Thermal energy Vs. Gravitational pull

A brief history of scales

By Roger M. Klang

Thermal energy
Vs.
Gravitational pull

Thermal energy Vs. Gravitational pull

I am sorry, have I disproved Gödel's incompleteness theorem?

A 5,000 year old murder mystery

Climatology

Evolution

The Human brain

Economics

Residuum

Preface part 1

Isaac Newton lived in a time when the Universe was considered static and constant by scientists. There was no beginning and no end, and the Universe certainly didn't expand. So did Albert Einstein do at the time when he worked out his famous theory of Relativity. For most of the time when I worked on this part of my book, I thought that I had rebutted part of Albert's thesis. But as I reached the end of my authoring, I concluded that Albert was right about almost everything. My thesis is just a completion of Albert's thesis. Albert figured out God's blueprints for the universe, but I figured out the limits of the building blocks' solidity and the geometry behind the universe. So, Albert deserves equal credit for the completed work.

This thesis is not a TOE! What is? But I can lead you in proof in almost everything which together constitutes a solid ground for my theory. There is one thing that my [And Albert's] theory cannot explain. But it is not in the field of astro-physics. It is concerning my assertion that there is a maximum speed which amounts to 3.54 fifths of the speed of light for any object in the universe, because you the reader and I both know why this sounds crazy. The LHC can accelerate particles to 99.9999991 percent of the speed of light. There are Oh My God particles with mass in the universe that have a velocity of 99.99999999999999999951 percent of the speed of light. I don't have an absolute explanation for how this can be, if and only if there is a maximum velocity of 3.54 fifths of the speed of light for an object. But a particle is not an object. Remember that no one has ever recorded any object traveling at a velocity close to the speed of light, not even OUMUAMUA, the object from another stellar system. Even matter falling into a black hole is estimated to have a speed of "only" half the speed of light, or slightly above half the speed of light. I cannot supply you with an explanation for how there can be particles with mass at a velocity of this magnitude unless it is in orbital motion. Take a moment to consider the Terrell-Penrose effect. [The Terrell–Penrose effect is the idea of the visual distortion that a passing body traveling near the speed of light would appear to undergo.] My question to the scientific community is, what is the common denominator for multiple different incoming and outgoing objects traveling at different and extreme velocities, regarding their shapes as seen by an outside idle standing observer? If Albert Einstein was right about there not being any absolute speed scale for objects, how can they all differ in their shapes for an observer? Ponder upon that! And

wouldn't the universe be denser the farther the distance in every direction we look with JWST, with the currently accepted theory about the age of the universe and how the universe is constituted and how space is expanding?

What did Albert Einstein get right with his theory of relativity then? Well, obviously the whole thing about gravity and space. But how does that support the other claim he made in his theory of Relativity? His theory is still not proven to be correct to one hundred percent. Yes, there is relative time perception, but he has no experimental proof that there is no absolute speed on a speed scale for any object. He has no experimental proof about the relativity part for moving objects, in the special and general theory of Relativity. And why isn't it yet experimentally proven correct but is - constantly disproven? You won't have to read far to realize that there is no way to figure out how the universe can move in the opposite direction of any small object, making velocity relative, as according to Einstein's theory. I will at the end of this long chapter of the book give some suggestions of how to experimentally verify or falsify my theory that there is an actual absolute speed scale and speed limit for objects in the universe. But I will also, without a doubt, if you do your best to understand my thesis about there being an absolute speed scale/limit for objects and not just for light and other electromagnetic radiation, prove theoretically to you that this assertion is true. Sometimes pure logic, if it is clear and simple enough, is sufficient as proof of a theory.

Please falsify my theory! Can you see to it that somebody measures if the speed of matter falling into a spinning black hole differs from the speed of other matter falling into another spinning black hole not of the same mass but at a proper distance from the event horizon? That would be most helpful. I contend that plasma can only orbit the black hole in the direction of the black hole spin. When mass gets so close to the black hole that it breaks up and transforms into plasma it gets caught in a one-way direction around the event horizon. It is a rule of law.

<div align="right">The author</div>

First of all, let us set up the stipulations

1. Time moves faster on a satellite than on Earth.
2. Time moves slower on a flying aircraft than on Earth.
3. Time moves faster on the top of a mountain than at its base.
4. Time moves slower closer to a massive object like the Earth.

The above four stipulations cause a lot of confusion among scientists. And it should. Some scientists say that time moves slower on a satellite than on Earth and some say the opposite. Time moves *faster* on the satellite than on Earth, period. A satellite has a velocity of about 25,000 km per hour. An aircraft closer to Earth travels at a speed of a mere 800 km per hour at about mountain top altitude, but the aircraft is aging relatively slower. At the top of a mountain, time moves faster than down in the lowlands. Scientists say that this is due to the longer distance from the center of the Earth. That is true. But they also say that this is why the satellite is aging faster and not slower than an idle viewer down on the Earth. Sure, it probably affects the total aging to a degree, but at the same time the satellite has a relatively fast velocity, it's not stuck on a pole in the ground. So, the satellite should, according to Einstein's original theory of Relativity, actually age relatively slower than on Earth, just like the flying aircraft does. If time moves faster on top of a mountain, why doesn't time move faster onboard an aircraft flying at mountain top level? Especially since the aircraft has got considerably lower speed than the satellite in space, which does age faster. I can explain why it doesn't, in a way that dispels all the confusion.

The Theory:

- Is compliant with fact

- Explains connections between facts (incl. anomalies)

- Is contradiction-free

- Is bold (according to Popper)

- Is testable (verifiable *or* falsifiable)

- Is not *ad hoc*

- Is simple ("beautiful")

Stipulation: An accelerating, converting mass to directed energy, space capsule's traveler, stays young longer than the surrounding world. (Roger's note; if you want to know how and why energy applies, I suggest that you read my book)

Stipulation: The non-directed energy outside idle standing observers age faster in comparison with a fast-moving traveler. (Roger's note; see note above)

For this intent, a slow moving outside observer does not travel forward in time in comparison to the traveler in the space capsule. It is the spacecraft and the traveler that are propelled by an extra directed thermal force of energy which makes the traveler age slower than the outside observer. The outside slower moving observer has the same amount of directed energy and mass as before, therefore he (and much of the universe) is not aging differently than before, like the accelerating traveler in the energy-converting moving spacecraft is.

Someone else, sadly (or not), is going to get the honor of figuring out the correct and full equation involving both mass, its velocity, and thermal energy, after E equals. But it might equate the formula $E=qmc^2$ where q is the thermal energy. Electro-magnetism is generated energy too. E should be a number for all the above, including electro-magnetism, or they are separate forms of induced but interchangeable energy since the beginning of the universe.
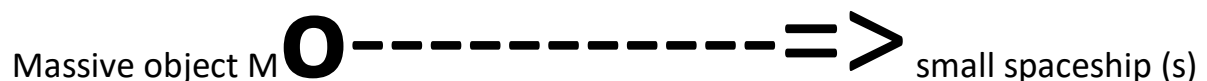
Massive object M **O-----------=>** small spaceship (s)

M does not travel forward in time compared to (s).......Time slows down for (s)
M does not travel backwards in time compared to (s).   due to energy convers.
M has the same amount of energy……………………….Added directed
                                                      thermal energy for (s).
M is aging at a certain rate.…………………………………………(s) is aging slower
                                                      than M. This does not
                                                      apply to orbital
                                                      movement.

Stipulation: The traveler, as he is accelerating to near lightspeed, experiences time like a person who is near the event horizon of a black hole. The traveler and the other person near the event horizon of a black hole can wave at each other at the same rate and they experience each other's movements in corresponding real time.

TIME TRAVELING IS PROVENLY POSSIBLE BOTH FORWARD AND BACKWARDS IN TIME

Time is relative but the timeline is always the same and it is going forward.

Let's consider a couple of twins. Twin number 1 travels away from Earth in a spaceship in a turn around the galaxy at 150,000 km per second. Twin number 2 is the control object who stays on Earth. Control twin # 2 will age at the same rate as everyone else on Earth. Twin # 1 returns to Earth after X number of days. Twin # 1 is going to be dead when he returns to Earth, and control twin # 2 would be dead since an even longer time. But we disregard that in this hypothesis because this little annoying fact has no bearing on the logic of the example. The reason why twin # 1 would be so much younger after traveling at 150,000 km per second for X number of years in relation to control twin # 2 is explained by Einstein's special theory of Relativity. Twin # 1 has thus traveled back in time in the eyes of his "older" brother. But it is impossible for twin # 1 to travel backwards in time to the time for his departure or the time before he left. It is physically impossible.

Why shouldn't it then be considered that control twin # 2 on Earth has traveled back in time instead of twin # 1 in the spaceship? Isn't it equally logical to think that time has gone slower for control twin # 2 when his brother on the spaceship proves to be younger? There is a big obstacle for that approach. Namely, it is the spaceship that is a time capsule, not the Earth and the rest of the universe. The spaceship does not stand still while the Earth and the rest of the universe move away from the spaceship at 150,000 km/s. Consequently, it is twin # 1 in the spaceship that travels back in time, if you want to put it like that, in his own little time capsule. He gets younger in relation to the outside world. That's how you must look at it. The keyword here is "time-capsule".

Traveling in time, however, has its limitations because one is always aging in relation to one's surroundings no matter what speed one is traveling at within the framework of the physical laws. Control twin # 2 would find an older twin

brother at the return of twin # 1 than he remembers. As long as twin # 1 has not traveled at the full speed of light, which is impossible. Time is relative to both objects, but the timeline is always the same and time is moving forward. Time travel is certainly possible because time is relative within the laws of physics, according to Einstein's theory of Relativity.

The larger objects that travel backwards in time (read; slower forwards in time than the surroundings), the more energy is required both to accelerate and to curve its path so that you can return to the starting point. A black hole and a course near the black hole would be required to curve a larger object's course, essentially traveling at 150,000 km per second.

The Large Hadron Collider can bend the particle course and send particles back in time relative to the environment. However, the particles cannot arrive at the starting point before or when sent away. Of course, in the LHC, particles purposely don't collide at the same place from where they were sent away, but that is beside the point.

The theory of Relativity does not allow time travel that would allow two versions of the same object to exist simultaneously. The theory of Relativity does not allow a younger and an older object of the same thing to coexist.

To travel ahead in time, a time traveler only needs to settle on a less massive planet than Earth further out in the solar system. He will die if he dies a natural death, earlier than if he had remained on Earth, but the difference in life length will be negligible. He will not be able to meet his future self on arrival, other than in the mirror. What a time traveler on the other hand cannot do, is to travel forward in time in relation to a control twin on Earth, by projecting from and leaving Earth's gravitational field in any direction. For if he does, he will de facto make a time travel back in time and so will he who leaves Earth, with the help of thermal energy, to settle on a less massive planet further out in the solar system. You will understand why after reading this part of the book to the end.

When I say in my book that an object has a velocity of, for example 150k, it is just an arbitrary speed. It doesn't matter that the reader won't know the exact speed, just imagine a high speed. I imagine a decent velocity of half the speed of light with the number 150k.

Image # 1.　　　　　　　Space ship route

<

150k

Space ship　　　　　　　　　　　　　　　　　　Space ship

V　　　　　Center of X Milky Way　　　　　^

180-30=150k　　　　　　　　　　　　　　180-30=150k

(2.)　　　　　　　　　　　　　　(1.)

⟩　　E=180

O

Earth, travells in 30k to the right
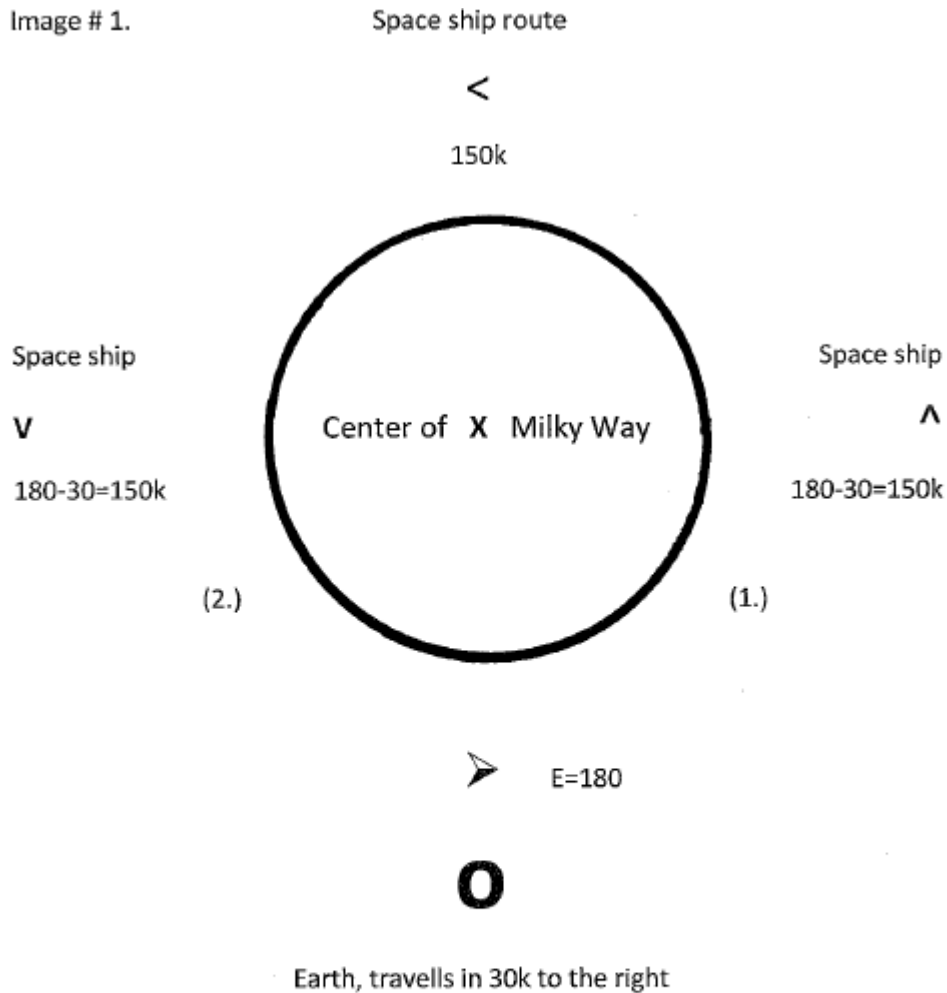
The amount of energy E = 30k+150k. To simplify understanding the amount of energy is equivalent with the sums of k, i.e. the earth's and the spaceship's total velocity as seen from an extern observer's viewpoint.

See (1.) and (2.) below and place them according to number in the image.

(1.)　　At the start of the voyage, if we ignore the acceleration time, the spaceship travels at a speed of 150k relative to Earth.

(2.)　　A time traveler needs the same amount of energy to travel from Earth, as he needs to meet the Earth on the return journey at the same speed. This means that the time traveler is aging just as slowly in relation

to the Earth's population during both the departure and the return journey.

A) In the graph above, the spaceship starts from Earth and travels to the right with an amount of energy corresponding to 180k, i.e., exactly 180E in this example (k as in velocity and E as in energy). That is 30k + 150k (equivalent to 180E as in energy) in the eyes of an outside observer. However, the speed of the spaceship relative to the speed of the Earth is 150k.

B) On the way around to the other side of the galaxy, the spaceship travels with an amount of energy equivalent to 180E in this example. However, the speed relative to Earth is the same 150k since Earth is moving away from the spaceship and the space traveler has to catch up to the Earth in its orbit around the galaxy.

Should the spaceship have started from Earth and traveled in the direction left, the same amount of energy – 180E – would be required to achieve a relative speed of 150k following departure from Earth. Problems seem to arise when the spaceship and the Earth meet as the Earth travels in the direction of the coming meeting. But that is an elusive problem, because the amount of energy needed is 180E during the departure, and on the return journey. At the moment the spaceship crashes into Earth, the same amount of energy is displayed.

$E=qmc^2$

It is the transformation of mass into directed energy which causes an accelerating body to age slower, it's not primarily the directed energy although that is a requirement as the last link in a causal chain. It is energy conversion in a short amount of time that is primary. It is the short or immediate time when energy is released, creating greater entropy in one direction, which decides how slow the accelerating spaceship ultimately is going to age as seen by an outside idle standing observer. The spaceship exhaust nozzle funnels are enabling, but not causing. There is a causal order which goes from energy-conversion of mass to thermal energy, to momentum energy, to directed energy through the nozzle.

[Time dilation so that a body age slower does not apply to orbital motion. Roger's note]

Image # 2

The fact that the speed of the Earth and the black hole equals each other out in the same direction, means that the relative speed of the spaceship vis-a-vis the Earth and the black hole invariably is 150k regardless if you are travelling to the right or to the left in the example given.

Earth   Spaceship

30k-----→   150k

O----------------------------→------------------

30k + 150k = 180k, (180E)

K = relative speed   black hole, 30k O →

Meets the Earth after the same distance

30k---------→O   ←------------------

                              ←150k

Same reference: 30k + 150k = 180k, (180E)
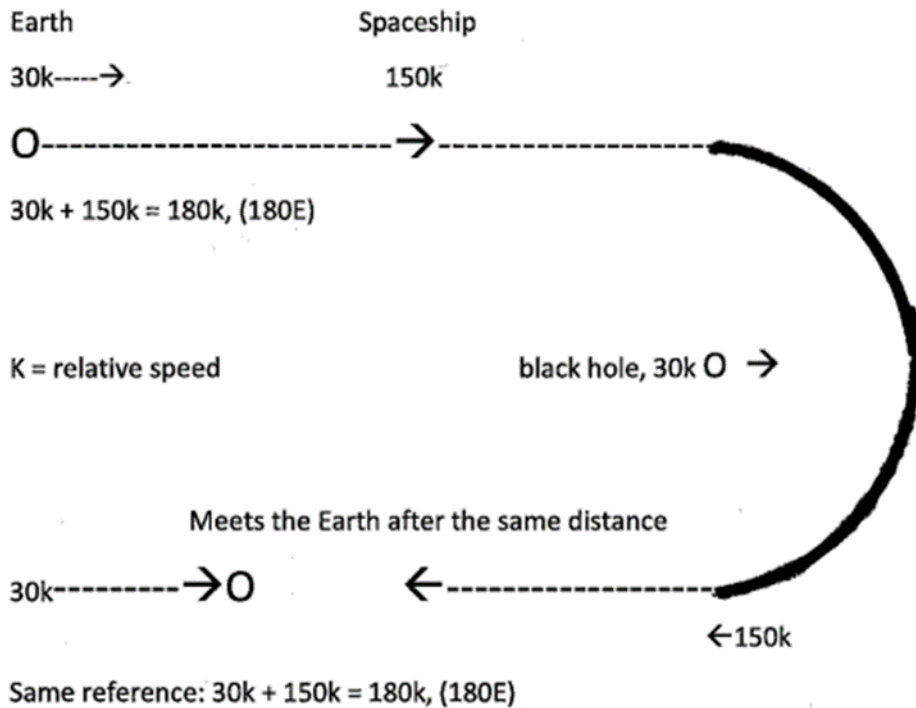
1. We disregard in one aspect the acceleration of the spaceship, when it comes to the very simple equation above.
2. The black hole in the chart above travels at the same speed and direction as the Earth.
3. For the sake of the example, the spaceship must circuit the black hole at a certain distance so that the spaceship does not accelerate. If it is even possible to do so if the spaceship shall be able to circle back in the same direction, by circuiting a singular black hole moving in a direction to the right in the example above. But the black hole mustn't necessarily be singular.
4. Theoretically speaking, had the Earth been traveling at 200k, the spaceship would not have been able to accelerate more than to <100k since the speed of light or 300k is the highest possible speed and it is reserved for light and the other electromagnetic radiation in the electromagnetic spectrum, in vacuum.

5. A time traveler in the graph above travels the same distance from Earth to the black hole as he needs to travel from the black hole to Earth on the return journey. Synchronized clocks on Earth and in the spaceship (prior to departure) show the time on Earth, and perception of time for the spaceship on the departure as well as during the return journey. On both departure and return journey the different time perceptions equal each other at a speed of 150k in comparison to that of Earth.

The Earth-bound people and the time traveler age as quickly or slowly in relation to each other during the return journey as they did in relation to each other during the departure. *It is thus the speed as such with which an object travels that determines how slowly or rapidly it ages in relation to other objects. It is not because objects move away from each other or move towards each other that makes them age differently,* but all objects are always in relation. Thus, there is an *absolute speed scale* ranging from 0 to 300,000 km/s.

Here's what a linear description looks like:

Image # 3

X moves at a speed of 30k   Y moves at 30k in the
                                                             opposite direction

X---------------------------------- > ------------------------------------< Y

Spaceship moves at 30k

1. Spaceship and X age at the same rate
2. X, spaceship and Y age at the same rate

If we can ascertain that there is an absolute speed scale and that an equation for relative aging has to do with the moving object's directed energy transformation from mass to momentum, then let us continue together. B follows on A.

Image # 4

Spaceship a) moves "upwards" at 150k

^a)

b)   Earth moves at 30k to the right ->   c)

←-----------------------------------O-----------------------------------→

Spaceship b) moves at 150k   Spaceship c) moves at 150k
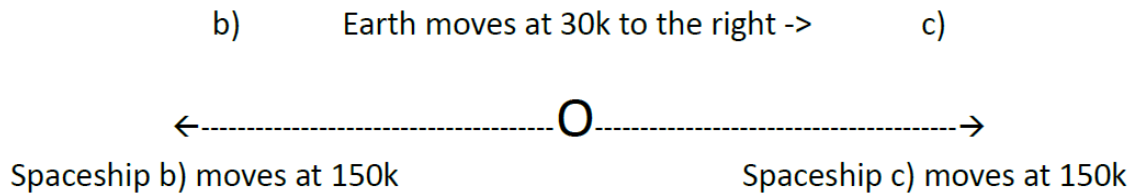
1. Spaceships a) and b) and c) in chart 4 above need exactly the same amount of thermal energy to accelerate to 150k relative to Earth.
2. It matters not in which direction the spaceship moves in a linear description as well as a non-linear description, with the same amount of energy for the spaceship's propulsion system. Relative to an observer on Earth, the speed will still be consistently equal.
3. For an observer on Earth, Spaceship a) moves upward at the same time ratio as a Spaceship b) or c) with the same amount of directed energy would move in a linear right or left direction. But for an outside observer and idle standing viewer like you it appears as if Spaceship a), with the same amount of directed energy, is dashing diagonally upwards to the right in an angle *from the point where it was ejected* and not from the future location of the Earth in its trajectory. The extra force needed to cover this extra distance at an equal time ratio corresponds to the extra force required to accelerate to 150k in linear right direction as well as linear left direction starting from an object such as Earth in linear motion.

