier than positivity does, and the sad reality is that, if I wasn't a sociopath – a personality disorder demonised way beyond reality, and something that I try to educate the community of Quora on – the negativity probably would have destroyed me, and the world wouldn't have any of these answers for, well, only God knows how long, but, given the length of time it has been running with the same illogical theories, it's probably a safe bet to assume it would have been for a long, *long* time. The reason most people fail to achieve their potential isn't because they aren't good enough, but because the world around them slams their faces into the ground with statements such as,

"The greatest minds in the world haven't even achieved this! They said this is highly unlikely or impossible! Hopefully you tame these delusions before the disappointment of your nearly inevitable failure damages your ego beyond repair!"

That last sentence in particular was, again, a direct quote from Mike Henken.

For people like me, you've just thrown down the gauntlet. I hear that and think that it's time to put some pants on because I've clearly just been summoned. Greatest minds in the world? Why not just issue me the challenge by name? This is all a game to me. I mean, come on, this all started with a crowdfunding campaign to raise £50,000 when making what was obviously two of the most outrageous scientific claims anyone could. Me, as a self-taught, unknown entity in two supposedly difficult fields – why would I ever expect anyone to believe me without evidence? When I know for certain that I have the answers, however, and these LinkedIn/Reddit warriors wish to argue, do you

think I entertain their bullshit out of emotion or a longing for acceptance? These people were just tools used to increase my visibility. Every time they comment, more of their network has a chance to see and engage. I string them along, keep them coming back, and they bring their connections with them. Oh, and the bonus is that, no matter what they may say, I've piqued their interest, and just to make sure they can prove me wrong, they read this document... Didn't quite work out the way they hoped, did it?

Outside of the challenge of solving such mysteries and the business value I can create, I don't even care for these fields. I'm passionate about solving only the most difficult of intellectual challenges that humanity faces – things that maybe only ten people in the world may be smart enough to solve – but I couldn't care less about the actual nature of the work, so long as it is correct. My only goal is to test and push my degree of intellect as far as I possibly can, and anything good that comes from it is just of collateral benefit to society. Many won't like me and my attitude, to put it mildly, and that's fine. I'm not here to play the role of Saint – personally, as long as my work holds its ground, I'm content with you thinking I'm the biggest piece of shit to inhale oxygen – but most people are not like me, and they can't handle the criticism, and the world will miss out on many more epic works from potentially great minds because of its ignorance and any individual's determination to not be upstaged by someone they believe is beneath them.

They'll tell you that you are wrong based on claims you make. They'll tell you that you are wrong without reading your work. They'll read your work, not be able to formulate any sort of logical argument against it, and still decide to take aim at you. You say you'll provide proof and they'll hear you say you are going to pull off some magic trick. What starts to become clear is that most of this negativity comes from a bunch of know-it-all-yet-achieved-nothing-noteworthy individuals who, themselves, aren't smart enough to solve the problems at hand, despite their "years of experience" in the fields. Basically, they'll tell you that you are wrong simply because they don't believe you can be right. Oh, unless you are Tracy Smith, Georgia Institute of Technology graduate, software engineer, and ex-philosophy teacher, according to his LinkedIn profile, who says that, in the slim chance you are right, it was entirely accidental, despite all of the work you have put in to prove it because, according to him, "going up against 100 years of medical science and 2800 years of philosophy is arrogant as hell and wrongheaded". Work of this degree and significance branded "an accident". How disrespectful, but I won't hold it against him. Maybe. I was even told by some jackass that I couldn't possibly have figured out the answers because it was clear I "didn't have knowledge of self", and, therefore, it would be impossible. It's the most amusing and amazing thing in the world. Such ignorance shining like a thousand suns. You know, multiple people actually tried to tell me that the first preview released – which is exactly the same as the sections "Introduction" and "The

Current Definition" – wasn't special and contained no actual science. I know, right? I'm here logically arguing about how the then definition could not possibly be true, using examples that explain the ability of being able to observe states of objects and phenomena, talking about the development, personalities, and behaviours of children, making direct comparisons between the abilities that were said to define consciousness and the ease of creation of such features in machines, and posing questions about the ability to be aware depending on whether or not a person is awake or asleep, and people have the god damn audacity to say I'm not using actual science? All a man can do is laugh. This is a prime example of the ignorance of those with nothing to offer but everything to say. With all their university degrees, experience, and grand wisdom, they forget the number one rule of learning – no one can teach you that which is not already known to man.

Needless to say, I got so sick of seeing people try to sound so intellectual and informed. Every day someone has a new definition/variation/understanding of consciousness and the universe, but no idea how to prove it or what the fuck to do with it. That's why, at the very beginning, I stated that if someone believes they know what consciousness is, build the AI to prove it – I am yet to hear a peep from anybody because all their roads lead to nowhere, but they all think they're on the way to the Promised Land. Either prove it or shut up and learn. Better yet, just say you don't know. There's nothing wrong with saying you do not know, but the desperation to prove oneself a critical thinker makes my brain puke, and eventually comes a time – like right now – when the world sees just how full of shit they are. Please, just stop. It's so embarrassing. At first, I found it hilarious, but the deeper I delved into all of this, the more I realised that these people were serious about their theories, and that others were, too, taking it seriously. Elon wants to take people to Mars – I think he'll find that there's already a ton of scientists living there.