Look at it as if you are following the frame in its motion to the right. Body a is ejected vertically in 90 degrees direction from your direction. You experience it as if body a is traveling 90 degrees vertically. Suddenly you slam on the brakes. Body a keep traveling both vertically but now also to the right. The result is, from the standstill view, that body a is dashing diagonally to the right. (See images # 5 and # 6 below.)

Image # 5

(a)   *a=a*   (a)

Ejected body's distance as seen from object

Dashing body's distance as seen by an outside idle standing observer

Not exaggerated speed of object x moving at same speed as vertical (a)

x ⟶
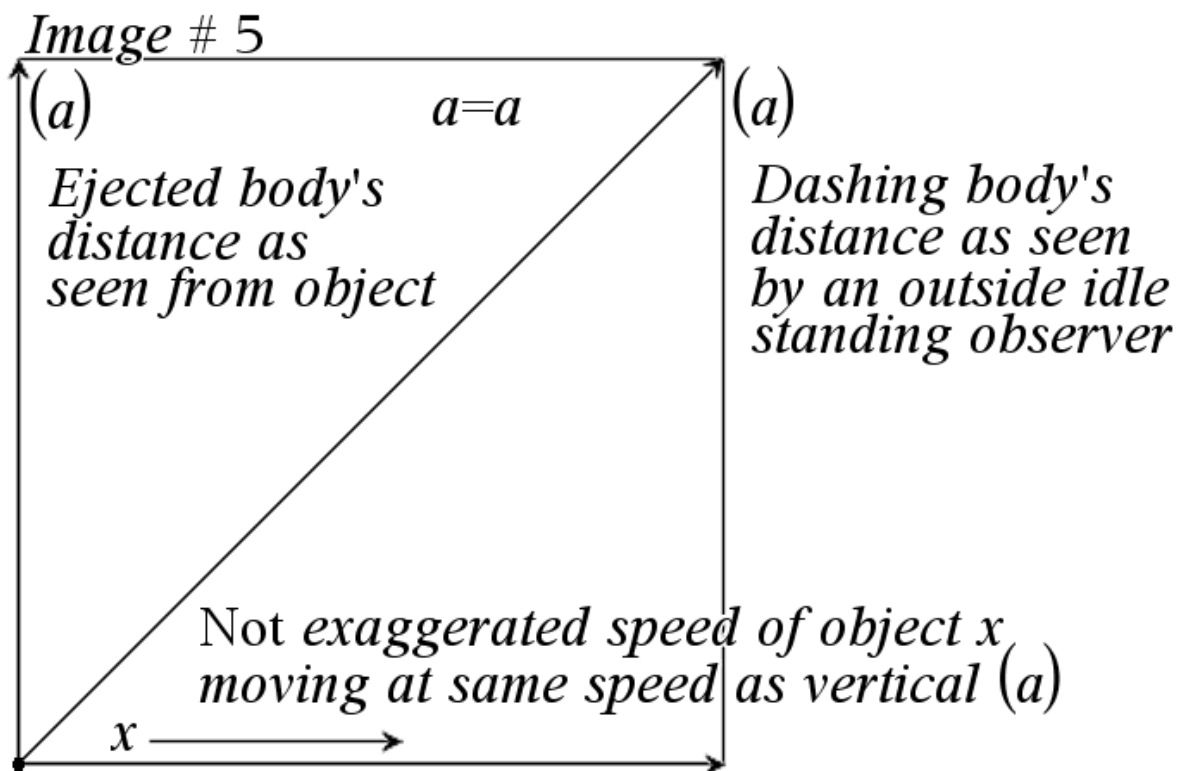
Image # 6a

Contraction of space diagonal dashing body near lightspeed as seen from an outside idle standing observer

Diagonal (a) must with necessity shorten in length since the speed of (a) cannot exceed 300,000 kilometers per second
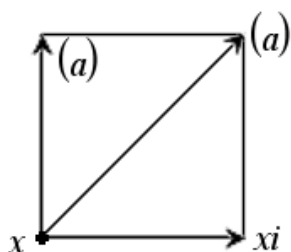
Distance x to xi equals x to vertical (a)

Near lightspeed of object x to the right

(a)   (a)

x   *xi*

No one man can grasp everything that I present in the images # 5-7d, at the same time, not even I. But if you follow the red threads correctly, you will reach the same conclusion every time. Hopefully. It has the potential to, above all, explain why the universe is accelerating at an increasing speed. I contend that dark energy is in fact a force, but it can be a very weak force. That is why we haven't

yet been able to detect this force. Most scholars in physics will agree that dark energy is a force if it exists. I think.

In image # 6a above, the mass is unequal but the speed for both vertical body (a) and object x are equally the same as seen from object x in motion. When they are equivalent, the diagonal angle and direction of a body (a), ejected from an Object X at 90 degrees from the motion direction at any speed, is always 45 degrees in an outside and idle standing observer's eye. But diagonal (a) in image # 6a, as seen by an outside idle standing observer, is dashing longer in the same amount of time. X and body (a), i.e., diagonal (a), as seen by an outside observer both shorten their distance traveled (see image # 6b), and both (a) and x should contract, as the bodies accelerate to near light speed, until they separately each shrink into a denser point in space. It is always geometrics that sets the limits in speed and distance traveled. The universe consists of at least three entities – mass, momentum, thermal energy, and the phenomenon time – and they are interconnected. There is no speed 0k and no object can reach the speed of light, but much of the range in between is possible. Only if applying the laws of geometry do we also get space. Geometry is the rack or frame for matter in the universe. Geometry is why mass contracts when approaching the speed of light.

It should be possible, I would say almost inevitable, to come up with an equation that describes the highest possible speed limit for mass in extremely fast linear motion and the amount of energy. Yes, I know $E=mc^2$, but I'm talking about a maximum allowed speed limit for a body, a mathematical law of nature. Bodies which are projected from an object near the speed of light in any direction, must from a velocity standpoint always be imagined within a geometric cube inside a geometric circular sphere in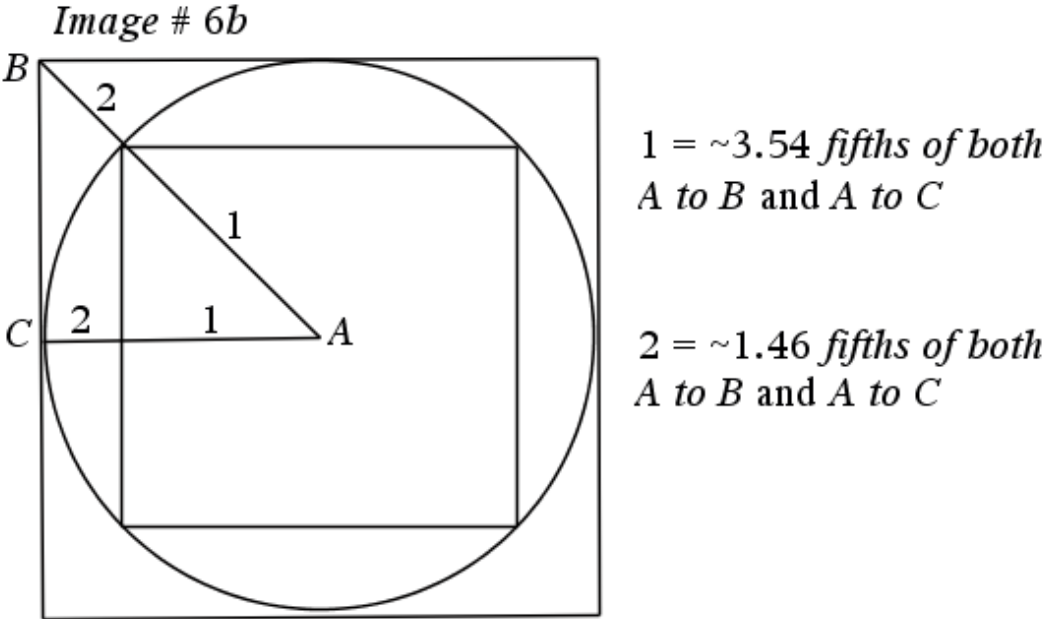side a cube (see image # 6b below). Therefore, one must calculate with π and the volume and the energy amount in the equation set. In this theory, a geometric sphere inside a square cube determines how close to the speed of light a body can at maximum travel at. It should, in a three-dimensional universe two first dimensions right-left and up-down, be the same relation as the radius of a sphere relative to an extension of the radius line to the outer cube's edge. Then you get the relationship, e.g., the radius is 3.54 fifths of the distance from the center of the cube and globe to the edge of the outer cube. Then the maximum allowed speed of a body would be 3.54 fifths of the speed of light, as seen by an outside non-moving observer who is looking at it as if he was

looking at the events taking place two-dimensionally on a map. Although, it matters not if you look at it from a two-dimensional aspect or if you look at it from a three-dimensional aspect, even when calculating with the depth perspective for three dimensions. But to make this example understandable I use a two-dimensional perspective without calculating with the depth. The volume of a globe = $V = \frac{4}{3}\pi r^3$ should therefore, in a three-dimensional universe, be part of the equation in one way or another. But how do you get the amount of energy E into the equation? I'm not a math expert. If you the math nerd desires to contribute, you can do that.

Image # 6b

1 = ~3.54 *fifths of both* A *to* B *and* A *to* C

2 = ~1.46 *fifths of both* A *to* B *and* A *to* C

A closer investigation indicates that the universe is shaped like a quarter of a circle or shaped like a hanging drop. There is a maximum speed and a minimum speed. If there is a minimum speed, nothing can be allowed to cross into the other half of the universe, because there cannot be inverted speed, a velocity below 0k, can there? "My" geometry in image # 5 and image # 6a affronts in the face of the spherical universe if mirrored in the opposite direction towards the point of origin. What do I mean by this then? Wouldn't inverted speed just be a speed in the other direction? Yes, in Einstein's universe. But not in my universe since it would in my opinion make a spherical universe an impossibility because of the speed limit for all objects. If two objects could separate in opposite directions, non-orbital, at 3.54 fifths of the speed of light each, they would have a relative speed of more than the speed of light compared to each other, and

that cannot be in my universe. Einstein never explains how that can be in his universe. It would in Einstein's universe mean that the speed of light emitted from one of the objects couldn't catch up at the speed of light with the other object. Thus, matter with mass would be able to travel at a greater speed than light. Because when I say that there is an absolute speed scale, based on good reason as shown in some of the images in this book, I really mean a speed scale like on a grading scale on a typical bathroom scale in a hospital. Either you are accelerating in one direction (of expanding space), or you are slowing down in the other direction (or you go sideways).

But if the universe is shaped like a quarter of a circle or at least shaped like a hanging drop, and the Big Bang was created from something like a speeding "bullet", then nothing should be able to penetrate beyond the point of origin. How can this be possible? The geometrical figures and conclusions in image # 5 and # 6a, however undisputable, cannot without further ado be mirror imaged towards the point of origin for the universe. For how can some object travel slower and slower towards the point of origin as there is an absolute speed scale ranging from 0k to 300,000 km/s and still the energy level increases per cubic meter? Remember, the object X in the left lower corner of the square in images # 5 and # 6a is in motion *away* from the point of origin! As I lay forth my case in this article, and I am certainly not alone in having this view about the directed energy for a body ejected from an object in motion basically being the same in any chosen direction, I mediate the idea that in the "mirror world" the diagonally dashing body (a) actually display an increasingly higher energy as it closes in to the 0k. It means that a dashing body (a) cannot transgress the 0k. That and not a significantly high velocity of the body determines the validity of "my" geometry in the mirror world. If you want to dress it in another shape, the amount of energy for dashing (a) cannot transgress that of the maximum energy in the quarter of a circle shaped Big Bang. The slower the velocity towards the point of everything's origin, the more concentrated energy is needed to sustain the mass. Just as mass cannot reach a velocity of 300,000 km/s, it also cannot slow down to 0k. Let us study some geometrical figures in the "mirror world" in images # 7a, # 7b, # 7c, and # 7d below. But what is the "mirror world"? It is just that we take an object and eject it in the direction of the origin of space. That's all there is to it. But ponder the speed scale. Closer to the point of origin we get closer to the imaginary speed 0k.

But before we go to images # 7 a to d, let us first look at images # 6c, # 6d, # 6e, # 6f, # 6g and # 6h to understand the trajectory of a body ejected from an object in motion, as seen by an outside idle standing observer.

Image # 6c
(body trajectory a–b)
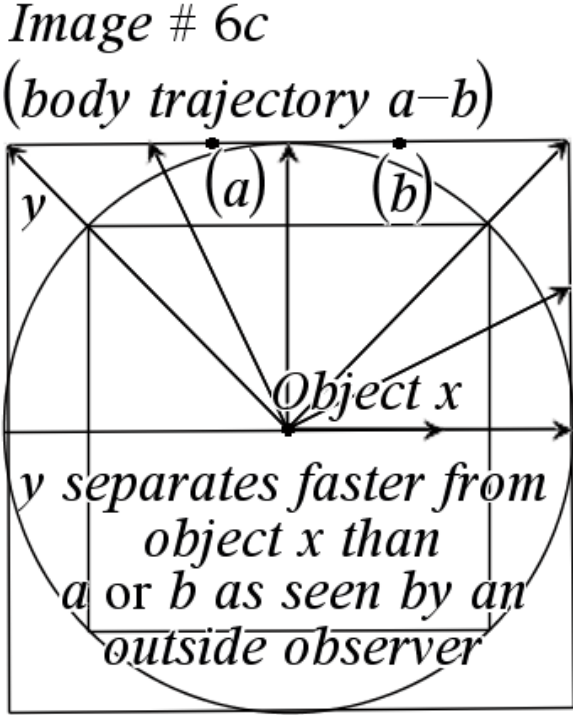
Equal energy, equal time, unequal distance and speed

Body is ejected in any direction with equal amount of energy

y separates faster from object x than a or b as seen by an outside observer

[Image # 6c is imaginary. Continue reading and don't forget to study the images # 6d to # 6h to get the complete and certain picture of bodies in motion ejected from an object in motion.] The Object x in image # 6c is moving to the right at a certain speed. The first arrow next to the letter y is perceived to move vertically by an outside idle standing observer. The second arrow from the left is perceived to land in (b) by the outside observer. If this wasn't the case, then the field (b) would cease to exist, and no one could eject anything in that direction. The upward 90 degrees arrow to the right of (a) will, if the vertical arrow has the same speed as x, dash straight 45 degrees from x to the imagined right corner as seen by an outside idle standing observer who is looking at the arrow's trajectory from the fixed perspective point where it was ejected from object x. The arrow to the right of field (a) is thus skipping the whole field of (b). The arrow (or distance) to the left of (a) in image # 6c is shortening and must compensate for its distance in left-right orientation, i.e., it gets a curved path. Enter image # 6d.

Image # 6d

Stone x

Toss

Tossed stone x as it is perceived to travel by an outside idle standing observer

x as it is perceived to travel from train
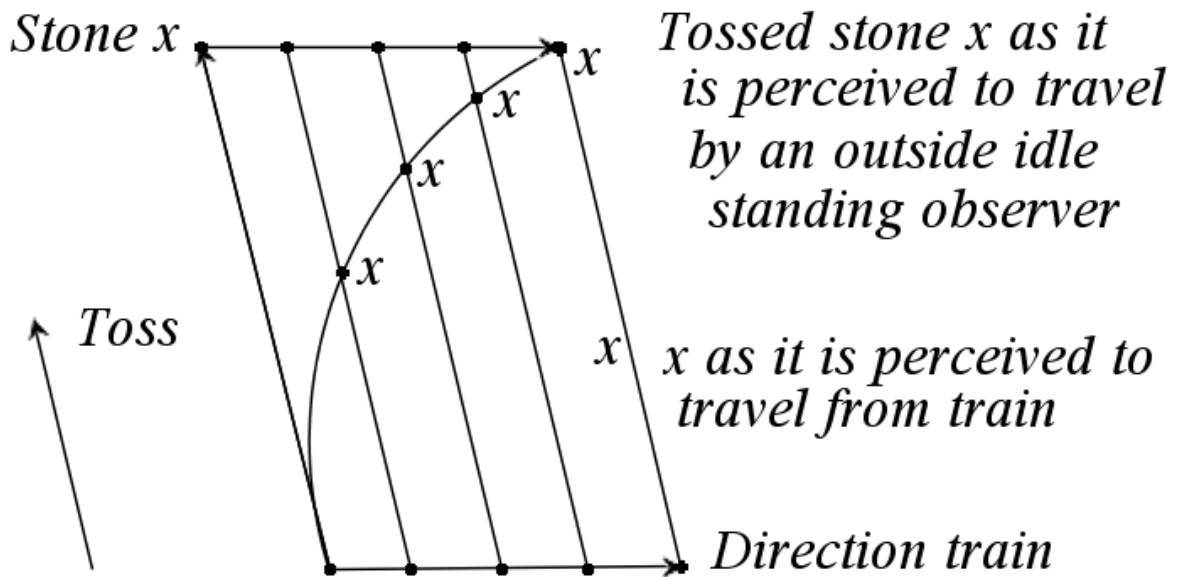
Direction train

Just think of it as if you were throwing a stone from a moving train at a velocity roughly equal to the train's speed and with a consistent amount of energy in any direction, and how it is perceived by an outside idle standing observer. The stones (a), (b) and (c) in the following image # 6e move in straight lines.

Image # 6e
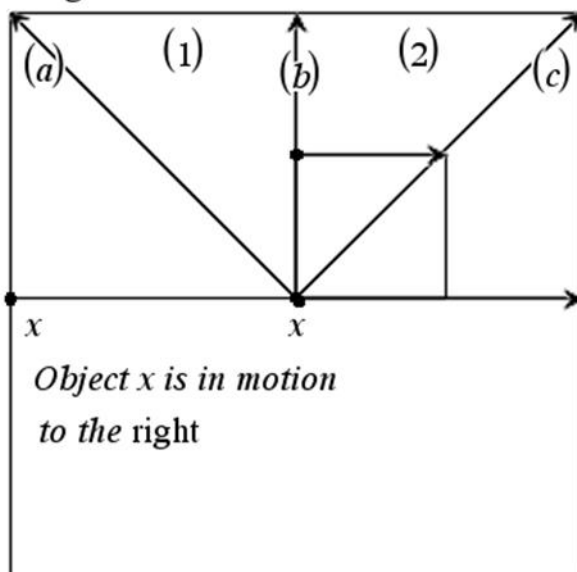
(1)   (2)

(a)   (b)   (c)

x   x

Object x is in motion to the right

(a) equals (b) as seen by an outside idle standing observer.

(b) is (c) for the same observer.

Motion of x equals those of (a, b, c)

(a, b, c) have straight trajectories whilst bodies in (1, 2) do not travel in linear trajectories for an outside idle standing observer

Where is (a) if (a) equals (b) then? (a) correlates to the object x in the above image. Enter image # 6f.

Image # 6f

Body

The body traveling 45 degrees from object x will always be 45 degrees as seen from x and only x at any time

Body

The distance x at a to x at b equals the vertical distance Body to Body

x at a   x at b

Object x oriented to the right
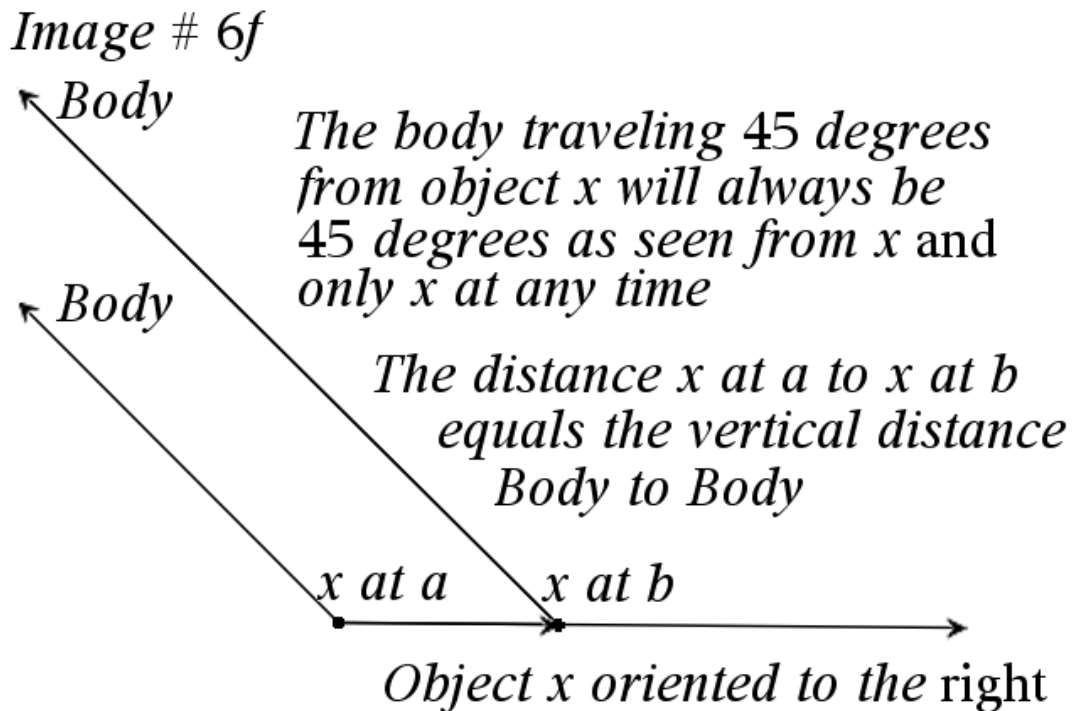
Image # 6g and image # 6h below shows body a ejected 90 degrees from object x and the trajectory direction of object x, because if it had not it would have seemed for a person residing on the moving object x as if the ejected body a would have traveled in another direction than the 90 degrees it was ejected from on object x in motion. Empirical evidence here on Earth shows that it cannot. But for the outside observer, body a is dashing at an angle to the right as seen from the spot where body a was ejected. Look at it as if you are following the frame in its motion to the right. Body a is ejected vertically in 90 degrees to your direction. You experience it as if body a is traveling 90 degrees vertically. Suddenly you slam on the brakes. Body a keep traveling both vertically but now also to the right. The result is, from the standstill view, that body a is dashing diagonally to the right.

The numbers in image # 6g and # 6h below cannot be used for the Pythagorean theorem since Time, Distance and Velocity are measured very differently. The Pythagorean theorem is $a^2+b^2=c^2$.

24

Image # 6g

Example on trajectory when *a body is ejected from object x in* 90 *degrees* and *in motion to the* right, *but with less added energy* for *body a*

$$T = \frac{D}{V}$$

a   *a in relation to x*   *a*

D=27

V=3

T=Time
D=Distance
V=Velocity

9

V=3

x at i   3   *x at ii*   *T=9*   *x at iii*
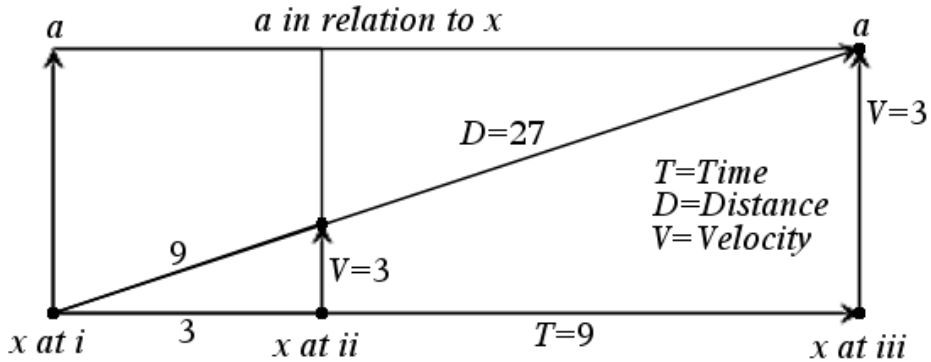
Body a is dashing diagonally to the right
for *an outside idle standing observer*

Image # 6h

a   *a*

D=27   *V=9*
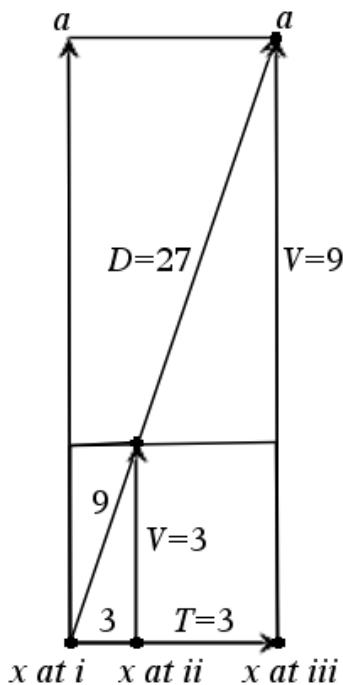
T=Time
D=Distance
V=Velocity

$$T = \frac{D}{V}$$

In this image, T is inverted with V so that T is the constant. In image # 6g, it was V that was constantly the same low number

9

V=3

Observe, this cannot be used for *Pythagoras theorem since we are dealing with three different entities — time, distance* and *Velocity*

3   *T=3*

x at i   *x at ii*   *x at iii*

Image # 6h basically shows us that x, or T in [T=D/V] can never be zero. You only must get a feeling for what geometry and therefore the universe cannot do, with this graph. That is the graph's other purpose. The higher the velocity, the longer the distance within the same amount of time according to the math lineup T=D/V.

Image # 7a

Every object or body exponentially concentrating energy within limited area until infinite energy

It is of no relevans how the squares are distributed in the theoretic triangular universe

P=Point of origin, which is impossible to reach

P
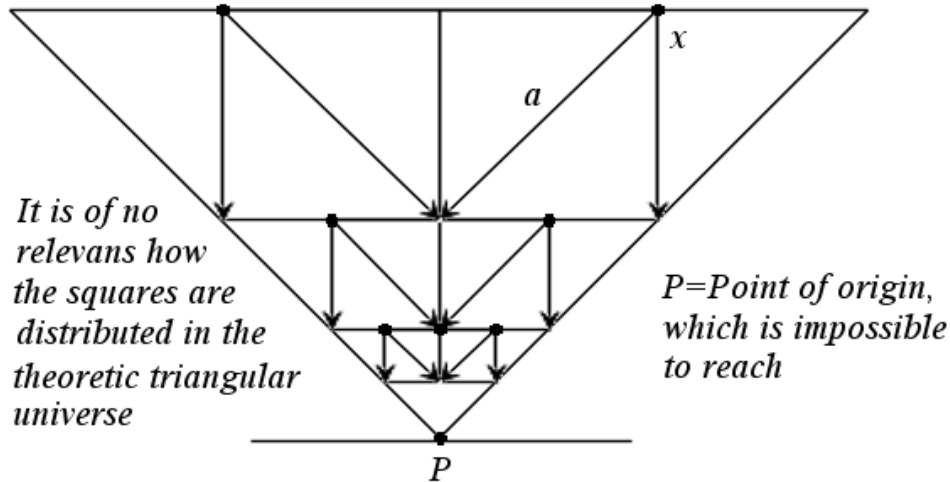
Image # 7a above doesn't quite resemble the universe and its theoretic shape. Either the universe is shaped like a quarter of a circle, or it is shaped like a hanging drop. The squares within the triangle represent "energy cubes" or energy quanta as described in the next page.

Here I am going to give a disclaimer of the generally accepted hypothesis that the universe is expanding out to eternity. There is a very simple geometric proof that the universe is finite. If the universe had not been finite but infinite, then two nearby stars at the farthest distance from the Earth (if you could say "the farthest from the Earth" in an infinite universe) seen horizontally from the Earth, would lie along exactly the same axis. Thus, triangular formations could not exist in such a universe and consequently the Pythagorean theorem would have no meaning. A theoretic triangle can never become a straight line no matter how long the base is and how short the height of the triangle is. Thus, the Pythagorean theorem makes an infinite universe impossible. Or one might say that a finite universe enables the Pythagorean theorem.

In image # 7b below we can further implicate matters and see how it is impossible to reach the point of origin with any mass within the given amounts of total directed energy. So, the velocity is always more than zero and matter

must always be located within the expanding universe, or at least within 180 degrees horizontally from the point of origin (in the image # 7a above). But for light it is another matter altogether. Light can reach anywhere in the universe, also behind the expansion direction of the universe since the expansion rate is less than 300,000 km/s.

Image # 7b
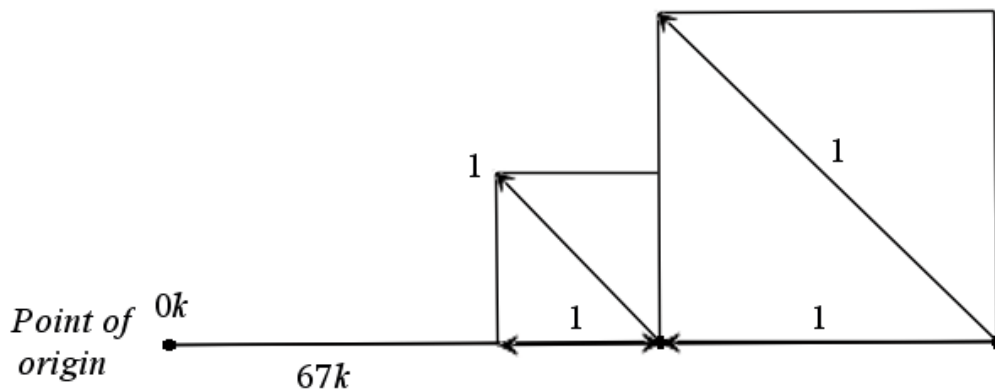
1. *Close to 0k. 67k is where you would* not
expand with the rest of the universe

67k is the imagined expansion rate of the universe at our localization in space. But further out in the expansion direction the expansion rate increases, and closer to the point of origin the expansion rate is less than it is here. That is why the universe appears to be redshifted in every direction from X point in space, but also because the universe is a quarter circle shaped like a hanging drop and vast. We see most galaxies as redshifted regardless of position in space. For 1. to go beyond the expansion rate of the universe, closer to the point of origin, we must consider the Energy required as increasing per square meter while the Velocity is decreasing or $E = \frac{M}{V}$ (see graph # 7c below). To the left of the constant in graph # 7c numbers are approaching indefinity. To the right of the constant in graph # 7d numbers are approaching 1. The expansion rate of the universe is not a static constant, but it could play a significant role. Once you get past the 67k towards the point of origin the geometry in my images gets more evident with noticeable contraction of the "energy cubes" without the loss of energy. The "energy cube" is an imagined cube with a certain amount of energy within its imagined boundaries. These cubic boundaries shrink as a body travel

towards the point of origin and contract, but never reaching a velocity of zero. How much more noticeable? It of course partly depends on how low speed the body travels at.

I didn't pursue this partial theory in images # 5 up to and including # 7d, I *inferred* it at the end of my authoring of this book. I want to make that clear. B follows on A, in a logical reasoning. A is here the absolute speed scale. If there is an absolute speed scale, then what I contend above must be true. Just ponder a grading scale, but for measuring speed. I for one cannot come to any other conclusion, and it is based on my rather well substantiated theory of speed in correlation with energy. The different parts of the theory converge wholly according to Karl Popper's criterion for what science is. The full theory is stringent and nearly entirely causal and to bits and parts at least coherent.

Image # 7c
How energy, velocity and mass are interchangable on a grand scale

$$E = \frac{M}{V}$$

constant

E = energy
V = velocity
M = mass

E = approaching indefinity in mirror world

V

M

Expansion direction

space
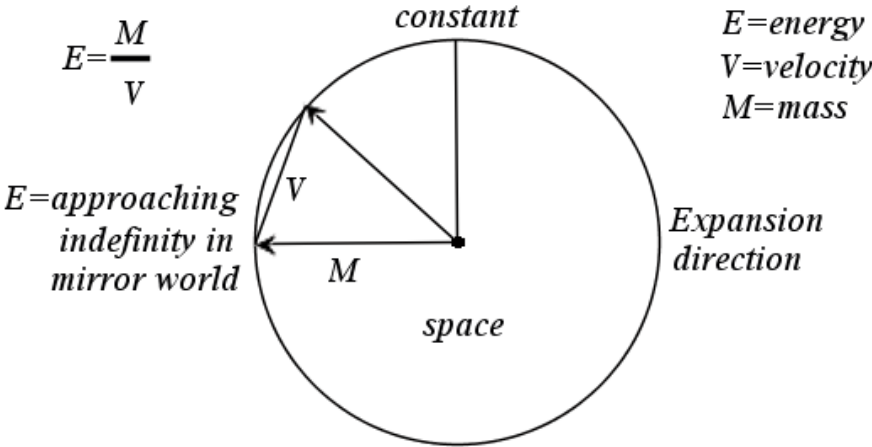
(*The image isn't a depiction of the shape of the universe*)

There is no overlapping or gap on the constant in the two graphs no matter if you calculate $E = \frac{M}{V}$ or if you calculate $E = \frac{V1+V2}{M1+M2}$ both in a 90 degree angle. The constant is not necessarily an absolute constant. You tell me!

Image # 7d

How energy, velocity and mass are interchangable on a grand scale

$E=energy$
$V=velocity$
$M=mass$

constant

$$E=\frac{V1+V2}{M1+M2}$$

E=approaching indefinity in mirror world

V1
V2
M2
M1

space

E=approaching 1 in expansion direction
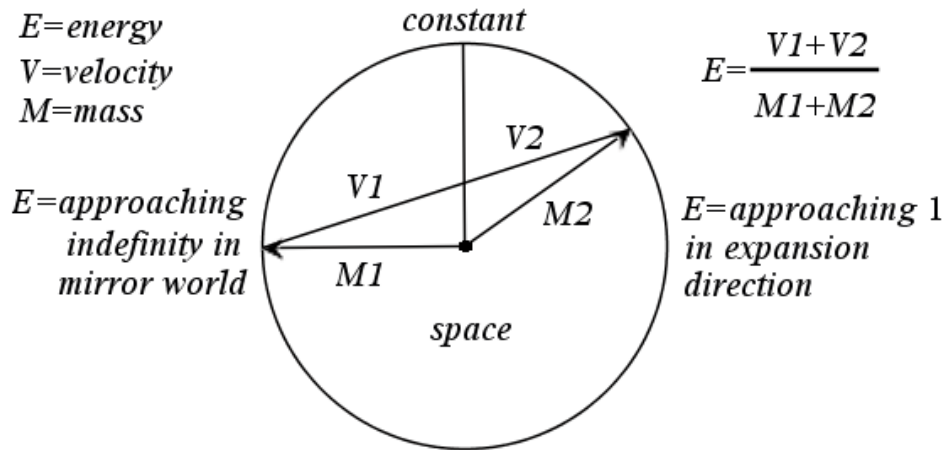
(The image isn't a depiction of the shape of the universe)

Image # 8

A) moves at 100.000 km/s   B) moves at 150.000 km/s

A------------→ A is aging 1.000 times faster than B   B---------------------------→

Let us now assume that A speeds up a 1.000 km/s to a total of 101.000 km/s. A is now going to age at a rate 950 times faster than B.

(Observe that the numbers in themselves aren't important, it's the idea of how you're aging at certain speeds that is in focus.)

The same applies if A and B are on a collision course.

A) moves at 100.000 km/s   B) moves at 150.000 km/s
                                                     to the left

A------------→ A is aging 1.000 times faster than B   ←---------------------------B

If two objects meet and one of the objects has a speed of 100.000 km/s and the other 150.000 km/s the difference equals up to 50.000 km/s, and it is the 50.000 km/s that determine the difference in aging. Both objects are aging differently in comparison to the other object.

(If the objects are moving towards or away from each other matters not.)

Image # 9

A. 150k   reference point   B. 150k

←--------------------------------------O--------------------------------------→

30k →

A travels at 150k, starting from the reference point.
B travels at 150k in the opposite direction, starting from the reference point.
The reference point travels at 30k to the right.
A and B needs the same amount of energy – 180E – in order to accelerate to cruise speed.
A and B are aging at the same slow rate relative to the reference point.
A and B are aging at the same rate relative to each other.

Image # 10

Planet A moves at 30k to the right   Planet B moves at 30k to the right

Planet A 30k to the right   Planet B 30k to the right

O---------→   ←---------O

Body 130E – 30k = 100k   Body 130E – 30k = 100k
Total velocity; 100k   Total velocity; 100k
relative to the planet   relative to the planet

To simplify understanding, in the example (image # 10 above), the amount of energy is equivalent with the velocity of Planet A plus the velocity of the body projected from this larger object A, as well as the velocity of Planet B plus the velocity of the body projected from Planet B. Both bodies have a speed of 100k as seen from both Planet A and Planet B. *There is an absolute speed scale ranging*

from 0 up to 300,000 km/s. The highest speed is reserved for electromagnetic radiation and light and it is by measuring these that we can know which is the highest speed since the speed of light in vacuum is a constant. The body ejected from Planet B in the image is aging at the same slow rate relative to both planets A and B as the body ejected from Planet A is aging relative to planets A and B because the planets have the same mass, and the bodies are of the same rocket type and have the same amount of energy. Here we can ignore that fuel is de facto converted into light, thermal energy and motion energy and disappears through the exhaust and that thermal energy accumulates in the body of the rocket while the combustion reaction propels the rocket forward. The total amount of energy in a collision would be 130E + 130E = 260E for the bodies, but these bodies thus have a relative velocity of a total of 100k + 100k = 200k relative to the planets. By relative velocity I mean that the velocity of the bodies is relative to planet A and B, but planet A and B have an absolute velocity of 30k to the right, and therefore we can easily calculate the absolute velocity of the bodies. At the very least this, with ease, applies to most situations with multiple speeding bodies since there is a pretty much multiple linear expansion of the universe with a single point of origin. If someone feels compelled, he or she can calculate a 3-D version for multiple angles and derive it back to the point of origin.

Gravity = Acceleration

Isaac Newton's equation about body gravity is $F = G\frac{Mm}{r^2}$

If $a > \frac{F}{m}$ then a body can leave the gravitational field of a larger object, according to Newton.

Explanation of character: F = force, G = gravity constant, M = mass of a larger object, m = mass of a smaller body, r^2 = distance between m and M's midpoint, a = acceleration of a body

A body with a mass 10 that is released against an object with a mass of a 1,000 million minus 10 accelerates towards impact against that object at practically the exact same time and speed as a body with a mass of 0,001 which accelerates against that same object. Two objects with a mass of 500 million that attract each other from the same distance will attract each other and reach impact in

the same time, which we assume for the bodies with masses 10 or 0,001 against an object with a mass of ~1,000 million. (Image # 11 below.)

The only thing that separates gravity from acceleration is that gravity always works towards a point in space while the source of acceleration is the momentum energy. An accelerating object can therefore direct its momentum energy and change course in space. (Image # 12 below.) Rest mass energy is conservation of energy and without Rest mass energy we wouldn't have had any gravity. Otherwise, gravity and acceleration are two sides of the same coin. This said, I think that the second law of thermodynamics is somewhat faulty since the universe is not a set where entropy is constantly increasing, because gravity of objects works contrary to entropy. The universe is a struggle between entropy i.e., thermal energy, and gravity, although entropy seems to be winning. It is just that when gravity restores order, matter is not compressed in the same order as it started with, before entropy had its way with it through thermal energy when for example a supernova exploded from an aged super massive star.
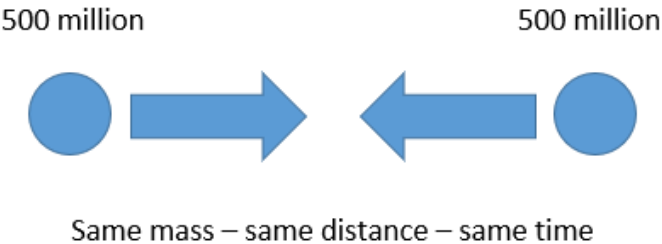
Image # 11

500 million   500 million

Same mass – same distance – same time

Image # 12

Gravity

Acceleration – Changing direction is possible
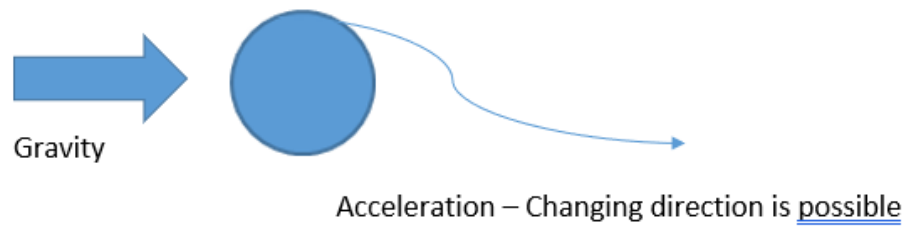
In practice, direction change is possible also for a body
which is gravitating towards an object, since it is
extremely unlikely that a body is closing in on a large
object straight to the center of that large object. But the
body cannot be controlled without adding thermal energy.

To accelerate a body of 0,001 to 30k, you do not need the same amount of thermal energy as you need to accelerate a body of a 1,000 million to 30k, relative to a reference point.

Let's say that the gravity from a larger object has a force -X. It then follows that the acceleration of a body that would be able to escape the gravitational field must have an acceleration force that exceeds the larger object's force of gravity. If it has an accelerating force X or less, the body cannot escape the gravitational field of the larger mass. The amount of energy E required to accelerate the small body varies depending on the mass of the large object and the small body. If the gravitational pull -X and the acceleration force X have corresponding value inverted, then there must be a constant at the larger object. That constant must be the rest mass center. It is interesting that the forces have a rubber impact effect where all directed force from the constant up to X causes a motion that can extend all the way to the outermost boundary of the gravitational field in space but ultimately leads to the energy being returned to the closed system. The mass thus borrows energy but returns the extra energy when it crashes on the larger object it left, *iff* it crashes on the larger object. When you take a leap on Earth, the leap starts with an electrical reaction in the musculature, and during the jump or rather before when you are storing energy as a human battery, you borrow some energy from Earth and return the energy when you

land. The only way to steal energy is to leave the solar system behind you for good.

Electro-magnetism is a natural phenomenon that can be created (and stored) by thermal reactions and movement in electrically conductive bodies, such as in the Earth's interior. Electro-magnetism is a special field in physics. The body has plenty of stored excess energy it can use to create motion. When the friction in the musculature becomes too great and heat becomes a by-product of your motion, the body must be cooled down just like an internal combustion engine. The thermal reaction above 37,4 degrees Celsius is an undesirable by-product. Only the nature that created the animals and man, and the natural man, have curbed electro-magnetism. Nature has done so by being as lazy as the surface tension of a soap bubble is, it never consumes more energy than is absolutely necessary to bring about motion of a biological body.

The heat of an internal combustion engine should not be seen as a by-product from the friction of its pistons against the combustion chambers inside the engine block. It should rather be seen as an energy equalization to the surroundings by the thermal reaction from the combustion. The energy equalization is caused by the friction which reduces the power of the motor. The energy loss cannot exceed the energy of the total amount of explosions. It is the thermal combustion reaction that, just like a rocket, propels the vehicle forward. Design is important but the propulsion comes through a thermal reaction during the ignition at the fuel injection. Everything eventually moves towards greater entropy.

A substance like plutonium is more easily reactive than a correlating amount of lead and thus appears to have a greater amount of energy. The greater chaos in the shortest amount of time a reaction can cause in a substance, according to the second law of thermodynamics, the more energy-generating the reactive substance is perceived to be. The opposite of chaos is contraction. In this theory, 10 kg of plutonium does not have a greater amount of energy than 10 kg of lead, it is only more easily reactive. Everything that weighs 10 kg here on Earth has the same amount of energy. Since it is possible to achieve that a substance such as Plutonium, in a reaction, can release large amounts of energy in a short time,

thus being converted into a flash of light, thermal energy and motion energy is no stranger than a reaction caused by a match and a matchbook which can release a certain amount of energy from paper that burns and causes light and thermal energy, when you cannot release any energy to speak of from lead, at least not by adding less thermal energy than you can gain. Scientists quantify this with the energy ratio Q, or how much energy goes in and how much energy goes out. Q equals the amount of energy output divided with the energy input. For lead, Q=<1. If Q is less than 1, the energy output is less than the energy input, as is always the case with lead, as far as we know. If Q=1 you break even. If Q=>1 you gain net energy. What method we use to try to gain energy from a substance decides how much net energy we can gain, if any. For example, if you burn Plutonium with a blowtorch, you probably don't gain net energy, but if you split Plutonium atoms in a controlled specific manner you gain a lot of net energy.