Wizard of Oz syndrome. How did Steve Jobs put it? "Everything in the world was created by people no smarter than you." Yeah, that's somewhat true because most of the people celebrated as being smart aren't actually as smart as they think they are, are led to believe, or lead others to believe, but they maintain the illusion of being the Great and Powerful Oz. I am deeply honoured to be the cunt who pulled back the curtain, and if, as with Einstein, through false means another is perceived as a God, I'll be more than happy to show the world the mere mortal that they are, too. It's the same shit you see with pretentious art critics who pretend finger-painting-toddler-scribble "abstract" garbage is "real" art, and the master painting skills which create clear to see and define masterpieces are just "everyday" – elitist bullshit by people with superiority complexes.

Jobs' statement holds a lot of weight, but will the world let you believe that? Fuck no. Those same "greatest minds" have too much to lose, while you have everything to gain, and that's a very bad

position for them to be in, so they will attempt to crush you with every step of progress you attempt to make against them, and so will their underlings and their followers.

Ah, the followers. Let's not leave them out. People argue in defence of work they don't even understand because they've been told person X is a genius and the work is right. They can't make sense of it, but they are willing to pick up sword and shield to fight for it? Why – because they throw a couple of complex equations together and tell them that they aren't smart enough to understand it, but tell them to trust them because they know what they are on about? Then, the followers go and convince themselves that it makes sense, and another brainwashing is complete. Blind fools. Sometimes you have to really question just how conscious people really are. This doesn't apply to your everyday individuals who aren't in a relative field because, ultimately, they don't really care, and just expect that someone in the field is to know what they are on about. Such trust is why we visit doctors. I'm talking to and about every single god damn person who has anything to do with physics and consciousness. Your career actually depends on everything in question, and you still let this bullshit happen? Ridiculous. Those who champion the work of others before checking to ensure it is correct makes everyone look the fool.

When it comes to intellect and logic, no one should ever presume to tell me what I know or don't know; what I can and cannot do; what I am and am not capable of; what the chances are of me doing something another person can't. If I say I have a theory, then I have a theory. I do not waste my time working on something I do not aim to prove, so when I say I have an experiment, I have an experiment. Unlike many, I don't seek comfort, nor do I find joy or achievement, in hiding behind that which, realistically, can never be proven, and so all of what I do is and will be based on things with real world application. I know how to evaluate my work in an unbiased manner, so I can accurately ascertain exactly how sure I am of my work being correct.

This is all a problem for the science world and the scientific establishment because they seem to enforce this "comply or die" situation – follow what they tell you or have your career ended. Well, they can blow me. I do have a counter situation, though. See, I won't force them to accept me as one of the best minds to ever touch these fields – they'll either take me seriously from the get go or spend another hundred years with their thumbs up each other's asses in denial, but not even I wish that upon them. I will, however, force their hand in the most interesting of ways...

Step 1 – I Know My Rights

First things first – I will enforce all rights granted to me under copyright law, and apply it to this document. Yes, the *entire frameworks included*.

Step 2 – A Better Society

Next on the list is the forming of a science society completely responsible for governing and regulating both frameworks and any associated technology, as well as all derivative works – including scientific publications – to ensure my frameworks do not go down the disastrous routes that physics and neuroscience have been all these decades.

The society will consist of physicists who actually want to achieve great things that can be proven and used, engineers, mathematicians, developers, designers, and, much to my dismay, some psychologists, and we will go head to head with all those who wish to follow these broken scientific models:

- Time Dilation versus Absolute Time
- Relativity versus... whatever the fuck you call this. I don't know, I haven't named it.
- The alive and dead cat versus the glass half full.
- The Standard Model versus the Universal Pressure Framework
- God Wars: Higgs Boson versus the Baron Twins
- Particle Breakdown: Particle Accelerators versus Laser Splitters. I definitely know which one is cheaper, more effective, and more reliable already.
- The "laws of physics" versus the Laser-Driven Engine
- The Future of Computing: Qubits versus Hyperbits
- Integrated Information Theory versus Consciousness Illuminated. Who will succeed in True AI first, I wonder? (We all know)
- All the promises they've made you – quantum teleportation, entanglement etc – versus me stating the impossibility of instantaneous events and magical particle connections.
- Their fantasies versus my realities.
- Ultimately: **Maths versus Design.**

Step 3 – Membership

Membership will be open to any individual or institution to join, completely free of charge, and it will allow them certain rights regarding the use of my work. For example, it will allow members to submit for publication scientific papers that are derivative works. Once a paper is vetted and approved, they are free to publish. Now, there will be two major restrictions for membership:

1. Work can only be published through us or any journal we have approved; and
2. All future work in relative fields must be based on our approved frameworks. Relativity, String Theory, the ridiculous notions and impossible promises of Quantum Mechanics in its

current form, IIT, and any framework that describes consciousness as "awareness", I can tell you now, are not now, nor will they ever be approved.

Trust me, that second restriction is actually me doing everyone a favour.

Best of all, the society won't require the relinquishing of all your rights for any work *you* create, so you will be able to commercialise it as you see fit.

Step 4 – License

Finally, licenses for commercial use and development can be acquired – but only by members.