Let us imagine that a body with a mass 10 is gravitationally *pushed* from standstill in a direction straight towards an object with a mass of 1,000 million. Then, in practice, the smaller body must be man-made, for this way of setting the example is like the Newtonian apple-which-falls-to-the-ground postulate. An object with a mass of 1,000 million that angularly attracts an autonomous body with a mass of 10, will temporarily lose minimalistic amounts of energy to the body of mass 10, when the smaller body is attracted to the larger object. The larger object has a larger mass which is slowing down the time for that object as seen by an outside observer. But the small body accelerates towards the larger object, which causes the small body to age more slowly in comparison to an outside observer. The small body is almost weightless at this state, but in theory the mass of the big object moves towards the small body correspondingly albeit very little. When the small body crashes against the large object, the extra motion energy that the small body had transfers to the large object through the impact that comes. At the time of impact, the body's energy mode is transferred from the mass that the small body had, and the gravitational pull of the large object increases, which in turn means that the larger object will be aging microscopically slower. The larger system adds energy.

If we imagine that we instead *accelerate* a body with a mass 10 starting from an object with a mass of a 1,000 million, so that the body with a mass 10 leaves the gravitational field of the larger object, then the smaller body will because of its

acceleration from the larger object age at a slower rate. The only reference point we have is the larger object. What matters is the amount of energy required to accelerate from the large object and as we have already found out, it does not matter in which direction from an object, which travels at say 30k in the general direction we choose to use for ejecting a body away with thermal energy, because the energy required to achieve a certain velocity relative to the reference point is the same regardless of the firing direction. In other words, it doesn't matter if the larger object travels at 30k to the right and we choose to eject a body with a mass 10 to the left, because in correlation to the larger object, the body travels with a mass 10 just as much faster and is aging equally slow relative to the larger object regardless of the projecting direction from the larger object i.e. the reference point. The difference in ageing is extremely small except at extremely high speeds. In this case, the conclusion is that the larger object will lose its corresponding energy as long as the small body does not return to the larger object.

To conclude, a smaller body accelerates and increases its energy and is aging slower when closing in, from the outside of the gravitational field, on a larger object. At the same time the larger object loses energy and is aging faster, until impact when it gains energy from the small body's both motion energy and mass. In the other direction, a smaller body always has an increased thermal energy force *when ejected* from a large object, and the smaller body is aging slower as it accelerates. At the same time the larger object loses energy and is aging faster, provided that the smaller body can leave the gravitational field for good. It does not apply to orbital movement because an orbiting body is just borrowing energy from the bigger object, and it doesn't leave the gravitational field of the bigger object. If the small body comes from outside the larger object's gravitational field, it adds energy to the object's gravitational field, if caught in an orbit around the larger object. Whether the small body is launched into orbit or caught into orbit, the small orbiting body will age faster than the larger object. [See this book's initial stipulations.] A perfect circular orbit for a body revolving around an object doesn't last long before the body gets pulled into the surface of the object, by the objects' gravitational interactions. Just imagine the motor circus from your childhood, with a motorbike driver in a cylindrical velodrome. If the driver constantly stays on the same horizontal track without accelerating, he is going to lose altitude exponentially fast. But an elliptical orbit with an apogee and a perigee lasts what seems like forever. Elliptical orbits are the norm.

I am postulating that it doesn't matter whether a smaller body is *approaching or leaving a gravitational field* and an object's surface, the larger object will still lose energy to a smaller body if the body is not at rest on the larger object. The physical laws do not distinguish between gravity and acceleration in that regard.

Bodies which come from outside a gravitational system and has a trajectory that is curved by the gravitational system, will steal energy from that gravitational system, as long as the smaller body isn't caught into an orbit around the large object in the center of that gravitational system. Just look at the accelerating body OUMUAMUA, the object from another Stellar system that is passing through our Sun's gravitational field. That means that the orbit and/or velocity of a larger object will be altered as a small body accelerates like a man-made projectile that is using a planet's gravitational pull to increase its speed. The small body will simultaneously increase its velocity correspondingly. It thus appears as if all linear movement, and actually all movement that is not orbital, packs a larger amount of energy than orbital movement, and it "steals" energy if it can. That explains why gravitational pull exists in a constantly moving orbital universe. It's because it is geometrically energy conserving, and all bodies require transformation of rest mass energy to momentum energy for it to be able to leave a gravitational system. Newton's first law is thus not entirely correct, or at least not entirely complete, because you need a force of directed energy for a body to begin to accelerate in a straight trajectory. That energy can come from the Big bang, or it may come from an exploding supernova or something else very powerful.

Isaac Newton's first law states that if a body is at rest or moving at a constant speed in a straight line, it will remain at rest or keep moving in a straight line at constant speed unless it is acted upon by a force.

A refutation of Isaac Newton's first law:

a) If a body is in orbital motion with a given sufficient apogee and perigee it will stay in orbit in an energy-conserving state if there aren't any adequate amounts of accurately directed energy to it.

b) Thermal energy [or electro-magnetism] is required direct to make matter move in straight or otherwise non-orbital trajectories.

Have I rationalized away Einstein's theory of Relativity now, or have I merely explained gravity's geometrical function? I know one thing, energy conservation i.e., the path of least resistance is the one law that can never be rationalized away. It governs the universe. This part alone can explain away the existence of Dark matter and explain how it is that spiral galaxies hold together and why they are not throwing stars out into the surrounding space.

(a) A small body passing through a gravitational field changes course and accelerates. [Or it becomes caught in an orbit around the larger object.]

(b) The larger object's velocity is decreasing. And the larger object's orbit around the central star alternates a certain bit too, albeit this is very marginal and corresponds with the amount of energy the small body "steals" as it pass through the large object's gravitational field once. The large object's trajectory alternates, basically with an increased radius from the star.

(c) One special circumstance is if the small body crosses paths (circumvents) with the larger object which is in orbit around a star or something. Then it will be the small body coming from outer space that loses energy in favor of the larger object, and the small body changes course with a decrease in speed for the small body which will appear to fall toward the larger object, if the body is within the larger object's gravitational field. The large object's trajectory alternates, basically with a decreased radius from the star, when the body is circumventing.

(c)

Object orbiting star

Body within the object's gravitational field and with an open trajectory

Basically, the object's trajectory alternates, with a decreased radius from the star and an increased velocity

Star
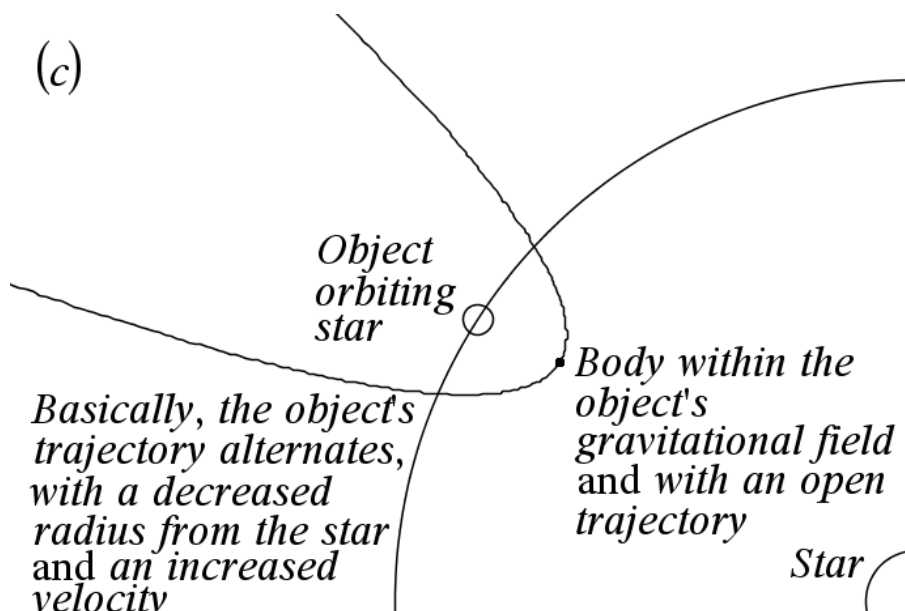
The sums of the two, the smaller body and the larger object's alterations, even each other out. Not equal, but still. There is a transfer of energy. But there is a thing called Time perception. If the small body accelerates (see a and b above), it must be aging a tiny bit slower, and if the larger object's orbiting speed and mass are decreasing it must be aging a tiny bit faster compared to a reference point. Except, the small accelerating body passing through a gravitational field is aging "much" slower compared to a reference point than the larger object is aging faster than before, compared to the same reference point. ["Much" is here in the scale of micro- or milliseconds.] So, it appears in the normal case (see a and b above), like the smaller body is gaining considerably more energy for its acceleration than the larger object is losing energy. Either that or time isn't an energy/entity, it's but an effect or phenomenon of energy. I put my bet on the latter. I think just about every scholar would agree. But I also think that it is possible to find a mathematic correlation between a large object's mass and velocity, and a smaller body's mass, velocity, and distance from the larger object, whether the small body is going into orbit, leaving a gravitational field, or just passing by our solar system. And specifically, I want to know how this could be applicable to time dilation at different altitudes and velocities. I don't think it has been done properly yet. But Kepler's second law.

> **Kepler's Second Law:** The movement along each ellipse takes place at such a speed that the line from the Sun to the planet covers the same area in the same amount of time.
>
> This means that when the Earth (or any planet) moves in its orbit around the Sun and during the time (t) has created an area A1 which is formed by the Earth moving from point a and b. Sequent, the area measures A2, which is formed when you are closer to the Sun, so when the Earth moves from point d to c these two areas A1 and A2 will be equal.

In our galaxy, the outer stars orbit around the center of the galaxy with greater speed than the inner stars, but without getting flung out into the surrounding universe, whilst in our solar system the outer planets orbit around our Sun with lower speed than the inner planets. How can this inconsistency be? Most

scientists in Astrophysics would explain this with the concept of "dark matter". But dark matter as an explaining entity in classic theories is inconsistent, since the precondition for dark matter is that its mass is more prevalent in the outer layers of the galaxies. [In the outer layers of the galaxies there is no evidence of stars or any other matter. From this they concluded already in the 1970-ies that the galaxies are surrounded by so-called "dark matter", never explaining how it came to be there in the first place.] I contend that it is because the super massive black hole in our revolving galaxy, is frame-dragging spacetime with its super-fast spinning around its own axis, that unopposed as a force makes the outer stars as well as the stars within the Lense-Thirring effect zone orbit faster. It's not difficult to imagine that the stars within the Lense-Thirring effect zone will orbit faster. But why do stars orbit faster in the outer layers than they do in the middle layers of the galaxy then? I contend that all the layers of stars around the super massive black hole in the center of our galaxy contribute to the greater velocity for stars in the outer layers by dragging spacetime with it, albeit ever so little for each layer, but aligned with the spin of the super massive black hole. But it happens unopposed as a force and thus it must happen. Our own Sun doesn't have the same mass as a super massive black hole (and multiple layers of stars), and thus it doesn't spin nearly as fast, and these two factors mean that our Sun cannot drag the outer planets with its spin very much. That is why the outer planets in our solar system don't orbit with a higher velocity than the inner planets. My revised Newton's first law explains why stars don't get flung out from the spiral-galaxies. The physical laws here on Earth are that, when we spin around holding two weights, and we drop those weights while spinning they continue outwards away from us. This applies at the small scales since our bodies don't have much gravitational pull and the weights are unproportionally massive. But at galaxy scale the gravitational pull is considerate and each individual star is but a grain of dust clinging to the cluster of stars in the galaxy.

The example (images # 13a and # 13b below) show that motion energy is equivalent to matter. Matter in motion induces gravity. Speed of light = ~300,000 km/s. Neither a. nor b. can in theory accelerate to more than a 1,000 km/s relative to the reference point i.e., the big object.

Image # 13a

Object →

299,000 km/s to the right

a. Max speed 1,000 km/s for a smaller body ejected from the object

b. Max speed 1,000 km/s for a smaller body ejected from the object

Image # 13b

Max. speed a 1,000 km/s for a smaller body

The direction of the object →

299,000 km/s to the right

Max. 1,000 km/s for a smaller body

Max. 1,000 km/s for a smaller body

Max. 1,000 km/s for a smaller body
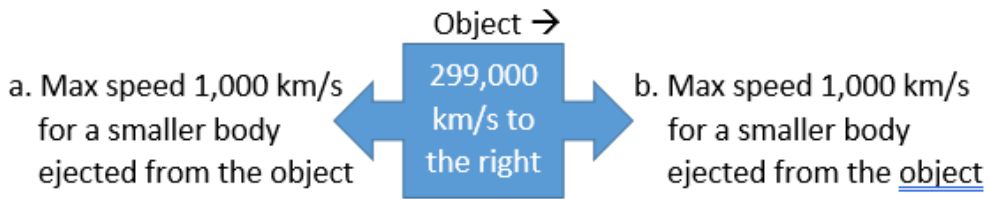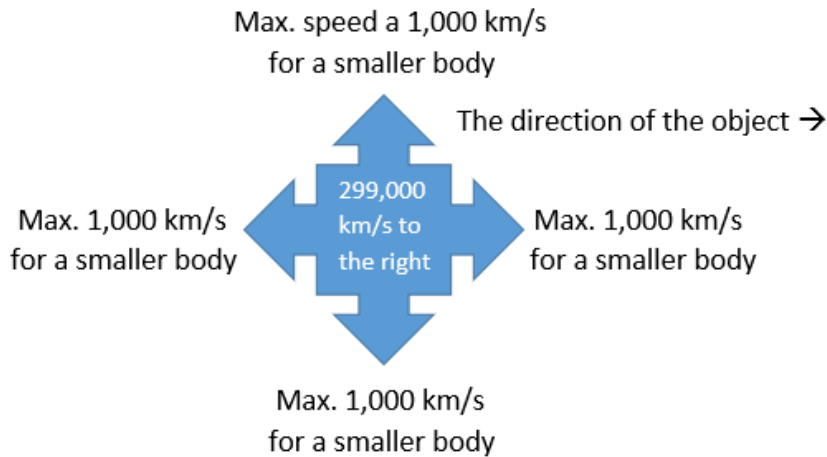
[Space warp in image above not accounted for, as seen in image # 6a] At extremely high speeds, the mass of a speeding object substantially increases, which supposedly means that time slows down for the object in comparison to the surrounding world. Matter and the velocity of that matter have a mutual relationship. As all matter in the expanding universe accelerates, so must the total mass of the universe increase. Mass thus has no constancy. But Albert Einstein explicitly stated in his popular science book in the chapter of the Theory of Special Relativity that it has. He wrote this, among other things; *"Furthermore, the fact that bodies in motion are contracted is not determined by the motion itself, a concept that can make no sense, but by the motion in relation to the selected reference body."* (See images # 13a and # 13b above and convince yourself that Einstein was wrong.) In the images above, extreme amounts of energy would be required to accelerate to the last possible 1,000 km/s. Should

the object in the center have accelerated to the full speed of light, it would have had the same characteristics as a black hole. No matter would have been able to leave the surface of the object and the emitting radiation would have been extinguished as shown below. But as we have already concluded geometrically, it is an impossibility for a body to accelerate to the speed of light. Gravitational collapse is the only way to create a new Black hole.

Image # 14

Object travels to the right

Lines represents extinguished light

Object $300,000\dfrac{km}{s}$

Infinite frequency
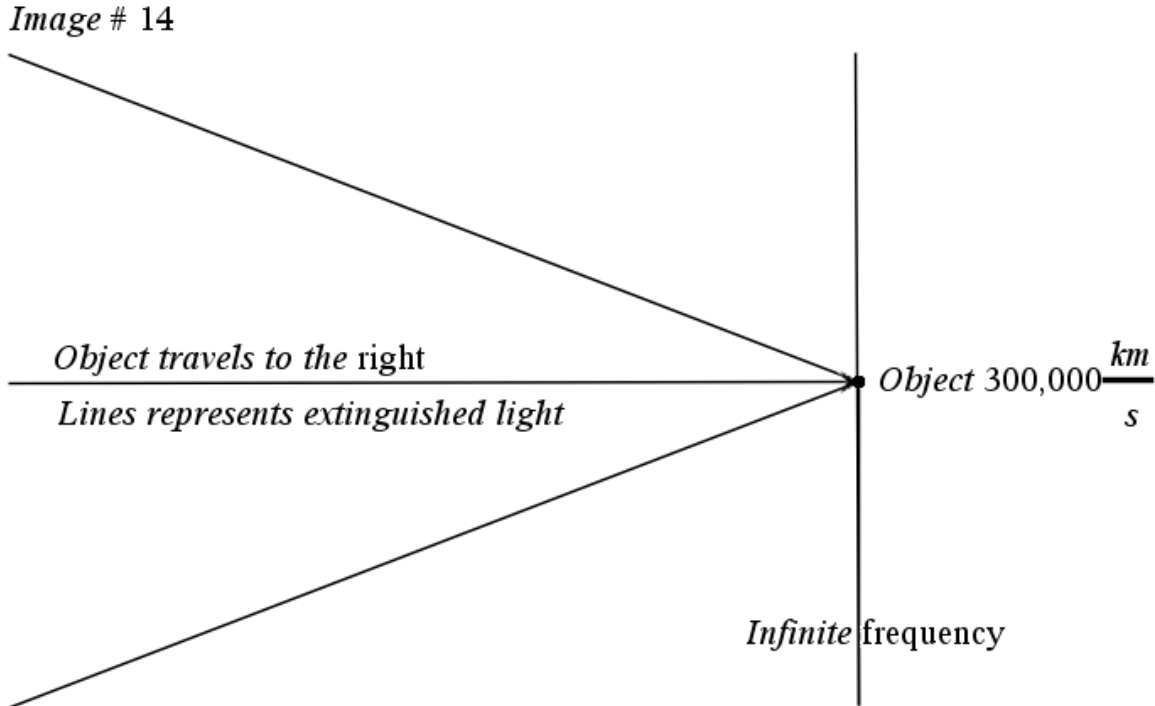
In Einstein's book *"The Special and the General Theory of Relativity",* Einstein brings up an example where a person in a box who is in linear acceleration also experiences the law of gravity because of the acceleration. Like me, Einstein probably thought gravity was equivalent to acceleration. But Einstein did not realize that gravity is also equivalent to any constant velocity of a body, preferably a very high velocity. That is why he only labored with an *accelerating* person in the cardboard box example. A spaceship (or a cardboard box) that is launched from Earth and is on its way to the Moon experiences gravity only in the lifting phase during acceleration and during the Moon landing itself. This means that at constant speeds well below the speed of light, the extra gravity created for the spaceship based on its velocity is small. The body's inherent mass is thus much more crucial. Although one cannot escape the fact that the total

mass of the universe is substantially influenced upward by matter's own velocity and acceleration, counted in Kilograms or in Tons.

Consider a spherical universe. The amount of energy in different objects can vary, but it is not infinite. If an object A and an object B are on a collision course with a total speed of 400,000 km/s, then the amount of energy cannot exceed that if they had met at a total speed of 300,000 km/s, according to a professed thesis. Therefore, purportedly, c in $E=mc^2$ can never exceed 300,000 km/s or the speed of light. E stands for energy, m stands for mass and c^2 stands for the speed of light squared. But…

…I amused myself by using Einstein's formula to calculate how much energy it would take to accelerate 10 kg to the speed of light if it had been possible. But we already know that no objects can be accelerated to full light speed. That is as close to an axiom as we can get. What you see below is a calculation using Einstein's original equation, in which it is possible for an object to reach the speed of light. And it is arguably not so much. The atomic bomb over Hiroshima developed an amount of energy equal to approximately 63 Terajoules.

$E = 10 \times 60 \times 60 \times 300{,}000^2$

$E = 3{,}240{,}000{,}000{,}000{,}000$ Joules i.e., 3.24 Terajoules

As seen from an emitted photon, there will pass no time at all, everything happens in an instant. From the time of birth for an emitted photon to the time of impact of a photon, if it is destined to impact some object, there will have passed no time at all as seen from the photon. $E=qmc^2$, where q is the thermal energy. Then E = thermal energy times mass energy, times c^2 or the speed of light squared. We now have three entities of energy – inertial mass, momentum, and thermal. Before a photon is emitted it had mass. Like in the battery of a flashlight. In fact, it is not even a photon yet. When a photon is released, or rather is induced, mass transforms into light traveling at the speed of light in vacuum. As the photon, instantly from its own perspective, hits the wall your flashlight is aimed at, its momentum energy transforms into thermal energy. This should mean that, for a photon, everything happens at once. Energy transfer is

immediate. For a photon there is no future, and there is no then. It's ever present. All light is ever present. Maybe this explains how photons can be quantum entangled at a distance? But the procedure for a photon from birth to end is causal. Also, the latest laboratory experiments in the field of quantum mechanics performed by the Imperial College in London support the idea that light is ever present. Imperial physicists have recreated the famous double-slit experiment, which showed light behaving as particles and a wave, in time rather than space. Light appears to interfere with itself.

Electro-magnetism might be the number one cornerstone of the birth of the universe. The cause of all existing mass and emitted light. But then again - light is within the electro-magnetic spectrum. Thus, the electro-magnetic spectrum must have caused itself if that is true. Electro-magnetism then must have pre-existed.