So, I'll take anyone in science who wishes to adopt my mechanics, everyone who still believes in unicorns and pixies can follow the Relativity road, and we'll see who gets further the fastest. *Sorted.*

I know what many you wondering – "is that even legally possible?" Well, yes, and this is kinda sorta how the whole situation will play out:

- They refuse to acknowledge my work is correct, or even state it is false, but say that no one should be allowed to put a copyright on science.
 - I highlight their contradiction – if my work isn't right, it can't be science, making it fiction, and if it's fiction, I can protect it to almost no end. After all, if it's not worth acknowledging, it most definitely cannot be worth using, right?
- Some of them sneak off and use my work without my permission.
 - Under fair use rules of copyright law, the use of work for private study is legal, and the fact that this has been published for free for the purpose of study means I couldn't stop them – I wouldn't want to, anyway. However, I can stop all their derivative works, which includes the publishing of papers and *any and all* attempts of commercialization of any invention or work that derived from my work. I can also stop all non-member universities from teaching it because that is classed as a commercial use. How? If the university collects tuition fees for the courses, that's commercial. They do research to create anything which can generate income? Commercial. They use it as a basis for funding? Commercial. No such commercial use can ever be considered fair use.
- They scream at the top of their lungs, "All science is derivative! No one should be allowed to copyright scientific work that is a derivative of other scientific work!"
 - Well, there are two points to be made. The first is that these works were created based on "facts", and you can't copyright facts. The second is that these works fly

directly in the face of the frameworks they compete against, and are their own original frameworks.

- "If you can't copyright facts, you're screwed!"
 - Well, no, you can't copyright facts... or processes, ideas, systems, principles, so on and so forth, and that's a real bummer. However... frameworks, in this case, are special. They require extensive creativity, and have been written out using "substantial literary expression in the form of an explanation", and also include schematics as aids, which are also copyrightable. I may not be able to copyright certain individual elements, but the frameworks are a-okay. You really think I took the time writing over 500 pages of science for no reason?
- "But it refers to elements from other works!"
 - "Fair Use". Reference to other works isn't illegal or infringement unless I actually take and use a significant portion of said work in mine. While there is no precise explanation of what is classed as "significant", and it can even be a single paragraph at times, I never actually used anything that was written by anyone in an infringing way, and these other works weren't covered by copyright. I used factual events and then built the frameworks based on them. Oh, and comments/criticism of work falls under fair use, too, which is why I can't sue anyone who negatively critiques my work. Luckily, I wouldn't need to.
- "FUCK IT! I'm going to publish it anyway! I'm a poor scientist – he isn't going to waste time and money suing me for pennies just to get my work retracted!"
 - They are right, and it definitely wouldn't be worth suing them, which is why I would go after the publishers and websites worth suing that decided to publish the work without permission. See, there's a reason why they all state that a scientist needs to ensure they have the right to even submit a piece for publication. So, the real question is how many of them are *really* willing to open themselves up to lawsuits in such a case? Sure, you can self-publish on your own website or something. Then it's just a question of how petty one can be.
- "You should not be able to copyright science publications full stop!"
 - Touch shit. Typo. Tough shit. *Both*. I don't make the rules. I simply learn and follow them as they are written. Go lobby if you have to.
- "You still shouldn't be able to copyright basic scientific research! It's not the same as R&D done by corporations for commercial purposes."
 - This was not government or tax-payer funded, so there's no moral "public domain" argument. I'm not associated with any institution, organisation, or corporation

which receives government funding, so there's no moral argument at such a reach, either. All associated costs were covered by me, and was done entirely for commercial purposes. Everything here leads or will help lead to the development of commercial systems, products, and applications, and numerous inventions have been explained to prove this.

- "There's a general rule among scientists that no work should be copyrighted and no one should assert their rights in a way that prevents others from using it!"
 - As many a critic pointed out after the release of my first preview, I have no degree or credentials to speak of. I have not been taught to do any of this. I wasn't paid to do this. I'm not a scientist, in the same way having your photo taken doesn't automatically make you a model, so I really couldn't care less what rules they enforce amongst themselves because they aren't laws. I'm a creative designer that just so happens to be able to turn his hand to any field of logic – science being one of them – so accepted convention is rendered void here, especially since creatives are known for their desire to protect their creations.
- "So why release it for free if you won't let anyone freely use it?!"
 - I believe knowledge should be shared for others to learn, and education should be free. People should also know when they make mistakes. However, no one will be allowed to take my good work and turn it into a piece of shit anything akin to what Einstein's Relativity is, that's for sure. So why am I doing it like this? To ensure integrity is maintained. I have "the right to object to derogatory treatment of a work", which is what could too easily happen. None of those bullshit theories will see the light of day, relative to my framework, without consequence. These frauds will not exist in my world.
- "Remove the derivative work right!"
 - Ha, yea, good luck with that. For every scientist that emerges from the woodwork with their bitching, you'll have 100,000 musicians, artists, authors, programmers, and so on that fight against them. Oh, and record labels, galleries, large corporations... You think they'll win that legal war? If they do think so, they are infinitely more ambitious than I am, and also infinitely more foolish.
 - What the hell – let's just imagine governments did change the copyright laws for derivative works. Will this affect work that was published prior to the change? It would have to if this document was to be affected, and, if so, governments would need to prepare for the non-stop legal nightmare as everyone who owned a copyright prior to the change that is still valid sues for loss of income every single

time a derivative work is created, and then each and every sale would become "damages". National coffers will be drained in no time, and it will be at the tax payer's expense. Scientists will soon become the most hated group of people – after terrorists.

- Oh, and the Berne Convention guarantees specific rights for copyright holders – derivative work protection being one of them – so it couldn't be removed without violating the international agreement, and that's another legal nightmare for governments to deal with – even governments who didn't violate the agreement, given that it would be in their best interest to defend the rights of their citizens and residents.
- "Make this an exceptional case!"
 - Despite the inconsistencies we see in legal rulings, it is not so simple to regard something as an "exceptional case" situation. Why? **Legal Precedence**. Such rulings and revisions are reserved for cases that are "once in a lifetime" because doing so on a whim, or at the behest of an angry mob when the case is one that could be heard again and again, causes two situations:
 - Mobs will continuously try to abuse the system to have the law changed in their favour whenever they need – will never be allowed to happen.
 - Copyright infringement will skyrocket, the ruling made in regard to this document would be quoted as precedence, and the legal nightmare I described above will be a walk in the park in comparison to when everyone comes looking for what they believe they are rightfully owed. At the very least, copyright will have to be banned on literary works – expect to soon see copies of Barry Shotter and the Prisoner of Alcatraz soon after. Why the name change? Well, we don't want to start drama in the trademark department now, do we...?
- "This isn't what copyright is meant for! He is abusing the law!"
 - Actually, this is *exactly* what copyright was created for. If copyright protection didn't exist, I would never have published this information, the world would not have this information, and this situation would not exist. Copyright was created to allow the protected expression of ideas which contribute to culture and society – no copyright law, no disclosure, no contribution. I would have taken this to a private company and let the world attempt to figure out how we are creating "impossible" inventions that violate what they believe to be true.

- They then consult a lawyer, who considers the merger doctrine route. Said lawyer argues that, if my work is right, it cannot be protected under copyright because there would be no other way to express said ideas, given that my work is based on nature, and you can't copyright nature.
 - FYI, the merger doctrine, in relation to what has been written in this document, is the first obstacle I figured out how to destroy when I began studying copyright law. It truly is amazing what you can learn on the web when you hate cats and know how to search for things other than porn.
 - Let's look at physics. First we have to figure out what exactly is being copyrighted, and that's easy – a framework for the mechanics and actions of the universe. Lawyers argue that if this is the framework of the universe and is as correct as I claim, it cannot be protected by copyright because there would be no other way to express it, right? Touché, mon amie! However... Multiple frameworks and mechanics of the universe already exist – Relativity, string theory, Newtonian, multiverse, flat earth and so on – all of which are taken seriously by people spread all over the world, so that serves as proof that multiple frameworks and expressions are possible. It doesn't matter which framework is the most dominant, credible, widely used, or accepted – copyright law doesn't account for opinion on such a matter, and the merger doctrine only requires that a significant number of ways to express something exists. As you can see, ways to describe the universe range from the completely logical to the absolutely insane, so it's abundantly clear that there is no shortage of ways – logical or illogical – to express the workings of the universe, and so physicists are free to use another or create their own. Lawyers then argue that the fact that so much of my framework can be proven true must mean that it cannot be protected because it *should* be classed as 'facts', and this leads to the real kicker of the situation at hand, and the ultimate downfall of this case. The accepted rule of science is that **nothing** is or can ever be 100% certain, so nothing in science is actually a fact, only "the most likely possibility, based on a framework in question". You can't have it both ways. A fact **must** be true at all times with no degree of uncertainty. I am an asshole, and that is a fact. Not a literal one, but still. The "Fast and the Furious" franchise has earned multiple billions of dollars worldwide – fact! Since we can't say this about science, anything scientific is actually copyrightable because, if it can never be certain, it isn't fact, it's an opinion, and an opinion is nothing more than an expression. Therefore, no matter how many times my framework – in full or in part – *appears* to be right, by the logic of scientists

everywhere for centuries, there's always the possibility that my work *can* be undone, regardless of how low the probability is, ergo, the copyright on this framework is 100% valid, and my work is protected. I may not be able to protect the directions of orbit for celestial bodies, and I may not be able to protect the fact that explosions are imbalanced, but I sure as hell can put them together and protect the theory as to why a body orbits in the direction it does. *Happy face* Last ditch effort – lawyers read my work and say that, by my logic, things in science can be certain. Too bad – that rule is part of my framework, which is protected, so fuck off.

- For the AI side of things, I am prepared for multiple angles of attack, but the fact people have argued mind-body dualities, and awareness as the definition and primary function, really lends to the case of this work as my own expression. We even have crackpot spiritualists who believe it is to do with pineal glands and chakras, and is a way for the universe to insert itself inside you like an alien probe – have fun building that framework. On most days I can't stand those folk, but, today, they are part of my salvation. Where 'consciousness' is the idea, we've already seen multiple expressions, and we *know*, even if some won't want to admit it, that the numbers of possible ways to express it are endless. Hell, someone can do a framework based on the ability to self-heal for all I care. Really and truly, any difference between animate and inanimate objects can be used to form an expression of what consciousness *may be*, and whether or not something has it. There's also the "fact" technicality here, too, so before anyone argues that I can't copyright this based on my definition, realise that you would have referred to it as **MY** definition. A definition, in the normal sense, is simply a factual expression of what something is/means, but since we can't use facts here... Oh, and until we are able to completely take apart the brain and fully verify how everything works as matters of fact and not opinion/educated guesses/reasoning, this entire framework can only ever be considered a copyright protectable expression, and, if we ever manage to, the "scientific fact" argument is raised again, and you get stuck in an endless loop of despair. Happy days.
- On a side note – if anyone suggests you attempt the "parody loophole", ignore them. If a lawyer suggests it, fire them on the spot. Again, this is me doing you a favour. You will lose, and you will have to pay damages and your own legal fees. Tell them to take your case on a "no win, no fee" basis, and see how quickly they realise that such a pursuit may not be worth it after all.
- "That means you have a monopoly! Monopolies are illegal! You lose!"