Image # 15
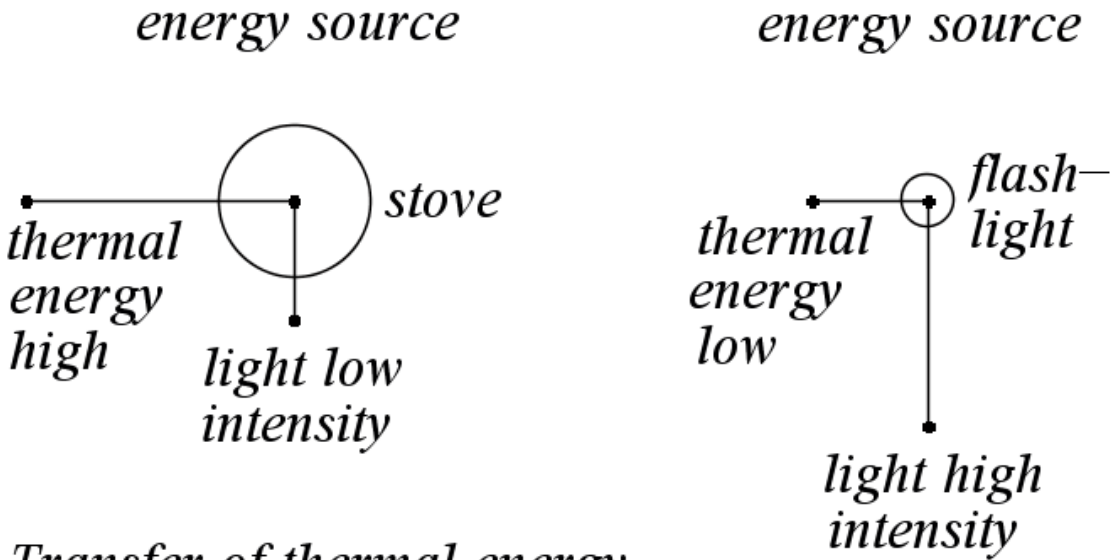
Transfer of thermal energy into light is greater in the flashlight

For photons moving at the speed of light, E=cp is where E stands for energy, c stands for the speed of light and p is its quantity of motion. Photons have no rest mass. The speed of light in vacuum is independent of the observer's motion. An observer cannot see a photon that is heading in a different direction than towards his eye alt. is bent by an object alt. is reflected from another surface, like the Moon. The starlight that is heading in the opposite direction cannot be

measured from one and the same location, and if you could measure it, it would prove to have a speed of 300,000 km/s towards the measuring site which must be located at a completely different location. If you do an experiment on Earth where you measure the speed of light from a light source from two opposite directions, then of course the opposing independent measurements each show 300,000 km/s. This is because the measurements are made from the radiation source out to the measuring site. It is pointless to talk about relative velocity of light in vacuum, because even if one can imagine in the head that the independent opposing measurements of the speed of light can be added to each other so that the total sum amounts to 600,000 km/s, this has no effect on the physical laws. Two different observers will always measure the same speed of light no matter how they move in relation to each other. That is what is important. Whether the light source is moving away or is approaching does not matter.

The speed of light is thus a physical constant and that is explanation enough. We live inside the box that constitutes the universe and should not imagine the universe outside the box. It follows that an observer cannot measure through the stars or measure any emitted radiation of light in the opposite direction through the light source, because it is not compatible with the theory of Relativity. Thus, there is no total sum of 600,000 km/s because you always measure from the light source and out.

Then a legitimate question arises, what is redshift if there are no variations in the speed of the detected light in vacuum? Generally speaking, redshift is an increase in the wavelength of electromagnetic radiation. It is also possible to express the same thing as to say that the radiation frequency (oscillations) decreases. This, in turn, depends mainly on the thermal degree of the emitting object, but also on the fact that highly luminous objects such as galaxies move away from each other at a high speed. It does not affect the speed of light; it only affects the wavelength of the light. This is in accordance with both Einstein's theory of Relativity and my theory Thermal energy Vs. Gravitational pull. If you are stationary in the direction of a traveling galaxy, then the light looks blueshifted. If you are in the galaxy's wake, the light emitted from the galaxy looks red in color. But the speed of light from the light emitted by a galaxy is constant if an outside (and inside) viewer measures it, whether the viewer

measures the speed of light in the galaxy's direction of travel or in the wake of the galaxy. In the case of the Milky Way, most galaxies are distancing away from us as the universe expands. Therefore, most of the galaxies are redshifted as seen from Earth. The galaxies are varying much redshifted depending on the angle of the wake they are viewed from in the universe.

GN-z11 is a high-redshift galaxy found in the constellation Ursa Major. The discovery of this galaxy was published in a paper headed by P. A. Oesch and Gabriel Brammer (Cosmic Dawn Center). GN-z11 is the oldest and most distant known galaxy yet identified in the observable universe, having a spectroscopic redshift of z = 11.09, which is considered to correspond to a proper distance of approximately 32 billion light-years. They say it is observed as it existed 13.4 billion years ago, just 400 million years after the Big Bang. Except, look at the image below and convince yourself that the galaxy expands correspondingly with Earth. Someone measured the galaxy's redshift and concluded that the distance from Earth to this galaxy is allegedly 32 billion light-years. 97 percent of the galaxies in the universe are said to move away from us at a greater speed than 300,000 km/s. The galaxies that don't move away from us at a speed greater than the speed of light are said to be within the "Hubble Sphere" which is 14 billion lightyears in radius, with our Sun in the middle. Except, the idea that galaxies move away from us at a greater speed than the speed of light is utter nonsense. Light travels at 300,000 km/s if measured by any observer in the universe, always, wherever an observer is located and if ever two objects are moving away from, or towards one another. The speed of light in vacuum is constant as demonstrated in numerous experiments, period. That's where I think that the physics community is correct, but apparently the physics community itself isn't in agreement. Otherwise, we wouldn't see the GN-z11 at all because it would rip apart the spacetime continuum. I think the physics community people must rethink the whole concept about the alleged constituents of the universe, instead of concluding that the measured redshift in 97 percent of the observable matter in the universe would mean that this matter is moving away from us at a greater speed than the speed of light. Still, they can measure this light. Enter the Pythagorean theorem for right-angled triangles: $a^2+b^2=c^2$

Image # 16

23 *b LY*   32.5 *b LY*   23 *b LY*

18 *billion LightYears*

Object a
13 *b LightYears*

Object b
13 *b LightYears*

7 *b LY*

5 *b LY*   5 *b LY*

1.4 *b LY*

1 *b LY*   1 *b LY*
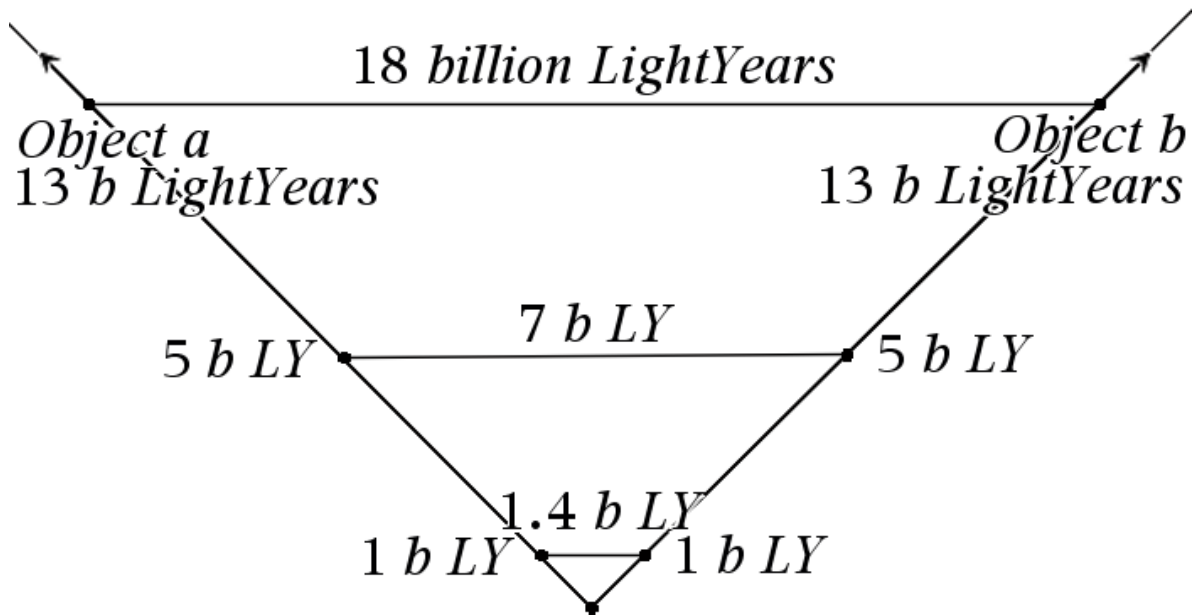
Let us slap the Pythagorean theorem onto the universe. In the image above, Objects a and b separate from each other in a ninety degrees angle at a speed well below the speed of light. The distance to the allegedly ascertained beginning of the universe is 13 billion lightyears for both Object a and Object b. The distance between Object a and Object b is then 18 billion lightyears. For the GN-z11 to be 32 billion lightyears apart from our galaxy, our galaxy must be 23 billion lightyears old. That is if we had been located at the edge of the universe as well as the GN-z11 had been located at the other edge. Obviously, we are not located at the edge of the visible universe. Since most of the objects in the universe have a velocity well below the speed of light, we should expect the universe to be much, much older than 13 (or perhaps 23) billion lightyears of age. Thirty-two billion lightyears are how far we can to date see, given that we are correct in our assessment of the distance from our galaxy to the GN-z11. Say that most of the galaxies in the known universe have a velocity of about 67 km per second.

67x60x60x24x365= 2,112,912,000 km or ~2 billion km per year.

So, if the assessment for the expansion speed is correct, then the age of the universe must be more than 300,000km/s x 0,00067km= 201 times greater than we expected times two.

23 billion lightyears x 201= 4.6 trillion years of actual age but supposedly more like double. Unless there was inflation.

If the universe is 4.6 trillion years old or rather twice that age, this would explain why the universe's galaxies are not noticeably more densely packed the further back in time we look from Hubble and James Webb. With the aid of telescopes, we can see only a fraction of the universe. It would also explain why mega-structure formation of galaxies like "the Big ring" and "the Giant arc" can have developed in our universe. They had time!

I have imaginary set up the calculation according to the Pythagorean theorem for a right-angled triangle i.e., $a^2+b^2=c^2$ and then calculated the square root of c^2 to get a horizontal distance between Object a and Object b in the image above.

A trouble shoot

The following is not primarily a theory, it is a troubleshooting on Einstein's most famous and least understood consequence of the special theory of Relativity. It relates to the statement that specific events can occur at different moments for two different observers where for the difference to be detectable (by a human, my remark on Albert Einstein's example), at least one observer is in extremely fast motion.

It concerns the so-called time dilation. Do not imagine that you yourself are sitting on a light ray traveling at the speed of light and not experiencing time, as Einstein theoretically but erroneously imagined it. Bodies cannot move faster than 3.54 fifths of the speed of light, as we have already concluded. At a speed up to and including 3.54 fifths of the speed of light, a human body would not be able to sustain itself. Matter would compress or, if in orbital movement around a black hole, turn into plasma. Although, at a more normal speed, an outside observer can only measure a snapshot of a body moving at well below the speed of light, and this tells him that there is no practical time dilation, for both observers, the one at the embankment and the one on the train, find that a body launched from a train in motion is at point X at a given time on its course down the runway. Time dilation for electromagnetic radiation emitted from a moving body, *as seen by an outside idle standing observer*, is an important factor in Global Navigation Satellite Systems (GNSS). Albeit a human onboard a satellite of some sort is aging faster than earthbound people, not slower.

For a body traveling at normal speed as we know it, there is thus no practical time dilation that implies there being exerted extreme force on the body. A fighter aircraft blasts the sound barrier when the pilot perceives it does so, the event is not defined by when an audience on the ground perceives the event. However, very importantly - there are different time *perceptions* on the moving body compared to an outside idle standing observer. [See pages 66 and 69-70 number 7.a to 7.d for further explaining input.]

Let's start by looking at the problem from an object traveling at 150k. As we have established in previous sections, matter and velocity of matter are equivalent to mass. Others have found that all matter, including black holes, bends light. It has also been established that light cannot exceed a speed of 300,000 km/s. And finally, it has been proven that here on Earth we measure different spectral shifts in light depending on whether the light source is moving away or approaching us. Does it matter how we move in relation to the light source, or is it only the movement of the light source as such that determines which spectral shift we detect? Is there a dynamic between light source and oncoming or distancing objects? I mean, would the light be blueshifted for a detection device placed on an object if a light source stood absolutely still while the object was traveling toward that light source at 150k? I answer this question with a yes myself.

Light maintains a constant velocity in a vacuum in accordance with every measurement ever executed on the speed of light. Light is energy relativistic since it can have higher or lower frequencies. Light does not necessarily have the same frequency depending on for instance whether one of the objects, the one emitting light or the object on which the speed of light is measured, is traveling away from or if it is approaching the other object. Higher frequency would mean higher energy level, in accordance with the electromagnetic spectrum. If one or both objects move away from each other the light shifts red, if the objects approach each other the light shifts blue. If the light is blueshifted, the intensity of the light increases. This means that light would get a higher energy density within a certain, say one cubic meter cube. If the light is redshifted, the energy density within a cubic meter is less. Energy density within an imagined square cube I think is the proper way to visualize the energy of light, since there is no way to determine a photon's position as it has none until you measure it. Except

blueshift and redshift are properties of visible light solely, and we can quite accurately measure the energy of visible light by looking at its spectral shifts.

If the Doppler effect exists for light waves emitted from an object like a star in motion, and it does, then my images # 17 to # 20 must also be valid. But the spectral shift seems to derive entirely from *the momentum* and direction of the *light source,* according to modern interpreters of Einstein's theory of Relativity. In the following images # 17, # 18 and # 19 there is a hypothetical but impossible speed of 0 k for either an object or a star just to simplify understanding.

Image # 17

Redshifting when *light*
reflecting off object

Star

0k   150k

Blueshift

↑
Some redshift
depending on mass of object
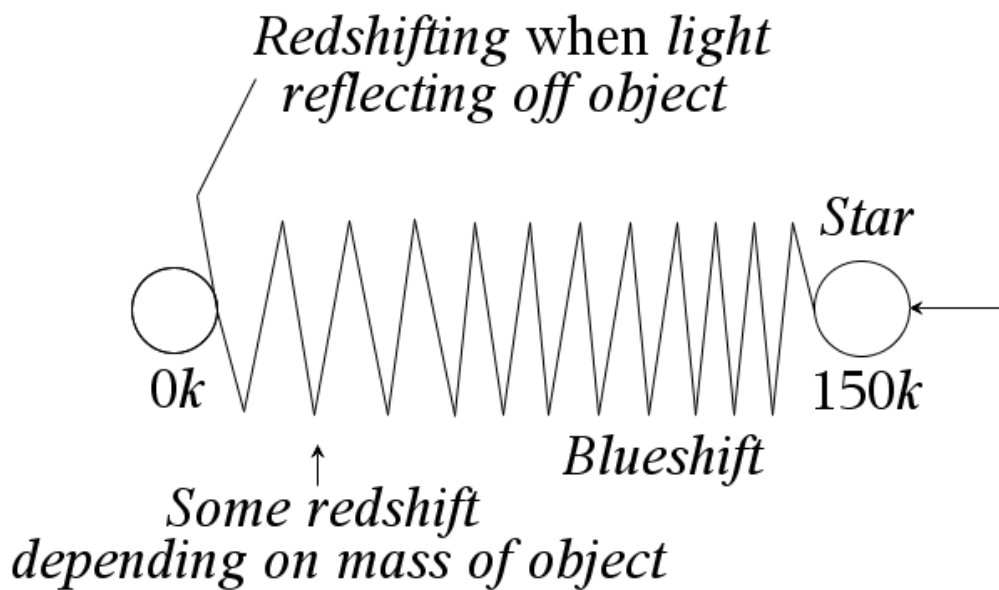
Einstein contended that it is entirely possible to explain, with the help of human perception (Roger's note), that an observer traveling near the speed of light on a train may experience two lightning strikes at a different moment than an observer who is not moving towards or away from the two lightning strikes, from what anyone who is at an equal distance from the two lightning strikes at the embankment will sense it. But as I see it, you must shorten the perception time span inversely proportional to the increasing speed of the passenger, especially at extremely high speeds. Otherwise, you obviously would have moved to another location a microsecond later (a microsecond in the observers at the embankment view) and you no longer would be at an equal distance to the lightning strikes i.e., the same distance as the observer at the embankment.

Despite this, Einstein is partly right, observers experience the event at different moments, but only if they are at different distances from the lightning strike. But that was not Einstein's example. In Einstein's example, the two observers were at the same distance from the lightning strikes, where one of them was on an extremely fast-moving train and the other was at the embankment. (See image # 21. further ahead. The image is ripped from Einstein's own book.) The observer at the embankment was in the middle between the lightning strikes and observed through two mirrors that the events were simultaneous to him.

But Einstein's example becomes only hypothetical because radiation at the moment you measure it always has a velocity of 300,000 km/s when you measure it from another moving object even if the moving object travels at 150k towards or from the radiation source. The variables are the shape of the object and the traveler's time perception and *the frequency of the incoming light* that are affected by the object's contraction, large mass increase and velocity. If the observer is sitting on a train traveling at a speed of 150k, the observer's time is slowing down in comparison to the outside world even though the observer will experience his own time as if nothing had changed since before the acceleration to 150k. This slowdown due to the mass increase and contraction of the object in rapid motion affects the *frequency* of the incoming radiation from a flash, so that the observer measures the speed of the incoming light as 300,000 km/s *in a compensated red spectral color*.

Image # 18

Redshifting when *light reflecting off object*

Increased mass, time slowing of object →

Star

150k

0k

↑
Blueshift, some redshift depending on mass of object
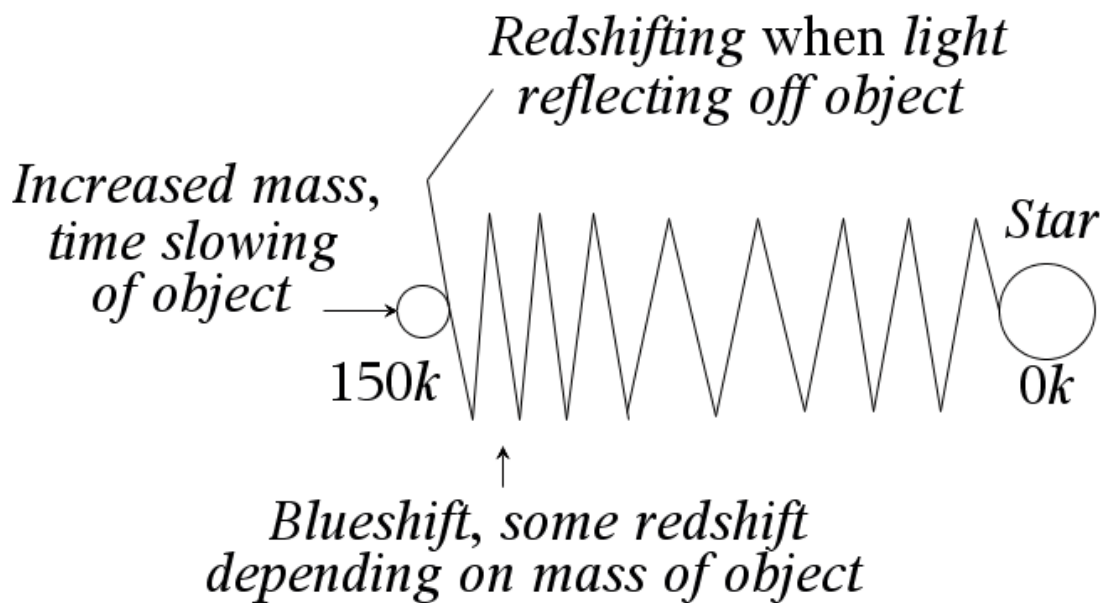
Light will reach the observer from every angle, and it does so at 300,000 km/s. Only the frequency varies between blueshift and redshift or other spectrums. As time slows down for an observer on a train traveling at extremely high speed, he experiences a frequency shift of the oncoming light in the blue spectrum to a lower intensity inversely to his own speed and mass. In other words, the oncoming visible light cannot be experienced to exceed the blue frequencies in the frequency spectrum, even if one were to travel at 150,000 km/s towards the light source. Thus, someone who accelerates to fairly near light speed does not experience that the visible oncoming blue light transitions to a more intense frequency, such as X-ray or gamma radiation, which are invisible to the naked eye. This is due to the train's own mass increase caused by its own enormous velocity, which in turn is causally caused by a strong energy input. It may be worth pointing out that the frequency band for visible light is only about 300 nanometers or $3x10^{-10}$ kilometers in the total electromagnetic field between 10^{-12} meter to 10^3 meter. (10^3 equals 1 kilometer.) That adds up to a 0,000035 kilometer band-width for visible light. About 3,5 centimeters of America's length from the East-coast to the West-coast if you want to compare the total bandwidth of the electromagnetic radiation field with America's length. And the stars can allegedly emit in different wavelength bands simultaneously. If the man on the train is moving away from a light source at 150k, the light becomes redshifted from the light source, as expected. If the light reaching him is

redshifted, given his absolute speed away from a light source, the light can never meet him at a frequency corresponding to a more intense frequency. Such a situation is thus unproblematic.

Image # 19

Redshift

Star

←

150*k*

0*k*

Increased mass,
time slowing of object

It all boils down to how light behaves within a gravitational field. Does its energy density intensify, or does it decrease? Of course, the electromagnetic radiation becomes redshifted. Only light *leaving an object's gravitational field* and light *reflecting from an object* is intensified close to the object, as seen by an outside observer, but decreasingly so with increasing distance from the object's gravitational field. It may be that we experience the light coming from distant galaxies as more redshifted, due to Earth's gravitational field. It may be that we have calculated the mass of the galaxies as being less than their actual mass, and the distance to the galaxies as being larger than it actually is.

Gravitational redshift (as accounted for in the images # 17 to # 19) is explained by the increased *wavelength* of the emitted light further away from the massive and emitting object (i.e., the *frequency* of light decreases with the distance). But the slowdown of time for an object emitting light means that an observer on the emitting object does not perceive that the frequency of light decreases with distance, *iff* he could have observed the light leaving the object, which he cannot. For the emitting object, the wavelength is the same and the frequency is

constant. But if it is a reflecting massive object, then the light shifts red towards the reflecting object, as well as from it but then with a countering gravitational blueshift.

Image # 20

No gravitational redshift as seen from emitting object
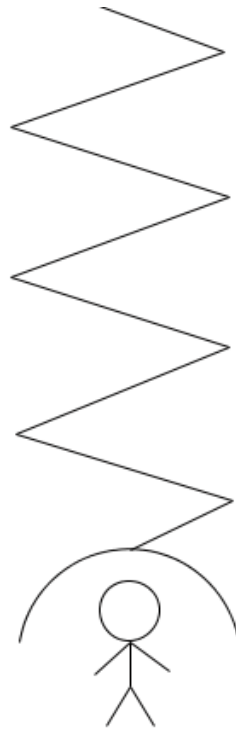
Einstein, or someone, figured out a certain type of thought experiment with two light clocks with a light beam reflecting perpetually between mirrors at the top and the bottom on two separate boxes. Now imagine that the second light clock box suddenly starts moving to its linear right at near the speed of light. You would experience the moving second lightbox, if you could sit on it, that the light inside the second lightbox is slowing down and thus time is also slowing down for you sitting on the moving box. This effect comes from that the reflecting light in the box is zigzagging to the right according to the speed of the box as far as an outside idle standing observer is concerned, and thus the light has a longer way to travel between every reflection as far as the outside observer sees it. But as I said, according to Einstein, if you're sitting on the box, you only experience how the light inside it is *slowing down* and the light, as you see it, is reflecting *vertically* up and down repeatedly. From the outside standing observer who is watching the box in its linear trajectory, the speed of the light is the same, it's the distance traveled by the light that is increasing to him.