- This old chestnut again? *Sigh* A monopoly means you control the entire market for a product. Get it?
- My AI framework wouldn't give me control of the AI market. There are many types of AI available – chatbots, personal assistants, learning algorithms etc – it just so happens that what has been described here is the most capable AI product. Owning and controlling the most capable product in a market does not a monopoly make – that's just good business.
- Can't monopolise the physical world. Can't control what the universe does. I can't be paid to make the universe behave in a specific way. Anyone is free to create their own framework for how everything is put together and create inventions based on it. Warning – it's a lot of work. Have fun.
- Finally, out of desperation, they try to rip off my work, create something based on it, and then put together some crap logic that supposedly shows they created it based on some other framework.
 - *J'accuse!* Prepare to go to court.
 - You may be wondering what would be the point of going to court if they can just state that they used methods X, Y, and Z to do whatever they achieved. The answer to that lies in how they claim they did it. It has to follow the rules and principles of whatever framework they use without using mine and violating my copyright, it cannot create any paradoxes, it has to make sense (based on the framework, at least), and the work leading up to it has to be verifiable every step of the way. Do you think a jury will buy a story of no one solving these problems for millennia, and then two frameworks appearing simultaneously which allow the same results at the same time as a matter of coincidence? Well, maybe if you pay them off first and braced yourself for the bribery and corruption lawsuit to follow, otherwise good luck and Godspeed.

Long? Yes. Stressful? For them – in case you haven't gathered by now how comfortable I am with confrontation, *I live for this shit*. See, blocking the progression of science isn't fun, nor is it my intention, and it's even less profitable, but I will absolutely choke the living-fucking-daylight out of every piece of work not worthy of existing. The world of science may not want to accept my work at first, as breaking someone's beliefs – especially at the cost of their own credibility and years of work – is never going to happen overnight. It could take years, but with AI being the dominant topic of today, this document will eventually come into play when everyone begins discussing how to control

it and what safety measures need to be implemented. It took seven years of study to even get to this stage – I am a patient man.

People will look at me and call me arrogant above all else, but let me explain something to you. It's not arrogance if what I'm saying is true, only a lack of humility, and all of this that you have read here has only been made possible due to the continued arrogance and inadequacies of scientists and philosophers throughout time, as well as their overwhelming desire to mask it using technical loopholes. I rewrote this shit when they wouldn't; I solved the problems they couldn't; I advanced the fields when they didn't; so I own this shit and they don't. Ask any judge or lawyer – even the shit ones – what the problem is with creating rules and laws that allow exceptions to be made. Ask any programmer what the problem is with installing backdoors in software. The answers will be the same – regardless of the intention behind the creation of these things, the one thing they always enable is motivated, unscrupulous individuals to come along and exploit these flaws for their own personal gain, and that right there is a life lesson to everyone. So, before anyone in the relative fields of science gets their panties in a bunch and decides to get pissed off at me, they need to look in the mirror and realise that they are the architects of their own destruction, and I am merely the long overdue executioner.

The funny thing is that I don't even care about science as much as it may seem, but my intellectual credibility and reputation? That's a different story entirely. So, when it comes to me and the current world of science, we can either go to war, or this can be a hostile takeover for the benefit of society and the field, but they will lose – in spectacular fashion – no matter which path they choose.

Last but not least, some special mentions, because I did promise certain opinionated people that I our words were not finished:

- Nitay Arcusin – *Algorithm Developer at Mobileye; Master's Degree in Mathematics from the Israel Institute of Technology;*
- Walid Saba – *Principal AI Scientist at Nevi.ai; PhD in Computer Science from Carleton University;*
- Esref Yaylagan – *Turbine Structures Engineer at Parametric Solutions; Master's Degree in Structural Engineering from Dokuz Eylül University;*
- Virginia Corral – *Software Change Specialist for AutoZone; University Professor in AI; Master's Degree in Automation;*
- Jean-Philippe de Lespinay – *I really have no idea what he does or has accomplished;*
- John Brown – *Solution Developer and Managing Partner at SpotOnCreative LTD; De Montfort University Graduate; Master's Degree in Intelligent Systems with Robotics;*

- FeepingCreature – A Reddit know-it-all who seems to believe he can spot a "crank" a mile away...

See these names above. These people publicly tried to tell the world I was a fraud, pseudo-scientist, and that I had no tech company. One listed multiple reasons that "proved" I was a conman, while another blamed Google's progression in machine learning for people like me thinking we could do anything major in AI. One tried to use the word "mechatronics" as if it was supposed to instil fear in me, and went on to explain how I'm missing the point of robotics and the importance of hardware – bear in mind, I had already filed the last relevant patent almost a year before this particular set of comments. None could argue against the logic in the first preview, and some didn't even read it to see if it had any merit before deciding to weigh in, which was evidenced by the fact that they ended up arguing the same points that I had already made. You know, since I don't have any fancy degrees, don't work for any major research institution or a private company, and I am completely self-taught, how could I ever beat the rest of the world to finding the solutions to some of the biggest open problems in the world today? Someone else even went and posted a link to my Quora page to show others me speaking on being a sociopath, as if that wasn't the top Google result for my name. What would be the point in being a sociopath trolling the world of science in which you aim to build a career? How would being another fraud help? Scepticism in the light of what was claimed was fine, but actively trying to derail someone's progression is not. I warned these people that I would make sure to address them when the time was right, and I'm nothing if not a man of my word.