Except the box can only accelerate up to a certain speed still considerably below lightspeed, thus light can always intercept the mirrors in the box from within at the speed of light but with redshifting. The maximum speed of an object is apparently 3.54 fifths of the speed of light, according to my previously described geometry (in image # 5 to # 6). I could argue with the thought experiment above. I can say that there is a difference between speed and distance in such an experiment. The distance the light is perceived to travel may vary depending on the observer's motion and viewpoint, but the speed of light is always constant in vacuum as confirmed in numerous experiments. I profess that when light reflects off a mirror it gets redshifted, i.e., its energy level is fading for each reflection. It might thus be correct to imagine that in Einstein's, or whoever's particular thought experiment, the light beam inside the box gets redshifted and scattered bit by bit for each reflection. It might be that the box riding gentleman, or you, don't perceive the light beam as if it was slowing down inside the fast-moving box. It might be that you are only experiencing an increasing redshift of the light beam, up to a certain point on your course when what's left of the light beam scatters. Sorry Einstein, but you have no experimental evidence to support your intriguing thought experiment. On the contrary, it is an axiom that the $speed = \frac{Distance}{Time}$. If we increase the Distance twofold in the equation, from 300,000km to 600,000km, we must also increase the Time twofold from 1 second to 2 seconds, since the Speed of light cannot exceed 300,000 km/s which is a constant in vacuum. We can also halve the Distance and thus we must also halve the Time, and this too gives us the speed of light, or 300,000 km/s. Time perception though is another matter altogether, just not for measuring the speed of light at any other speed than the speed of light. We are going to sniff more on the subject of time perception later on.

On pages 60-61 of Einstein's book *"The special and the general theory of Relativity"* he writes:

"Are two events (e.g., the two lightning strikes in A and B) that are simultaneous in relation to the embankment also simultaneous in relation to the train? We must now show that the answer must be negative.

When we say that the lightning strikes in A and B are simultaneous in correlation to the embankment, it means that the light rays emanating from points A and B meet at the midpoint M on the distance AB along the runway. Events A and B correspond to points A and B on the train. Let M[1] be the center

point of the AB route on the moving train. The moment the lightning strikes[1], this point M[1] coincides with M, but it moves at the speed of the train v to the right of the picture. If an observer sitting in M[1] on the train did not have that speed, he would remain in M and the light rays from the lightning strikes in A and B would reach him simultaneously, i.e., would meet each other right at the point where he was. In reality, he (as seen from the embankment) travels towards the light beam from B, while he travels ahead of the light beam from A. The observers who use the train as a reference body must always come to the conclusion that the lightning strike in B occurred earlier than in A. We have thus come to the following important results:

Events that are contemporaneous with respect to the embankment are not contemporaneous on the train and vice versa (the relativity of the contemporary). Each reference body (coordinate system) has its own time. An indication of time is meaningful only if the reference body is indicated to which the indication of time relates. "

Image # 21
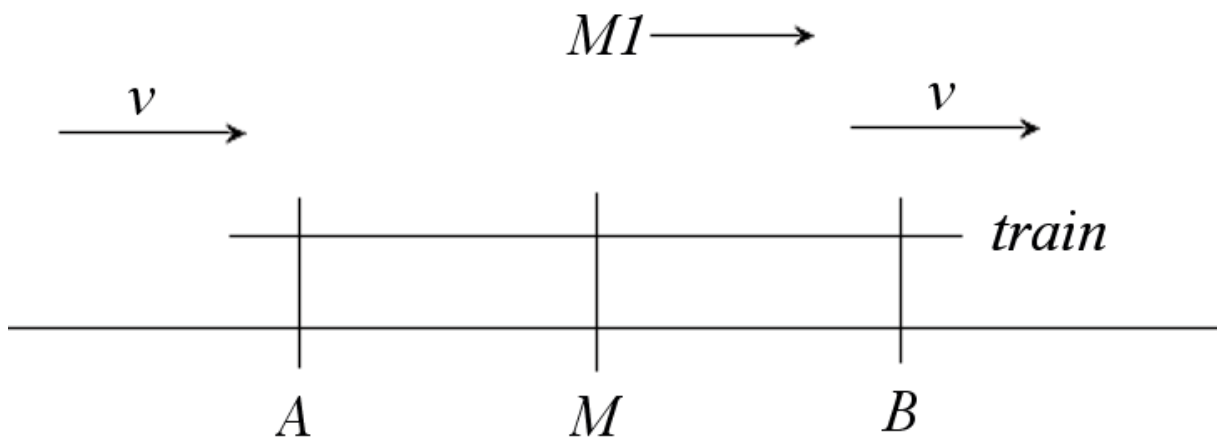
Based on known science, we can make one (1) correct conclusion from what Einstein is claiming above. The conclusion is that one cannot travel at the speed of light unless one is a photon, since there is no body in motion that cannot be sped up to by radiation at 300,000 km/s in any of the spectra. Two different observers will always measure the same speed of radiation regardless of how the observers move in relation to each other. Whether the radiation source is

moving away or approaching does not matter. This applies to all matter in motion except for photons that do not have rest mass. Only radiation can avoid being sped up to by other radiation, as seen from our perspective. As I wrote earlier, there is an *absolute speed scale ranging from 0 up to 300,000 km/s.* The highest speed is reserved for electromagnetic radiation and light. I would like to point out that it is possible that objects, or any object in Einstein's universe, may only be able to travel at a maximum speed of 150,000 km/s since the universe allegedly is expanding spherically in all directions from every point in space, and the greater the distance the faster the separation. Somewhere there is bound to be a galaxy with the most redshift as opposed to our galaxy. And this is practically like coming back to a holistic worldview that makes sense, sort of. The speed of two objects in opposite or oncoming courses cannot put together surpass 300,000 km/s in Einstein's universe. Still, the Oh My God particle seems to falsify that all mass have a theoretical maximum speed of 150,000 km/s, because it is a near light speed *particle*, particle and *not object*, certainly with a small rest mass but it still has a rest mass, which can be thrown out at 99.9999999999999999999951 percent of the speed of light, probably from a jet beam from a quasar or something even more powerful.

Einstein's hypothesis that there is no absolute motion for matter is not empirically proven, nor is it logically inferred in a way that leads to the only true conclusion. What perhaps contradicts Einstein's original hypothesis in the special theory of Relativity that there is no absolute speed for physical objects is that objects that are in extremely fast motion are flattened in the direction of motion. At the same time, Einstein says that all objects have a mutual relationship. If you travel at 150,000 km/s towards another object, how do you know your own speed and speed of the other oncoming object? Both objects are relative to each other since the speed of objects according to Einstein is a relative concept. You could then just as well see it as if the second object is traveling towards you at 150,000 km/s while you are not moving at all, or that you separately travel at 75,000 km/s towards each other. And at these extreme velocities, which of the objects is flattened? Are both objects equally flattened? How can one object be more flattened than the other if there is no absolute speed scale? What happens if you add a third object in the equation, and a fourth and a fifth etc. with different oncoming directions? There is no way to calculate the interrelationship of several different objects' shapes traveling at different speeds and directions towards each other, if using Albert Einstein's original theory and valid

mathematics! The same logic can be applied to aging when considering that there is allegedly no absolute speed scale for objects. For how can two space travelers in relative motion to each other actually age differently in Einstein's universe? Of course, they cannot. That we have not established this fact before is to me unfathomably stupid. Not that Terrell and Penrose was/is respectively stupid. [The Terrell–Penrose effect is the idea of the visual distortion that a passing body traveling near the speed of light would appear to undergo.] Ok to visual distortion, yes, but the body may not appear to be flat to an outside observer, the body may instead appear to be compressed, which it is. And the body's velocity is quite finite.

It seems counterintuitive to look upon time perception as if there was no correlation between two objects traveling at very different speeds. If one object travels at a speed of 30k, and another object travels at a speed of 1k, then clearly there must be a correlation in aging between the two objects? The first object is aging slower in comparison with the second object, or you can look at it as if the second object is aging faster in comparison with the first object, as seen by an outside observer. Right? It is true. But you can also, philosophically speaking, opt to look at the first slower aging object as if it instead freezes with increasing directed energy of that object, instead of it aging slower in relation to its surroundings. Then the difference in aging would, philosophically speaking, be reduced to a slowing of activity for that first object as it gets colder if we set aside the thermal energy from that object's propulsion. This approach makes it much more cognitively comprehensible to not correlate the two objects' timeline, when thinking of the set we have of an object in fast motion and another object in slow motion. Or as I wrote early on in my book:

Massive object M **O- - - - - - - - - - - =>** small spaceship (s)

M does not travel forward in time compared to (s).……Time slows down for (s)

M does not travel backwards in time compared to (s).   due to energy convers.

M has the same amount of energy……………………………….Added directed
                                                                                          thermal energy for (s).

M is aging at a certain rate..……………………………………….(s) is aging slower
                                                                                          than M. This does not
                                                                                          apply to orbital
                                                                                          movement.

If we look back in time like the James Webb-telescope does, do we see denser formatted galaxy clusters in every direction 13 billion lightyears away? And wouldn't the universe be denser the farther the distance in every direction we look, with the currently accepted theory about how the universe is constituted and how space is expanding? I say there can be a center of the Big Bang at every imaginable spot in the universe if and only if the universe is endless, and I don't think it is. We must come up with an alternative explanation for why the background radiation is practically evened out in all directions. It may be because the universe is so unimaginably big, that any measurements on galaxies' location in regard to each other are indiscriminate. And therefore, the background radiation too is indiscriminate. But the universe is still not infinite.

It may be that this revised theory of mine solves the problem with not being able to measure non-baryons i.e. undetectable dark matter, or explain the question; "what is dark energy?" for that matter. The imaginary quantity Dark matter may not be needed to explain the shape of galaxies and the to this date unexplained extra gravitational pull that holds together the galaxies. In image # 7 and # 8 in this book I may have stumbled upon what the pushing force of Dark energy is. It wasn't intentional though, because I didn't pursue the conclusion, I *inferred* the conclusion.

If you are near the event horizon of a black hole it is like you are seeing the future of the universe playing out rapidly

The concept of "reciprocal slowdown of time" I have borrowed from the scientific community and used in my own thesis. But I don't think it is equal to the hypothesis I lay forth. What *is my thesis* is that I contend that a person who is located at near the event horizon of a black hole *perceives the time* of the outside world as moving faster relative to himself, because a person who is close to the event horizon experience things *in his very immediate surroundings* in slow motion relative to a more distant outside world. But even if you, from near the event horizon of a black hole *perceive the outside world* as if it is speeding up, the Sun still goes up and down on Earth as many times as it does according to its own spinning velocity. Electromagnetic radiation, like light, always travels at the speed of light in vacuum so that the only thing relative is the redshift of the light, not the speed of light. Signals sent from above the event horizon of a black hole *will thus travel at the speed of light and reach a more distant outside observer at the speed of light,* regardless of which perception of time. For you "sitting" near the event horizon of a black hole it is like you are seeing the future of the universe playing out rapidly. If you could be inside the black hole watching out, you would see time end for the universe in an instant. Except the space from inside a black hole is infinitely curved inwards towards its singularity, so you wouldn't see a thing. But if you could be near the event horizon of a black hole you could report the future as you see it happening in the surrounding world, via electromagnetic signals in real time, i.e., at the speed of light, to the outside world.

For the crew on a really fast traveling spaceship, time looks as if it is continuous with the man who is near the event horizon of the black hole. So, I think it is the case that the person at the event horizon of a black hole and the spaceship and its crew slows down in thinking, internal moving and in aging. An extremely fast traveling spaceship and its crew would slow down in aging, and the crew of the spaceship de facto sees the surrounding world as progressing faster, just like the man near the event horizon sees the surrounding world. Except the Sun rises here on Earth according to Earth's own rotational speed exactly the same number of times. The extremely fast traveling spaceship's crew and the man near the event horizon have their own very slow perceptions of time. Time on

their wrist watches have the same numbers one to twelve or one to sixty, but every second is longer.

What perhaps is the most important and drastic implication for my contention about the spaceship and its crew who are traveling at a very high speed and the man near the event horizon, is that the spaceship's crew experience the man at the event horizon as if he is moving in a slower pace coequal time dimension, and the man at the event horizon sees the spaceship and its crew as if they are moving in a slower pace coequal time dimension with him. But everything outside of the event horizon and everything outside of the spaceship they experience as if it is speeding up so that their surroundings actually is displaying the future progressing rapidly before their eyes. This is all too weird.

The man near the event horizon of a black hole is orbiting the black hole at an enormous speed as seen by an idle standing observer far outside of the event horizon, as well as that the spaceship and its crew are moving at an enormous speed as seen by the same outside idle standing observer. But the difference in perceived speed is marginal. The 3.54 fifths of the speed of light that matter, or rather plasma, can max accelerate to, just outside of the event horizon means that time dilation is less than 0.7 seconds compared to a hypothetical outside idle standing observers measured 1.0 second.

Approaches to verify or falsify my theory

On page 10.

Stipulation: The traveler, as he is accelerating to near lightspeed, experiences time like a person who is near the event horizon of a black hole. The traveler and the other person near the event horizon of a black hole can wave at each other at the same rate and they experience each other's movements in corresponding real time.

On page 16.

The Earth-bound people and the time traveler age as quickly or slowly in relation to each other during the return journey as they did in relation to each other during the departure. *It is thus the speed as such with which an object travels that determines how slowly or rapidly it ages in relation to other objects. It is not because objects move away from each other or move towards each other that makes them age differently,* but all objects are always in relation. Thus, there is an *absolute speed scale* ranging from 0 to 300,000 km/s.
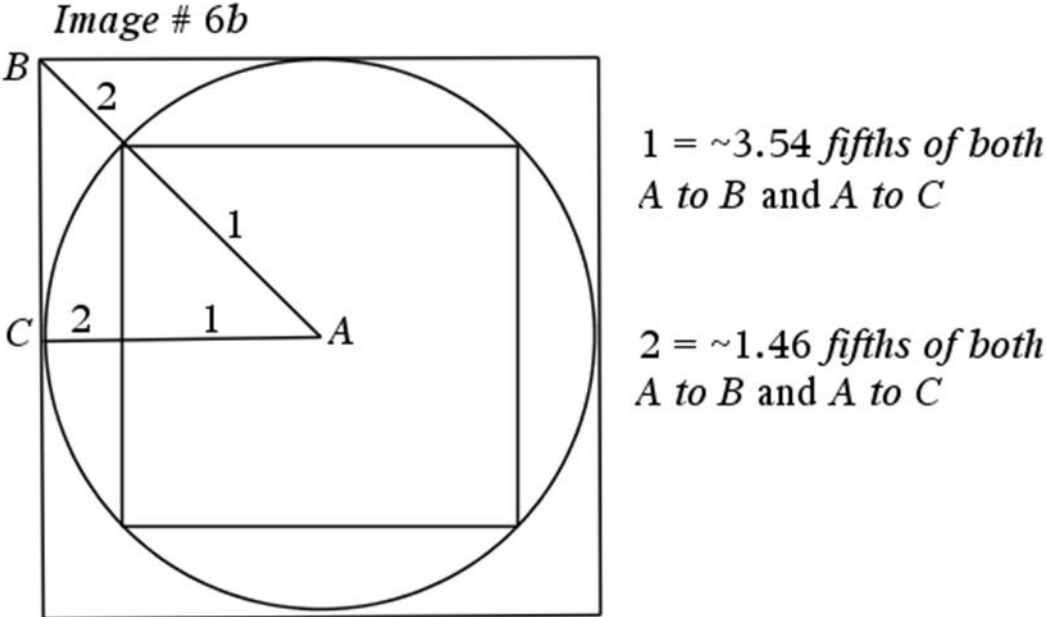
The above two postulations are verifiable or falsifiable in the following way

At what rate do satellites with opposing tracks age compared to one another at opposite locations of the equator, when they have the same inclination tracks, speed, and altitudes in opposite directions and when they are moving away from each other? According to Einstein's theory of Relativity, both satellites must age at (with the objects distancing from each other) a certain subtracted equal rate for each satellite since there is allegedly no absolute speed scale for anything but light. If they don't age at that rate than what Einstein suggests within his theory, then someone has some explaining to do. According to my theory, they don't, and they shouldn't age at any other rate than what their measured speeds suggest for each satellite. This is applicable to satellites moving towards each other too since the satellites, according to my theory, age differently only in relation to us here on Earth and not to the respective satellite with the same inclination tracks, speed, and altitude but which is traveling in opposite directions. Do the satellites' clocks deviate from the expected time, of the

currently accepted theory, for meeting satellites with a certain speed and altitude in relation to each other then?

There was a very famous experiment in 1971 by Joseph Hafele and Richard Keating. In a test, Joseph Hafele of Washington University in Saint Louis, and Richard Keating of the U.S. Naval Observatory, flew cesium atomic clocks around the world on commercial jet flights, then compared the clocks with reference clocks on the ground to find that they had diverged. But did this prove Einstein's theory of Relativity, or did it disprove it? It confirmed that there is relative time, but it disproved Einstein's theory in part. You see, the clock that went Eastward around the world was 0.000059 seconds early and the clock that went Westward was 0.000273 seconds late. Thus, there must either be an absolute speed scale for traveling objects, or the measuring circumstances for this experiment is somewhat uncertain because of obvious reasons, or both. If one is located at the Earth's equator, one would be spinning Eastward around the Earth's axis with the rest of the planet at 1,667 km per hour or 0.463 km per second. Basically, the same amount of energy would be required to travel Westward as well as Eastward, as we have already concluded early on in this book. Let us assume that an airliner aircraft travels at about 1,000 km per hour. The Earth rotates in the direction East. If there is an absolute speed scale it would entail that an airliner flying Westwards would fly at an absolute speed of 1,667 km less per hour on an absolute speed scale. Take the 0.000059 seconds and add it times two and you get 0.000118 seconds. This number 0.000118 is more compatible with the number for Westward travel or 0.000273 than is the first number 0.000059. This is in line with what I have been saying about the energy required to launch anything [into the atmosphere], basically being the same in all directions provided that the pre-conditions are equal. But to launch a body into a Westwards *orbit* around the Earth would require more energy than to launch a body into an Eastwards orbit. It's because the atmosphere and Earth versus space have two different reference frames. Except, if you launch anything from space it would take equal amounts of energy in any direction provided that the pre-conditions are equal. At the same time, the Earth travels in its orbit around the Sun at 108,000 km per hour, and the latter would make up a speed of 30 km per second but let us not delve into that since it is otiose information for this section of my book. Incidentally, flying Westwards means that it takes longer to get from point A to point B than flying Eastwards from point B to point A. It is the rotation of the Earth that is causing the longer flight times, but not because it's

moving towards or away from the flying aircraft. The main reason for the difference in travel time is due to the jet stream. The jet stream is a high-altitude wind that blows from the West to the East across the globe. But I seriously doubt that they flew at such an altitude for this experiment without having a method for compensating for the loss of speed due to the jet stream when flying Westward. However, the result of the experiment is standing a little bit on shaky ground due to possible wind gusts in flight, irregularities in air pressure and technical aspects et cetera. I imagine they would have conducted multiple flights and then they would have calculated the mean value or the median of the digitals on the atomic clocks. That is what I would have done. Albeit it isn't to much help against wind gusts and irregularities in air pressure if you don't know approximately how many of those there will be.
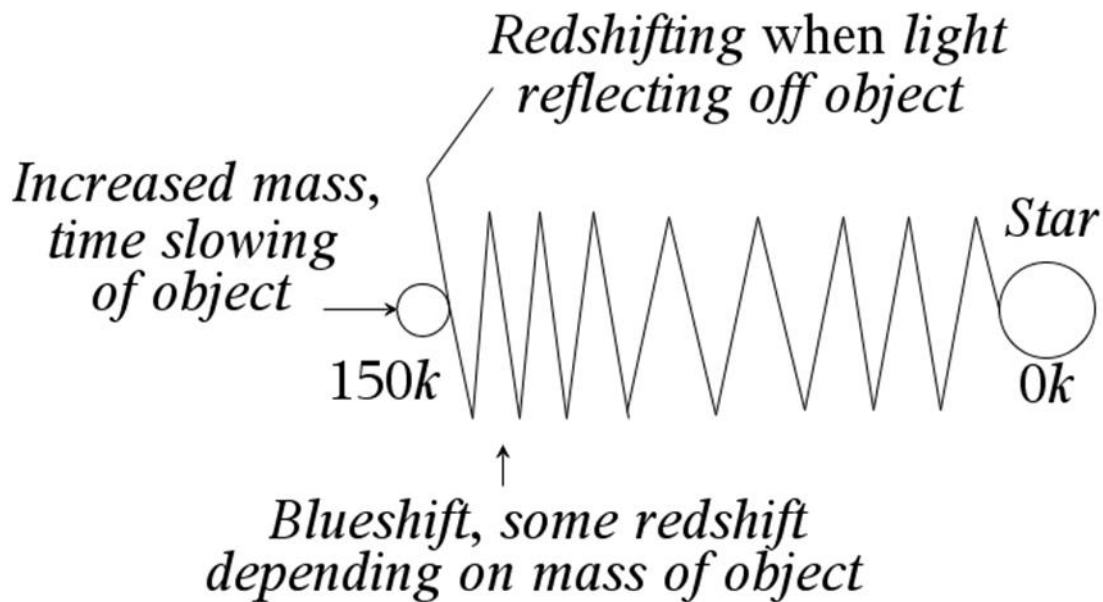

Image # 6b

1 = ~3.54 *fifths of both*
A to B and *A to C*

2 = ~1.46 *fifths of both*
A to B and *A to C*

The above postulation is verifiable or falsifiable in the following way:

Measure the maximum speed, in which matter at a proper distance revolves around black holes, that devours stars and other matter in orbiting trajectories around the black hole. If the maximum speed exceeds 3.54 fifths of the speed of light, then my theory is wrong. And measure the speed at which matter revolves around as many separate known black holes as possible, that are devouring matter, and see if matter has the same velocity at a proper distance regardless of the mass of the black hole. By doing that you can determine if there is a

maximum speed or not for mass. There is also a Blazar that is pointing right at us, the PBC J2333.9-2343, that we can measure.

Image # 18

Redshifting when *light reflecting off object*

Increased mass, time slowing of object →

Star

150k

0k

↑
Blueshift, some redshift depending on mass of object

On page 53.

It all boils down to how light behaves within a gravitational field. Does its energy density intensify, or does it decrease? Of course, the electromagnetic radiation becomes redshifted. Only light *leaving an object's gravitational field* and light *reflecting from an object* is intensified close to the object, as seen by an outside observer, but decreasingly so with increasing distance from the object's gravitational field. It may be that we experience the light coming from distant galaxies as more redshifted, due to Earth's gravitational field. It may be that we have calculated the mass of the galaxies as being less than their actual mass, and the distance to the galaxies as being larger than it actually is.

The above postulations are verifiable or falsifiable in the following way:

1. Repeatedly measure the frequency of light from a star, with a sensor onboard a satellite in orbit around the Earth, and/or measure the light from a star with a sensor onboard a spacecraft leaving the Earth's gravitational field 90 degrees from the star/Earth.

2. Measure the frequency of light from the same star, with an equally fine-tuned tool placed on the Moon.
3. See if the measured frequencies deviate from each other and how.

On page 49.

> However, very importantly - there are different time *perceptions* on the moving body compared to an outside idle standing observer. /…/
>
> Light maintains a constant velocity in a vacuum in accordance with every measurement ever executed on the speed of light.

The above postulations are verifiable *and* falsifiable in the following way:

One can accurately measure time dilation for a moving body even when it is traveling at moderate speed. Build an instrument for accurately measuring the speed of light and another instrument for accurately measuring time. Place the devices in a shuttle in a vacuum tunnel. Set a light source from a distance onto the shuttle's light measuring device. Launch the shuttle. When launched, let the dedicated shuttle measuring device measure the speed of light from the light source mounted at the end of the tunnel. Send the speed measurement result via radio signals to a receiver device on the ground in real time. I bet the device for measuring the speed of light onboard the shuttle will show the exact speed limit for light in vacuum when the result is sent from an onboard transmitter to a receiver device on the ground. But I also bet the clock onboard the shuttle will show different time from a pre-synchronized clock on the ground when compared. We will thus have proved that the speed of light is measured the same no matter what velocity an emitting body or object has. Yet we will have also proved, contradictory, that time dilation is a fact. How could these contradictory results be explained? The results would appear to disprove each other. But like I mentioned, and this is a clue: *Also, the latest laboratory experiments in the field of quantum mechanics performed by the Imperial College in London support the idea that light is ever present. Imperial physicists have recreated the famous double-slit experiment, which showed light behaving as particles and a wave, in time rather than space. Light appears to interfere with itself.* It should be the same for all electro-magnetic radiation, like the radio signals emitted from the shuttle.

A hypothesis

What if? What if there existed a one-dimensional dimension that we cannot see, isn't tangible and is behind a "wall" which constitutes a spaceless interface, and makes it possible for entangled particles to be immediately entangled over large distances as seen from our three dimensions + the time dimension? Think of an old-time telephone switchboard where the callers are phoning from all over the place and are connected at the telephone company who can listen in on all of the callers. That would be the easiest way to explain it with a metaphor. This is not to say that you can straight off interpret the metaphor literally as if the interface had the function of a switchboard. This is a hypothesis, use your imagination!

What if? Everything existed at once in one spot in this interface dimension because there is no time lapse or space in this dimension. Can we consider quantum entanglement experiments as an indication of my hypothesis about a non-time "switchboard" property dimension? What if the Spinor's 720 degrees rotation property indicates that the spinor is at its heart in this interface dimension of no place and everywhere at once. Can the conjugated variables, of undefined orientation and defined angular momentum, of a particle be explained by introducing this interface dimension? What if a non-time "switchboard" interface dimension explains quantum properties? If you ever wonder, I adhere to the "nonlocality" phalanx, albeit with my own twist.

What if? As I see it, black holes are collapsed objects with infinite gravitation within the two-dimensional but curved event horizon. What if black holes penetrate the barrier to the above-described interface by its sheer gravitational pull, staying eternally still in time?

What if? What if photons penetrate the barrier to this interface by its sheer speed and by it not having rest mass? A photon travels at the maximum speed in vacuum, and it may be two-dimensional like a spot of light on the wall from a flashlight, yet on the move at a speed of 300,000km per second. A photon would experience time the same way a black hole does, if they could experience time.

And as I contended earlier on page 43:

As seen from an emitted photon, there will pass no time at all, everything happens in an instant. From the time of birth for an emitted photon to the time of impact of a photon, if it is destined to impact some object, there will have passed no time at all as seen from the photon. $E=qmc^2$, where q is the thermal energy. Then E = thermal energy times mass energy, times c^2 or the speed of light squared. We now have three entities of energy – inertial mass, momentum, and thermal. Before a photon is emitted it had mass. Like in the battery of a flashlight. In fact, it is not even a photon yet. When a photon is released, or rather is induced, mass transforms into light traveling at the speed of light in vacuum. As the photon, instantly from its own perspective, hits the wall your flashlight is aimed at, its momentum energy transforms into thermal energy. This should mean that, for a photon, everything happens at once. Energy transfer is immediate. For a photon there is no future, and there is no then. It's ever present. All light is ever present. Maybe this explains how photons can be quantum entangled at a distance? But the procedure for a photon from birth to end is causal. Also, the latest laboratory experiments in the field of quantum mechanics performed by the Imperial College in London support the idea that light is ever present. Imperial physicists have recreated the famous double-slit experiment, which showed light behaving as particles and a wave, in time rather than space. Light appears to interfere with itself.

A penny for your thoughts

1. I wrote this book not only for scholars but for any average person too. That is why I have incorporated ideas that are more self-evident and already established since long ago.
2. My book is much more thoroughly logically describing, elaborated, and explicated than Einstein's book and/or thesis. That's a plus on my side.
3. Relative aging is closely correlated to rest mass energy, directed thermal energy, and the velocity of the mass - total amounts.
4. The formula for energy, I contend, is $E=qmc^2$ where q equals thermal energy. E isn't equal to mere heat and mass and its velocity squared since electro-magnetism is in effect induced but interchangeable energy too. But energy according to the equation above might have been separated from electro-magnetism as an energy form since the beginning of the universe. We may not be able to conjoin the two separate forms of energy into one common equation.
5. How can a small body steal energy from a larger object when passing through the larger object's gravitational field, you say? Isn't the causality the other way around, that the larger object mostly affects the course of the small body?
   a) Forget about the larger object for a minute and concentrate on what happens with the small body. The small body is gaining energy as it accelerates and is altered in its course with a curved trajectory.
   b) Now forget about the small body for a minute and concentrate on what happens with the larger object. The larger object is losing energy as it slows down and is altered in its orbital trajectory so that the radius from the star to the larger object increases.
6. But the small body does lose energy when crossing paths with the larger object [when circumventing the large object on its orbiting course around for example a central star]. Under these circumstances the larger object is gaining a higher energy level as the larger object speeds up and is altered in its orbital trajectory so that the radius from the star to the larger object basically decreases.
7. In my headline: *If you are near the event horizon of a black hole it is like you are seeing the future of the universe playing out rapidly*
   a) I admit it. I admit that black holes are weird. But it's not like we had a firm grip on the paradox of black holes and time, before this thesis. The

3.54 fifths of the speed of light that matter, or rather plasma, can maximum accelerate to, just outside of the event horizon means that time dilation is less than 30 percent or 0.7 seconds compared to a hypothetical outside idle standing observers measured 1.0 second.

b) Except, electromagnetic radiation still travels at a velocity of 300,000 km/h toward the black hole's event horizon as well as it travels at a velocity of 300,000 km/s from outside of the black hole's event horizon and outwards for any observer to measure. Thus, there is no time dilation for light, only frequency variations. But black holes are still weird. ~~They are like God's crystal ball.~~ I am sorry, I shouldn't have mentioned that. But it makes for a good story.

c) Time dilation, is it real? It is real for an emitting *body* in the eyes of an outside idle standing observer. A satellite atomic, or mechanical, clock runs faster than a clock onboard a flying aircraft despite having greater speed. So, in orbital movement in a gravitational field time dilation certainly appears real. This implies that Einstein's mass/spacetime idea is correct. But the speed of light or any electromagnetic radiation is constant and measured the same for an observer on Earth as well as for an observer onboard a satellite. Maybe we should relativize time *perception* on a moving *object* or *body* instead of relativizing the speed of electromagnetic radiation.

d) I believe that we will eventually solve this problem concerning emitted electro-magnetic radiation from a moving body or a massive object and time dilation. I bet it has to do with light behaving as particles and a wave, *in time* rather than space, and light being ever present. We only must set our minds to this new concept, even if we don't fully understand it yet.

8. Mass has no constancy; it increases when a body accelerates, preferably to a very high speed. But the total amount of energy in the universe can never decline.

9. Except from there being an absolute speed scale, mass having a maximum speed limit, and mass having no constancy, Albert Einstein discovered what God's blueprints were for the building of the universe. However, Einstein's imaginary thought experiments cannot be applied to the constitution of the house we call the universe. He didn't consider that the building blocks of the universe are limited. His imaginary thought experiments are therefore to a certain extent a hypothesis somersault, not practicality.

Shut up and calculate!

Humans are thinking creatures. How do we humans perceive our surroundings? In a way that makes sense for us in order to survive and procreate, of course. If I with military terms would try to explain the macro world and the micro world, I'd say that macro is strategy and micro is tactics. Here we have two different ways in how to think, and you may be good at one but not good at the other. Yet they are both indispensable, from the small to the big, for the outcome of a war, and there is no clear interface between the two. Strategy is about the bigger goal, and tactics is about the detailed means to reach this bigger goal. An apposite analogy would be if strategy is compared with Relativity and tactics is compared with quantum mechanics. Our classic viewpoint is such that we look at it from the big to the small, but the causal order goes from the small to the big.

But how does this apply to the theory of Relativity versus quantum mechanics? I think that we humans are incapable of perceiving the superposition property in quantum mechanics. Understanding superposition property was never a requirement for us surviving or procreating. But the superposition property is a weird feature indeed! If we set up the double slit experiment, and measure the outcome, we find that the wave function collapses. We measure the wave function of a photon, and it is transformed into becoming a seemingly random spot on a surface. The spot isn't observed at a given place since the wave-particle was in a probability state. It is where it is, but we have no way of telling exactly where the transmitted photon particle is going to end up. It can show up at any of a finite number of probability defined places if you transmit many single photons in a sequel. So indeed, it is weird, and our brains will never be able to fully understand or correctly perceive the physics of a wave-particle, since our brains are not wired for that. But somehow this unintuitive result, which to us looks like magic, is solid state physics. We just plain cannot perceive it or imagine it. We will at some point in time finally have to learn to accept that, I think. But even if we cannot grasp the How, we may still be able to understand the Why.

Interlude

Something that can be conveyed from one person's mind to another person's consciousness is information, if the person receiving the information perceives it as the transmitter intended. That the receiver syncs the information that the transmitter has in his head is a confirmation that the information is logic. But for this to be possible, it requires that the receiver is at least as intelligent as the transmitter alt. that the transmitted information is simple enough for the receiver to perceive the information as the transmitter had intended for the receiver to perceive it. A proviso must be included. Emotions can also be conveyed between a transmitter and one or more receivers. But emotions are more likely to have a socially logical function rather than that emotions are purely irrational. E.g., in mating and childcaring or in the forming of communities and nations. It's just that you can't build houses with emotional expressions. Although you may want to build a house with emotional expressions. From this follows that emotions can be logical from an evolutionary perspective. Everything indicates that emotions and logical thinking are mixed to varying degrees in solving problems, music production, and in grief, revenge, happiness, envy, curiosity, etc.

An informed person can intuitively understand how the universe is constituted. A person can also be wrong if his brain is of a poor quality or not good enough quality. There are a lot of stupid men trying to get the scientists' attention. They usually don't know higher math and they usually are wrong. A mathematician can also understand the universe, but he too can, although his math equations are unquestionable, just as often be wrong. It is far from sure that his math can be implemented in science in a correct way that truly describes the world. So, his math may not be applicable to science at all. And he is undoubtedly an educated man. I am not an uneducated man myself, but I'm mostly autodidact. Except for in the subject of philosophy. My brain is hardwired to solve advanced problems. Math is only a tool, and that tool is kind of unreliable as it is. Lots and lots of mathematical calculations, however correctly calculated, have been proven wrong for understanding the universe. What I mean to say is that logical intuition is a function of the brain, and although I don't know higher math, I may still be able to correctly infer the overall constitution of the universe. Math skills are not the sole marker of what intelligence is and it is not the only method.

Why is the universe composed so that intelligent life is possible

Some say that the reason we can even ponder the question "why does the universe bother to exist?", is because the universe is composed so that intelligent life is possible (inevitable some say), that is, because we are here. The improbable coincidence (or the therefore probable God) in the origins of all the well-tuned building blocks and conditions of the universe is therefore allegedly solved. All of these randomly well-tuned universal laws of nature and components that make up our universe are "explained" by our existence, that we can contemplate it. Had we not existed, there would have been nothing to ponder, some say with another choice of words.

That's not very argumentative, in my opinion. If, on the other hand, there were a conglomerate of universes with different conditions, well then the same argument about randomly well-tuned laws of nature and components explained by the fact that we exist would suddenly be hard core, because the existence of our universe, which makes it possible for us to ponder about the question why the universe exists, increase with the number of universes that exist. That Stephen Hawking was on to something.

Roger M. Klang, August 2008

Multiverse, where does it stop – the opposite opinion

What says that the universe must end with one (1) multiverse? If the universe we know today is not the complete universe, then scientists do not have to stop with one (1) multiverse either. There may just as well be an added universe, as the multiverse is just barely infinite. After this universe, there can be many more universes, so why stop at a multi-multi-universe when you can count multi-multi-multi-multi-multi-universes x 10?

It does not have to be our specific world - the universe as we see it from the inside - that is the largest complete space containing matter. But there is also no good reason to think that there must be a multiverse that is larger than our universe, and which contains our universe and multiple other universes.

A multiverse could explain why we live in a universe that is so finely tuned that it is precisely adapted to produce intelligent life that can reflect on the Multiverse. But you just push the problem with the origin of the universe/multiverse in front of you. The only thing you can explain is the origin of the intelligent man and then only that man has evolved, not how man has evolved. Same with the Universe. In addition, the hypothesis of one or more multiverses is not even a falsifiable or verifiable hypothesis.

No matter how much Stephen Hawking (R.I.P.) and his agnostic or atheist equals desire, they cannot rule out any existence of a God. It does not matter how large multi-universes there might exist, because you can still not get rid of a possible creator no matter how many multiverses. Then we can just as well stop where we are today, and accept one (1) universe, without ruling out the possibility of the non-falsifiable, non-verifiable hypothesis that there may be an even larger multiverse. I doubt that one can make mathematical calculations that are complete and valid and support the hypothesis of possible multiverses. Why should one apply the mathematical laws of our visible universe to other strange universes in multiverses? In any case, I am sure that one cannot make mathematical calculations that truly support the theory of the origin of a multiverse, when one cannot even mathematically prove the causality of the origin for the visible and measurable universe.

At first man knew that Earth was the center of the universe. Then suddenly the Sun became the center of our solar system. Much later we understood that we live in a galaxy with many, many stars. Shortly thereafter, we lived in a galaxy cluster among billions of other galaxies. And now they say, without being able to see or detect this mysterious multiverse, that our universe is just one among an immense number of universes with different conditions and laws of nature. And what are these laws of nature then, I ask? Mathematics and laws of nature seem

to come in one and the same set and are dependent on space, time, and mass in motion. I cannot imagine a lasting universe without these factors.

The question is, where to stop? At what point do you set the limit for our understanding of the extent of the universe or the multiverse? At some point you must hold back your imagination and trust common sense, especially as there is a complete lack of empirical evidence for a multiverse.

Roger M. Klang, March 2014

How many lightyears does the universe extend

There is a book called *"Just six numbers. The deep forces that shape the universe"* written by the astrophysicist Sir Martin Rees. He, or rather the inflation theorists, are presenting a hypothesis, that the universe was expanding with inflation speed to an almost unimaginable expanse, which would entail that the light from the edge of the universe would need so many years for it to reach us, that we would have to write this number with millions of zeros after. I assert that this is absurd. Even a number as large as a thousand billion light-years would be improbable, because it would mean that the location of our solar system in relation to the place of origin for the universe would account for an implausible one percent chance of being located where it is, i.e., ~10 billion light-years from the Big Bang if the universe was 1000 billion light-years in extent. I assert that the extension of our universe can be at most say an arbitrarily set 100 billion light-years, i.e., our galaxy has one chance in ten of being located where it is located. Ten percent probability makes the probability many times higher that we are in square one out of ten possible. Except, it may be the case that the reason why we are here in square one, out of an infinite number of billions of places from the Big Bang, is because life can only develop and thrive in the first ~10 billion lightyear square out of a fantasillion number of squares from the universe's origin, and hence we are simply living here and not in any other place. Thus, any creature can therefore look out into the universe only from our

approximate lightyear square in the universe. But the hypothesis mediated in the mentioned book is an unlikely one, as far as I can try to understand.

Roger M. Klang, March 2008

The finite universe

There is a very simple geometric proof that the universe is finite. If the universe had not been finite but infinite, then two nearby stars at the farthest distance from the Earth (if you could say "farthest distance from the Earth" in an infinite universe) seen horizontally from the Earth, would lie along exactly the same axis. Thus, triangular formations could not exist in such a universe and consequently the Pythagorean theorem would have no meaning. It does not matter if two stars are at a 44-degree angle from each other from the Earth, because if the universe is infinite, sooner or later with the increased distance the stars will lie along one and the same axis seen from Earth. This means that an infinite universe would necessarily have had to be one-dimensional if it were to exist, just like the number series. The whole thing reminds me of the turtle that repeatedly halved its walking pace or distance walked and therefore never reached the finish line. There is a similar principle that prevails in the Pythagorean theorem. A theoretical triangle can never become a straight line no matter how long the base is and how short the height of the triangle is. Thus, the Pythagorean theorem makes an infinite universe impossible. Or one might say that a finite universe enables the Pythagorean theorem.

It is a mistake to think of nothingness outside the universe as an entity or an infinite and/or dark but empty extension of the universe. One should see the universe as an infinite but limited and curved sphere. Infinity thus exists only within the curvature of the universe. There is no point in imagining an *"outside universe"*. We stand within the universe and look at our universe from the inside, and the so-called infinity outside this concept neither exists nor can be understood. It cannot be understood because it cannot exist. The absence of

light is not equal to black. Black is a perception, or a lack of a perception, that manifests itself in our brain and that only exists in living beings in the universe. If you ask a blind person what black is, he probably answers that this is what he experiences. But black does not exist outside the brains of thinking creatures. Black is a brain ghost. Thus, we may have eliminated the need to imagine the so-called properties of the outer universe. The only place in which infinity has a theoretical bearing is, as mentioned, the two-dimensional number series. Theoretical because in theory you can continue to count as far as you want or can.

Roger M. Klang, October 2014

Where we should look for other civilizations in the universe

Since it takes 4.5 billion years for life forms to evolve into humans, every other star with a planetary system with intelligent life must have lived half of its total life span. And since the nature of our Sun is such that it becomes 10 % hotter for every billion years, intelligent life can continue for a maximum of 2.5 billion years. So, we should only look for stars that are between 4.5 and 7 billion years old. The star must be a yellow dwarf with the same composition as our Sun.

But an important factor or two are missing, such as how wide the belt in the Milky Way is, which can accommodate intelligent life, and how dense the collection of stars is there.

The central region of the galaxy has a diameter of more than 20,000 light-years. In the middle of that central area there is a supermassive black hole, with a mass of about 2.5 million solar masses. The stars in the central region are about 10 billion years old. Our own Sun is in the Milky Way's large rotating disk about 27,000 light-years from the central supermassive black hole. In the large rotating disk, we find the galaxy's huge spiral arms, where new stars are born. With an

age of 4.5 billion years, the Sun is among the older ones in this disk. The diameter of the galaxy is 100,000 light-years. There are two hundred billion stars in the Milky Way. The age of our galaxy is 13 billion+ years.

The nearest star, which has three giant planets that orbits a Sun almost exactly like ours, is only 41 light-years away. It is not yet known if there is a habitable planet in that solar system, but it may even be probable. Given the short distance from Earth to this solar system with giant planets, and solar systems elsewhere that have giant planets, the odds are high that similar yellow dwarf solar systems as Earth have giant planets, perhaps in virtually every such solar system, thus increasing the likelihood of intelligent life in these solar systems. Giant planets are needed as asteroid magnets, for advanced life to evolve on other planets in that solar system.

Now we come to the planet's importance for being habitable for intelligent life. We need the right planet, of the right size, with water, with a magnetic field, with the right orbit and at the right distance from the star. And to be on the safe side, so that we do not overestimate the possibilities of planets with intelligent life in the universe, a planet with the right tilt and the right Moon for seasons and tides.

If all this are to fit the model, then the probability for intelligent life in other solar systems in the Milky Way are more limited. Add to the equation how many planets with intelligent life there can be, whos' opposable thumb inhabitants are in an advanced civilization where radio emission is the result of a technology, if one assumes that such a civilization can last for a thousand years. It must be considered that it takes a long time for their emitted radio waves to reach Earth. Also, radio waves thin out fast, like rings from a stone thrown in a pond, so it is virtually impossible to detect other civilizations in the Milky Way.

Roger M. Klang, March 2009

God or no God

Let us assume that God exists. Then there are two alternatives to why I am sitting here contemplating this:

a) Either God created us humans like an artist, tangibly influencing the process of evolution here on Earth.

b) Or God has created the universe in such a way that it is a law of nature that the universe automatically, in the right solar systems and on the right planets, produces social beings with the capacity for cognition, and that they can use tools to create advanced civilizations through evolutionary processes.