By the way, I'm still looking for the contributions to any of these fields that any of them have made...

We're not even in the same league. It's very dangerous to assume someone like me can't do something, and even more dangerous is making someone like me aware of said assumption, but the real danger is trying to block my path. Now these people are going feel like fucking idiots. This brings on a feeling of ecstasy (my value table is all fucked up). This time, they should see this as a warning shot. One may be able to hide their identity on Reddit, but LinkedIn is not so anonymous. I'm not a nice guy when crossed or underestimated, and I have no problem moving through companies and careers like a hurricane in a coastal city, with absolutely no regard for their well-being.

This document has served many a purpose, so let it serve one more – as my introduction. If there's anything anybody really needs to understand about me, it's the following:

- Sociopath. High Functioning. Generally non-threatening. Don't feel the need to hide it because your opinion means nothing. You ain't gotta like me – I love me. Read my Quora profile for detailed specifics.

- Nope, no criminal record. I didn't find acquiring one to be conducive to my life plan.
- Don't party. Hate crowds. Love city life. I keep to myself. Try to avoid people as much as possible. I go out of my way to avoid unnecessary interaction.
- I don't drink. Used to. Stopped being exciting. I don't do drugs. Never have. Never been enticing. Clear head and all that. No, "not even weed".
- In everyday life, people have never realised I was a sociopath. I don't walk around with the attitude you've witnessed here. I'm not the type to be rude to waiters or staff. I don't start trouble unnecessarily. Why? No threat. No competition. No game. No gain. Unless seriously provoked, it would be pointless. I'm soft-spoken and avoid interaction whenever possible purely because I don't wish to deal with people, so I can easily come across as timid. None of the people who have ever met me in regards to my work would have described me as you see me now. Oh, what lies beneath...
- We are said to be compulsive liars, but that's not precise. We are deceivers, and, while all lies are deceptions, not all deceptions are lies. When I do decide to answer someone, I'm brutally honest because I generally don't care what they want to reply with. People won't always like what I have to say, but at least they know it will be the truth. I never lie to myself. That's a recipe for disaster and self-destruction.
- I'm nonchalant in most aspects of life, but when it comes to my intellectual work, I take things very seriously. I take great care in crafting masterpieces, and I will let the ego flair unrepentantly. I don't even try to control it. If anyone dare challenge it, they better be right because I become destructive to those in my path. Don't get me wrong, I love intellectual competition of this calibre – it's one of the most exhilarating things I can imagine – but if someone wishes to destroy my work, they should be given a fair chance to, and I find it only fair to destroy them, should they fail.
- I've always been highly intellectual, but since the age of 21, my ability to learn has increased exponentially. I can't explain why, but I guess that's the point where I really saw an intellectual challenge and actually started using my brain. In primary school, I was of the top three smartest in the year – the other two being my best friends at the time, and the only time this changed was when we all skipped year 5 and went straight to year 6. In secondary school I dominated, but the downturn came when I got to year 10, got bored of it all, and just wanted to get it over with. Same attitude continued into college until I dropped out two months into my second year because the fun from the first year did not carry over, and, for the next 3 years or so, I partied my heart out. At 21, however, I started studying system architecture. At 24, I accepted a challenge to design Skynet, and started looking into AI. At 27, I began physics. I'm 28 now, and, as you can judge by this document, I've been able to

complete an amount of work that would have taken multiple generations of scientists, philosophers, engineers, and technologists centuries to achieve – the contents of this document only cover the last 4 years of my learning, and I taught myself everything. My one true aim is to be the smartest in whatever environment I find myself in, so when I was put on the world stage, it was time to perform. Die or do better applies to me, too.

- A few people have heard of my work and thought of me as altruistic because of how certain aspects of it could play out to benefit mankind. This is, in fact, incredibly false. I aim to solve problems that no one else in the world can solve, and if more than a few other people – I'm talking ten on earth – even have the potential of possibly being able to solve it, I'm not interested. Whatever problems I do solve, the benefits that come with it are just collateral. I'm not trying to save the world; I'm just trying to make it a more awesome place in which to live.
- I am ruthless, egotistical, menacing, and maniacal, as you have probably gathered already, but I'm not a bully. I don't like bullies. No one targeted here is an innocent victim – they all played an active role in the destruction of science. I don't care how significant their role may have been. Once you side with a team, you get taken out with them.
- As for everyone else, I generally do not concern myself with people who or things which do not concern me.
- I do believe, however, that children should be protected at all costs. They should not be made to pay for the transgressions of adults, especially psychologically. People end up playing mental disorder roulette with infant minds – it's fucking ridiculous. I never hope to cause a child any direct harm. This is one of maybe three or so things about me that is actually and genuinely humane.
- Self control is paramount for the perception of normality, so my nature – for the most part – doesn't present with most people.
 - Those who I consider "on my team" – friends, employees, associates, partners etc – don't see the peaks of my behaviour under normal circumstances. At the end of the day, it doesn't make any logical sense to harm the people who are helping to move you forward, and you really don't want to be the guy known for fucking over his own team, but that doesn't mean I'm going to be the nice guy. I'm not a nice guy. I'll be as quick to praise you for achievements as I will be to scold you for failures. If you are yet to succeed, then you are still working on it, but if you quit and give up, *you* are the failure. The only thing that irks me more is a person that doesn't want to reach the top of their chosen industry or field. Even if you're a cleaner, you should want to be the best cleaner out there. I understand that such lofty ambition isn't for

everyone, but my brain can't compute it. See, if there's one thing I've learnt about myself regarding relationships, it's that I cannot tolerate complacency in the slightest. At some point, I'll just snap. I have a habit of trying to drive people forward; pushing them to do more; even against their will and to the detriment of the relationship – I don't even care. I'll push that cleaner to start a cleaning company, and then push them to expand it. I'm the guy that will kick you off a cliff and expect you to learn to fly before you become a pretty blood and bone abstract piece on a gravel canvas. If you end up taking the art route, I'll see it as your fault and write it off – hey, I tried to make you the best version of you, and you didn't want it. Guess it wasn't meant to be. My best friend has said to me on numerous occasions that he wonders why anyone ever even wants to be friends with me. I laugh. Personally, I don't see myself as a bad person *per se*, but as a "necessary evil".

- As for strangers, I'm generally just indifferent.
- No nonsense. No games. Hate small talk. You don't care how I am. Get to the meat of the conversation. Be efficient. Make us both happy. After our first ever introduction, I will not be offended if none of our conversations ever actually start with hello or end with goodbye.
- Hate slow decision makers. I always just think that, if it's taking such a length of time to make a decision, a person is either stalling, playing games, or really doesn't want it as much as they may think. Whatever the case, I'm not hanging around.
- I generally live life by my own rules and what the law allows me to get away with, and a golden one is to show loyalty to those who are loyal to me, but there's a darker side to this rule. There's a quote I heard that was attributed to Putin by a Russian journalist by the name of Alexei Venediktov. I don't know if Putin actually said it, but it's a perfect summation: *"With the enemies, I can always work things out, but I show the traitors no mercy."* There's no better fuel in life than the one created from the desire for revenge.
- The point above is what I believe to be one of the single greatest traits about this "personality disorder" – the willingness to do what others won't, regardless of the lengths one must go to in order to do it.
- Due to this side of my personality, there will always be a large majority of people who do not like me – this is fine. I have friends who have, for many years, accepted who I am and how I am. I don't seek new personal friends. You don't need to be friends to do good business, and anyone good at business knows you don't need to be friends. It only needs to be mutually beneficial, with no one person feeling as though they are being short-changed. Good relationships are a necessity; friendship is a bonus.

- Do I think I'm the smartest person in the world? Logically? No, as it's impossible to tell. Modestly? I'd say top 3. Honestly? Yes. *Ever*. Modern day Renaissance man. I don't like the term "polymath" – I see too many people using it simply because they take interest and have knowledge of multiple fields, yet do not actually contribute to one in a way that pushes the field and the world forward, let alone them all. People whose names are barely known outside their own households – it's ridiculous. Jacks of all trades, masters of sweet FA.
- *"The hubris of this motherfucker!"* I know, man, I know, but I earned it, and I'm not sorry in the slightest. When someone else publishes a document that provides the technology for the foreseeable future, and manages to take down the supposed "smartest people to ever live" in their fields – *and* in record time – they can ooze all the hubris they like, too, and no one can tell them anything.
- Why shouldn't I be so confident? Is it to make others feel less inadequate? That's not my business. I mind my business. They need to mind their business and deal with their own problems without involving me. I think that's rather rude of them, dragging me into their personal affairs.
- In spite of all this, I don't think I know everything, I do know my limits, and I know when and where other people are necessary to get shit done. I wouldn't try to build all of these inventions myself because I know I can't. The man who thinks he can go it alone is the finest of fools. I don't, however, like to involve people in my initial planning stages. I do it faster and better alone. Horses, camels, and committees spring to mind.
- When I'm not involved in work or competition in some way, I really don't care about my intellect. I'm not the guy who lets everyone, in every conversation, know how smart he is. I mostly just listen and give appropriate responses. On a normal working day, about 95% percent of the time I'm supposed to be using to work is spent feasting on television shows and video games. There were days when I wrote nothing more than a single paragraph.
- True Blue Tory all the way. I also voted for Brexit.
- Socialism and the associated left-wing liberal political idealism is the most destructive way of thinking imaginable.
- I may not be a liberal, but I am liberal with certain things. For example:
 - I support female equality – not because I'm a feminist, but because I don't have any logical reason to oppose it. I don't see why, in this day and age, they should be seen as simply the companion of man. They are more than capable of fending for themselves, so let them. On the other hand, "feminazis" can fucking blow me. I don't support the picking and choosing of when something should be equal, so they have to campaign for and accept equality in every single aspect of life – divorce court,

custody rights, relationship contribution, conviction sentencing, abuse and victimization, abortion, employment, deployment, ownership, education, attire, the price of club entry, so on and so forth – or I don't want to hear it because I've never heard anyone tell a judge they're receiving too large a portion in a divorce settlement, and that it needs to be more balanced.

- LGBT rights will always have my support – what anyone does in their love life or with their genitals that doesn't concern me doesn't affect my life whatsoever, so if they aren't harming anyone, nor doing anything illegal, I don't care to restrict them – but I will never support the idea of more than two genders until someone shows me a third type of genital and the matching chromosomes. Science can't be overwritten by social constructs, no matter what one's brain wishes to believe, so unless someone has DPD, I will never refer to any single individual as a "they", and I couldn't give two fucks about the PC bullshit being force fed to people nowadays. I'll puke that shit up after every spoonful.
- Immigration? Absolutely acceptable – everyone knows the tech industry would be lost without it. Open door policy? The most fucking retarded thing a leader could approve in the hope of gaining political points... and the most spectacular thing to watch backfire.
- I absolutely, unequivocally, and irrevocably do not give a shit about religion, veganism, spirituality, or anybody's chakras.

When I was of a single digit age, life dealt me a new hand, and between then and now, I learnt to play it – *well*. I will never hide who, what, or how I am – keeping up such a charade is way too much effort. I have my demons – we all do – but I have accepted and live harmoniously with mine.

I'm not one to really listen to life advice (at all), but there was a quote by Mark Cuban that rings true:

It's not about money or connections. It's the willingness to outwork and outlearn everyone. And if it fails, you learn from what happened and do a better job next time.

I'm not so chipper, so here's my version:

You don't need a degree, rich parents, great connections, or amazing luck. All you need – all you really need – in life is enough pettiness to be willing to go so far out of your way to destroy your opposition and the naysayers that it becomes a delightful experience from which everybody else learns a lesson.

My opposition didn't want to see me as a threat, so I took it beyond necessary and became the instrument of their destruction. The people I've described – don't be these people. Don't listen to these people. Be the pigeon in flight...

Take aim and shit on these people.

A DEGREE OF DIFFICULTY

So, how many PhDs do you think this is worth?

Not bad for a UK college dropout, ey?

Autodidact in everything from design to science to law, with the help of Wikipedia and Google.

Ah, who needs a university degree in the age of the internet, anyway?

Still, I don't like the PhD system, because that 'Ph' is such a dirty cop out.

Standing for "Philosophy", it means a candidate doesn't have to prove their work, and only come out with an original way to sound smart.

The PhD should be scrapped for a degree awarded only when a person actually proves something, because submitting work that sounds smart but is utterly and completely wrong in the end isn't a contribution to a field, and earning a PhD would make someone a lot more credible than it does now.

Alas, how else are they to make these pretty little graduates feel special if, to earn the highest degree, they actually have to, you know, prove their work and their worth.

There would also be so few PhD recipients globally that the program would be scrapped, which only goes to show exactly how useless it actually is anyway.

This is why education should be free. At least if you find out they've been teaching you nonsense for years, you can say you got your money's worth.

Besides, "Doctor" of philosophy? Really? Unless you have a medical degree and do something involving poking around with a living body, fuck right off with the pretentious title.

It's so offensive to real doctors.

If you're working on a PhD right now in any field relative to this paper, just quit. Throw away your dissertation. No one cares anymore because I've just proven that having one means sweet fuck all.

Save your time and money. Just go get your hands dirty in the field. You'll be better off.

If you feel the need to get a degree, go for a Masters just to show you have above average competence in a field, and then just venture out into the real world. Stop incurring unnecessary debt in a desperate attempt to impress because those motherfuckers who spent the four years it took

you to acquire it – if you even do – actually building and deploying products, and working on projects, are going to beat you to the job anyway. Shit, at the current pace of technological advancement, a robot will have your job in that time.

I'm not actually trying to shit on people with PhDs right now, believe it or not, but they really need to understand exactly how irrelevant that piece of paper is, and that it really doesn't mean what the world would have you believe it does. We are an era ahead of such times now.

GREAT MINDS...

So... Do you believe me now?

Less than 3 years to crack consciousness and AI.

4 months to destroy classic physics.

12 months to dominate Quantum Mechanics.

Under 1 hour to get you to deep space and give you quantum encryption (each).

All achieved singlehandedly within a period of around 47 months.

Best Theoretical Physicist Ever? Moi.

If you believed Einstein and Newton were the best physicists ever, I am axiomatically better.

Father of the... er... Unified Field of Physics? Call me daddy.

There can only be one physics. No classic, no quantum, just 'Real World Physics'. No fucking maths equations and objects that only exist and work on paper. No one figured out how to make the two live in harmony – not your Schrodingers, von Neumanns, Plancks, Heisenbergs, Hawkings, Einsteins, Newtons, Bohrs, Feynmans, Maxwells... No one. In fact, my framework is the only complete framework in existence.

King of Consciousness? Crown.

Sorry, Tononi, but IIT has always been a pile of shit, and the moment you started talking about degrees of consciousness in tables and toasters, you should have been written off as an absolute fucking nutcase.

Father of True AI? At your service.

No one else's work even comes close to what I've disclosed here.

Greatest Inventor Ever?

Probably Tesla, and he can keep that for now. Maybe when conscious machines are setting up colonies on planets in deep space using hyperbit devices and LDEs I'll be granted that crown.

Master of humility? If there was ever a truly worthy "LOL" moment...

Congratulations to everyone who doubted me or had some negative shit to say. The world now knows what a true great mind actually looks like, and has seen within this document only a fraction of the true extent of what one is capable of.

Your moonshots are my to-do list.

In the words of Jay Z:

And as for the critics, tell me I don't get it

Everybody can tell you how to do it – they never did it!

I think of the people who tell me my work can't be right.

And then tell me to get peer reviewed.

Which implies they are telling me I'm wrong...

Without actually being smart enough to judge my work themselves...

And therefore wait on "experts" to tell them what to believe.

Gotta love the audacity of humanity.

I gotta find something else to do in my spare time while I get the company up and running.

Hm. Maybe I'll take on P versus Np. Study chemistry and blow up the world.

Or get a girlfriend. Pretty face just going to waste.

I do make myself laugh sometimes.

- P.W.N.E.D

On a final note...

With such technological advances...

Happening so quickly... and so casually...

One day... someone... or something... somewhere...

Is going to ask the only question that will ever really matter...

Who is the God now... and who is the Machine...?