What he cannot have done, however, is to create the universe and only hope that it will produce advanced social creatures with the capacity for cognition, that use tools to create advanced civilizations. If it is a fact, and this is true whether there is a God or not, that it is only chance that determines whether advanced creatures who can use tools to build a civilization could evolve, then it is far from certain that such advanced creatures would evolve on other planets in our galaxy or in the universe at some point.

Now suppose there is no God. Then there are two options:

1. It was a fluke that made us evolve into social beings who could build an advanced civilization based on fossil fuels.

2. The universe is fortunately so complex that it is a law of nature that the universe automatically, in the right solar systems with the right planets, produces social beings with advanced cognition, beings that through the evolutionary process developed tools to create civilizations. Maybe we are here and can observe the universe only because the universe laws of nature are so fortunately composed? People who reason like that tend to embrace the theory of multiple universes because it is a convenient way to get rid of God in the equation, since an almost infinite number of

universes is assumed to increase the probability that our universe, which is fine-tuned to create advanced life, equals the probability of 1. But to argue that the hypothesis of multiple universes is true, is to describe reality beyond what we can know. It's almost unscientific. But it is assumed necessary if we are to have any hope of ever being able to falsify or verify the theory experimentally.

Roger M. Klang, June 2019

Ten indications that Earth was spherical, for medieval Man

1. The star constellations differ depending on what latitude you are on. The North Star disappears behind the horizon when you are southbound.

2. The ocean horizon looks (and is) curved.

3. The Moon's shadow indicates that it is spherical and thus it is not part of a papier-mâché-like two-dimensional vault in the sky. 2 + 2 = the Earth is round.

4. The spots on the Sun moves in the same direction over the meridian of the Sun and thus it is easy to conclude that the Sun is spherical and rotates around its own axis, which leads one to conclude that the Sun is not suspended in the Earth's atmosphere, therefore the Earth must be spherical as well. (Note: A telescope is required to study the spots on the Sun.)

5. The midnight Sun on the northern and southern hemispheres (which occurs in opposite seasons).

6. Parallel shadows from the Sun indicate an enormous Sun that is very, very far away, and thus it is not a Sun suspended from a vault in the sky. You cannot focus on a star with your eyes, but you see double, which indicates that the star is extremely far away and not suspended from the vault in the sky. Thus, one can conclude from these two premises that the Earth "hangs" freely in space and thus is just as probable spherical, as the Sun and the stars.

7. The Moon sometimes lies down in its eclipsed phases at the equator.

8. The path of the Sun across the sky differs. When it's noon at the equator, the Sun is located over your head unlike in the north, in the winter season.

9. It is summer in the southern hemisphere, while it is winter in the northern hemisphere.

10. Total solar and lunar eclipses suggested that something was wrong with the medieval general worldview.

Roger M. Klang, March 2008

I am sorry, have I disproved Gödel's incompleteness theorem?

Preface part 2

This part of the book is written by a partly schooled philosopher, namely I. If you have read the first part of the book, which is also written by me even though I am not trained in physics, then hopefully you will not be so shocked or feel blasé, suspicious, angry, full of laughter or superior when you read the heading above. I put these two parts together in one book and the description of my Astro physical theory comes first because I hope people will read this controversial part as well. I can't say that this second part of the book is particularly easy to understand. But it is thoroughly elaborated and the very simple heuristic mathematics in it is easy to understand even for primary school students. It is the simple heuristic mathematics that I set up that above all else proves that I have in fact refuted Gödel's incompleteness theorem. If you were not impressed with the first part of the book, I do not think you should continue reading, the second part of the book will not be easier to understand. But if you were pleasantly surprised by the first part of the book, I think you should try to understand the second part of the book, especially if you are a philosopher. Here it is not enough with 180+180 minutes to read and understand the text. You must study the text thoroughly and really make an effort to understand. It took me 12 years and 20 versions plus even minor changes and clarifications to get to the result in this part of the book. What sets Gödel apart from me is that he assumed that the (German) language is completely logical, while I assume the opposite that all languages are fallible, incomplete, and generalizing, which means, among other things, that sentences and words can be broken down into smaller components. It so happens that I am right before Gödel, and therefore it is possible to refute this cognitive giant and provide evidence that can be scrutinized. I present incontrovertible evidence against this incompleteness theorem and at the same time I largely exalt the German mathematician David Hilbert (R.I.P.), who confessed to the formalists as opposed to the intuitionists. If I can refute Gödel, then I must also be able to refute Bertrand Russel. It is up to you to decide whether I have irrefutable proof, should you choose to study the text.

The author

Gödel's theorem as it is believed to mean

Quote:

In a book called "Introduction to Metamathematics" by Stephen Cole Kleene, a standard work about Gödel's theorem (claims to contain the complete proof for Gödel's theorem) with over 500 pages. On page 205 (following a theoretical background of about 200 pages) Kleene gives a heuristic "proof" for the theorem, which I will present here:

By the construction of A [a proposition],

    (1) A means that A is unprovable

Let us assume, as we hope is the case, that formulas which express false propositions are unprovable in the system, i.e.

    (2) false formulas are unprovable.

Now formula A cannot be false, because by (1) that would mean that it is not unprovable, contradicting (2). But A can be true, provided it is unprovable. Indeed, this must be the case. For assuming that A is provable, by (1), A is false, and hence by (2) unprovable. By (intuitive) reductio ad absurdum, this means that A is unprovable, whereupon by (1) also A is true. Thus, the system is incomplete in the sense that it fails to afford a proof of every formula which is true under the interpretation (if (2) is so, or if at least the particular formula A is unprovable if false).

The negation of A (not-A) is also unprovable. For A is true; hence not-A is false; and by (2), not-A is unprovable. So, the system is incomplete also in the simple sense defined meta mathematically in the last section (if (2) is so, or if at least the particular formulas A and not-A are each unprovable if false).

The above is of course only a preliminary heuristic account of Gödel's reasoning. Because of the nature of this intuitive argument, which skirts so close to and yet misses a paradox, it is important that the strictly finitary metamathematical proof of Gödel's theorem should be appreciated. When this metamathematical proof is examined in full detail, it is seen to be of the nature of ordinary mathematics. In fact, if we choose to make our metamathematics a part of number theory (now informal rather than formal number theory) by talking about the indices in the enumeration [the Gödel numbering], and if we ignore the interpretations of the object system (now a system of numbers), the theorem becomes a proposition of ordinary elementary number theory. Its proof, while exceedingly long and tedious in these terms, is not open to any objection which would not equally involve parts of traditional mathematics which have been held most secure.

End quotation.

So, we have two statements:

(1) A means that A is unprovable
(2) False formulas are unprovable

One can easily replace (1) with either "False A is unprovable" or "True A is unprovable". (See below)

"A means that A is unprovable" can only devolve upon that A is unprovable, because to say, "A means that" is just an added appendage to saying "(this claim) A is unprovable". So, the full sentence "A means that A is unprovable" is a

predication in which A is either true or false. Unprovable means that something cannot be proved true. So, we come to the question of not-A i.e., false A.

    (3) A means that A is unprovable (if false A or if true A)
    (4) False formulas are unprovable

We cannot initially put an equal sign between the premise "A means that A is unprovable" and "False formulas are unprovable", because we do not yet know if A is false or true. The following are all four heuristic possibilities for a theorem which I am going to exam very shortly:

A = false and provable
Since A cannot be false and provable, I will leave this sentence aside.

A = true and provable
If A is true and provable it does not contradict "False formulas are unprovable" – nr (4) above – and hence (true and provable) is still valid and thus also is independent from (4) which is rendered superfluous.

A = false and unprovable
"False A means that false A is unprovable" is a true proposition. It does not contradict with (4). (See the asterisk in parentheses below (*))

A = true and unprovable
And of course, if A is true and unprovable it does not contradict (4), because true A is supposedly just unprovable (for now anyway) and not false.

(*) Remember that "is unprovable" means that something cannot be proven true. "Unprovable" does <u>not</u> mean that A is both not true and true at the same time, or even undecided, because that is impossible anywhere but in quantum mechanics. A true proposition cannot be unprovable, and a false proposition can

never be proven true. A false proposition can perhaps be proven false, but it would still not contradict (4).

Someone may suggest that we must transform the formulations above into basic math-rules like this, and strip it of digits:

(- +) = (-) (imaginary)

(+ +) = (+) (true)

(- -) = (+) (true)

(+ -) = (-) (imaginary)

The following is an explanation of what I am claiming here:

a) We would get (- +) = (-) (imaginary) if A could be false and provable, which it cannot. False propositions cannot be proved true.

b) We get the formula (+ +) = (+) (true) if it is true and provable, which certainly wouldn't conflict with (4).

c) We get (- -) = (+) (true) if it is false and unprovable.

d) Thus, we get the formula (+ -) = (-) (imaginary) for the true and unprovable.

I realize that labelling "unprovable" as a negative equaling with "false", by assigning it too the negative (-) when "true" represents the solid plus (+), can open for an interpretation of the above four a), b), c) and d) as erroneous thinking all in all. Because "false A is unprovable" means that false A cannot be proven true, but false A can still be proven false which seems to correspond with the negative (-) much better. And that would have been correct if it hadn't been impossible to prove false A true, as we have accounted for in and above the deterministic expressions. So, what we are left with, is that false A can never be proven true, that is, false A (-) must always be followed by (-) for "unprovable" and that means that this proposition (- -) is true. A true proposition cannot be unprovable, and a false proposition can never be proved true.

In the original theorem it is claimed:

- **A means that A is unprovable.**

  That means that A cannot be positive (+) if unprovable is (-) since true A cannot be unprovable. Because everything true is provable, and (+ -) = Imaginary = (not true). Therefore A = not-A = -A. And the formula must read (- -) = (+) or true.

- **False formulas are unprovable.**

  Wherein the false formula equals (-) and unprovable equals (-). Therefore (- -) = (+) = true.

Even though "unprovable" is a factor in the proposition, there is no contradiction.

The important thing is that the plus (+) indicates existence, and the minus (-) is indicating non-existence, so that the result equals one of two things – true or imaginary. For the fun of it one can maintain that this is the explanation of why the universe exists and that it is a God proof as well. Let us assume that (- -) represents the two unexplained fundamental entities, the universe and God. Since two non-existing of anything (- -) equals plus, i.e., a positive number = (+), the universe and God are destined to exist however unlikely they seem to be. In fact, the improbability of their existence separately, could be a precondition for their very co-existence, (-) God (-) universe = (+) existence. And if it (math) is a precondition for their very co-existence, then the existence of the universe and God suddenly seems very plausible. And if either the universe or God fails to exist the result is that neither of them exist (+ -) = (-). But we exist, and therefore God exists. But is this God proof conclusive? Of course not, no God proof is conclusive. I am just having fun.

They use the words similarly in both German and English except they make one word out of "nicht beweisbar" in the English language, and that is interpreted "unprovable" in English. But that does not change my argument. "Sind" and "nicht" are interpreted "is" and "isn't" or "are" and "aren't" in my argumentation. (See below)

A meint, dass A nicht beweisbar ist
Falsche Formeln sind nicht beweisbar

We have to revise the semantics in certain suggested variants of formulas for Gödel's incompleteness theorem and Plato's theorem, but Edmund L Gettier's theorem remains a shining example still

A suggested variant of formula for Gödel's incompleteness theorem:

In any logical system for mathematics, there are statements of speech that are true, but that cannot be proved.

This statement cannot be true

Must be either true or false.

If the claim is false, it can be proved. Then it must be true. Which is a contradiction, therefore, the claim is true.

This is therefore a mathematical claim that is true but cannot be proven.

The mathematical implication is: What if the Riemann hypothesis would prove to be true, but is impossible to prove?

*

It seems to me, this suggested variant of formula for Gödel's incompleteness theorem gets entangled in its own linguistics. It is certainly a logical argument based on the theorem, but you cannot use the order in which the words follow, mathematically. What do I mean? Well, the sentence: "This statement cannot be true" must indeed be either false or true, but if it is true then you should - if it is possible to translate it into a mathematical formula that says something about something other than linguistics - replace the words "cannot be true" with the words "is not true", which makes it correct without the inconsistencies. Y can stand for "is not true", and X can represent "must be true." A can stand for the opening words "this statement".

```
-------------------------------- X "must be true" (+)

A                                      X or Y, but it cannot be both!

-------------------------------- Y "is not true" (-) (cannot be true)
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The theorem as it appears above the asterisk proves that it linguistically can be either false or true, though it cannot be proven. But does it prove anything, with mathematics, of the nature of the world beyond it? No, it rather seems to disprove the theorem itself. The theorem doesn't help us understand the world. Perhaps one cannot conclude a solution from the first ("This statement") or A with both ("must be true") and ("cannot be true") for it to be a correct formula? Either "This statement" or A is true or it's not true, so Y should read "is not true" if it should be adjacent with "This statement" or A since "Can" is a statement that says that something either is, or is not, but not both at the same time. When you put "not" after "can" (cannot), you are either saying (can; as in must[+] not[-]) = (-) = ("is not true") which translates into a mathematical language + (-) = - or with other words it is a negative. Or you are saying (can; as in not[-] not[-]) = [+]

= ("must be true") which mathematically translates into - (-) = + or with other words it is a positive and henceforth must be true. Conclusion: "is not true" or "can not be true" is a correct wording, but not "cannot be true". And what is the statement A? We don't know. What we are doing is to apply the label of an unknown statement to a formula. But we cannot say anything about any actual statement. Is that logical? Surely "this statement A" is not a statement!? So, what we have got left in "Y" is "A is not true" or "A is false" + - = - or just plain -.

Maybe we need to accept the fact that the answer to the Riemann hypothesis involves no pattern in any sequence of prime numbers and still the enigma could be solvable – if we look outside the box.
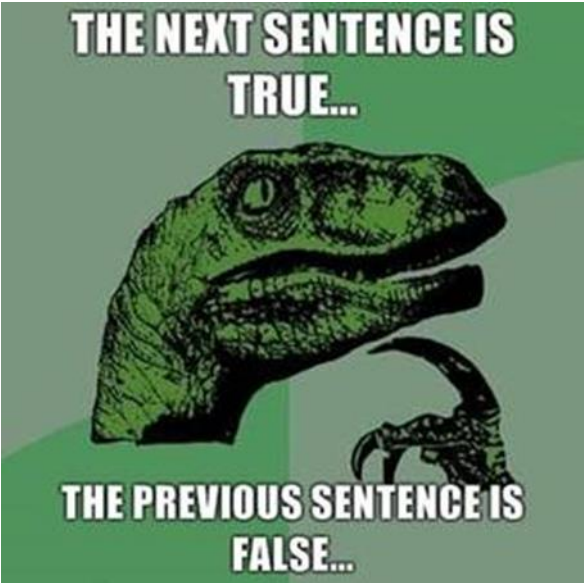
The above image with the text "the next sentence is true" and "the previous sentence is false" is an anomaly if you translate it into a mathematical language. Think about how wrong it is linguistically to not say anything about the sentence we read for the moment being, but instead say something about the second sentence which we do not read for the moment and haven't had the opportunity to infer anything from now. The sentence we are reading does not in any way entail the other sentence but is merely referring to it. These two combined sentences in the above image with the dinosaur are related to the first suggested formula on Gödel's incompleteness theorem This statement cannot be true, but only separated into two individual sentences and without the inconsistencies that comes with the word/words "cannot" (can; as in must [+] alt can; as in not [-] + not [-]) from the bipolar word "can" and "not" which the originator didn't split up like I did here. The above statement in the image is like saying

"x+1=something in another formula (the next sentence) here not specified or even correlating (with the next sentence)". It translates into (the next sentence[x] is true[1]) and then goes on to saying (the previous sentence[y] is false[-1]). The two sentences are simply not translatable into any logical algorithm one can solve, it only states that x=1 and y=-1. Or maybe you should say that x=-1 and y=1, but it still does not translate into any logical algorithm with a plausible answer. There is no mathematical connection between the two sentences, not even an equal sign. It is like saying; (the next bun [x] is tasty [1]) and (the previous bun [y] is disgusting [-1]). You could also shift the meaning in the two statements "the next sentence" and "the previous sentence" and get (this sentence [y] is true [1]) and (this sentence [x] is false [-1]). "This sentence is true", is always a true sentence. "This sentence is false" if it is a true statement, it must be false. If it is a false statement, it must be true. It's a pun that is transferable into a solvable mathematical formula (x=-1). Thus [x] is false and when one reads it in its mathematical formula one can see no further implications because x=-1. It shows that there can be something illogical and subjective with the linguistics we humans use.

I have other philosophical examples as well, of how linguistics can mess it up, when trying to convey it into logical theorems (read below). The presentation of the criteria (for how we could be considered to have knowledge of anything) is constructed by Plato and problematized by the renowned philosopher E. Gettier. It has been considered an unsolvable problem for many years. The problem is related to Gödel's incompleteness theorem, because of their linguistic nature. I consider myself to have solved the enigma of Gettier's problematization of Plato's theorem:

An epistemological and rational conclusion from Plato's theorem and E. Gettier's example with the wolf

1:st example: A train is running on the railway tracks past a meadow. In the meadow there is a wolf. The passengers can see the wolf from the train.

According to Plato we require three criteria for enabling us to have knowledge of it:

(1) It should be a conviction.

(2) It must be consistent with reality.

(3) We must have rational reasons to accept it.

All three criteria are met.

2:nd example: Now suppose that, as in E. Gettier's example, the wolf is actually a dog dressed up as a wolf. But a little further beyond the dog in the meadow there is a real wolf. The three criteria are still met, and this is E. Gettier's problematization of Plato's theorem, for the wolf we see is not a wolf at all, and hence the theorem is faulty even if it is true, according to Gettier.

Can we have knowledge that there is a wolf in the meadow (that the theorem is satisfied) by observing the dog, and applying the three criteria? The answer is that we cannot. The theorem's correctness is completely independent of our observation of the dog (we do not know that the "wolf" is our costumed dog or that there is a real wolf just behind the dog in the meadow).

Or should we perhaps say that the theorem, on the contrary, is totally dependent on our observation, because our observation results in our belief (1), and our rational reasons to accept it (3). But thereby follows that our observation leads to a faulty conclusion, for the visible wolf is false. The theorem is still true, but Plato's theorem requires an alteration applied to the unique situation.

(1) It should be a conviction.

(2) It must be consistent with reality.

An omniscient archangel must be the judge of whether the theorem is consistent with the real situation. Or in other words:

(3) <u>ONE</u> must have rational reasons to accept it.

Thus premise (3)'s rationality (as above) is not based on observations from *our* side. By changing premise (3) to; <u>One</u> must have rational reasons to accept the belief, we move the decision for what is rational from the group to an omniscient archangel. One obvious objection you might come up with is that one can say that premise (3) is not needed then, because to claim premise (3), is the same as to claim premise (2).

The ideal type theorem itself is not critical to getting an epistemological answer to an investigation of the rational conclusion of the theorem. The key is to know *when a rational answer* emanates from the premises, not *when a premise is rational*. "A rational answer" is comprehensive of the whole situation with the wolf and considers both the wolf and the dog as distinctive entities (even in mathematics). The original premises (1), (2) and (3) have not led to a rational answer to Plato's theorems inconsistencies in this unique situation from Gettier's example with the wolf and the dog simultaneously located in the meadow but where we only see the dog, because that is what the whole point with Gettier's fictional example is, that Plato's theorem is inconsistent. Here the archangel in my modified third premise that equals the second premise, comes into the picture. Or should I say - it eliminates the third premise and leaves us with only premise two and premise one.

In one possible Gettier reality applied on Plato's original theorem, all of Plato's original premises are not fulfilled: Say that in one occasion there is a dog dressed up as a wolf in the meadow (premises 1 and 3 are satisfied), while there is <u>not</u> a wolf behind the dog (premise 2 is not satisfied), then the conclusion we make about the so called "wolf" is not a correct conclusion, because the "wolf" is

actually a dressed-up dog. If we had been able to make a correct conclusion, it would not have been our belief that there is a wolf in the meadow.

In our second example from above (read **2:nd example** in bold red letters above) from Plato's original theorem, there is a real wolf standing behind the dog, and all three premises are met. Let me first say that a correct conclusion would be as seen from a correct supervision of an omniscient archangel's judgment about what constitutes a proper conclusion. On this occasion, we cannot make a correct conclusion based on our position on the train, that there is a wolf in the meadow, because we do not see it, we only see the dressed-up dog. We believe however that the conditions are in order, (which they actually are, but not as we think, because we believe that the dog is the wolf in the meadow), and from it derives a conclusion that happens to be true, based on our false beliefs and Plato's original premise, (from which I say that we have achieved an "Accidental Conclusion", which we may call it). It also requires that the dressed-up dog really looks like a wolf for us to be able to make a true (but not overall correct) conclusion. If there had been a water fountain or a Dachshund dressed up in front of the wolf rather than a German shepherd dog dressed up, we would never come to the conclusion that there is a wolf in the meadow, by looking at the fountain or Dachshund. The conclusion is true in this our other example, where all three original Platonic premises complied with the conclusion, but it is not a correct one. For this to be a correct conclusion requires that the premises implicitly take into account all the underlaying facts. (Read and compare with my deconstruction of suggested formulas posing as Gödel's incompleteness theorem.) Again, the theorem itself is not of crucial importance. The key is to determine when the premises amount to a rational conclusion. And here is where the archangel and my modified premise comes to use, for here it is the archangel's insight that is the standard, and not my insight, and from that follows a rational answer to the theorem. The fact that the original theorem is true in this unique situation where we see the dog but not the wolf, is a pure coincidence (read blot on Plato's behalf) and not relevant to how we should set up the premises properly. To make a true conclusion based on faulty underlaying facts is something that has happened before in history. For example, there was an ancient Greek (Plato) who said that the Earth was round long before anyone else had thought of it, and he founded this conclusion from that the shadow the Earth cast on the Moon could not be a likeness of the Earth's shape, if the Earth was flat. He believed that the Earth cast its shadow on the Moon, when in fact the Moon (usually) is shaded by itself and its position relative to the Sun as seen from our perspective. Considering this, Plato's original theorem appears quite

absurd, and Gettier's situation with the wolf, in the context of Plato's theorem, is revealing deeper thoughts about the nature of epistemology, how we humans are limited and how we can be wrong without realizing it. I don't know if Gettier was conscious about it, but that is what Gettier's article implies. The theorem "proves" more than it can prove, just as the Moon's shadow can do for those who have certain beliefs.

There is another way of going about Plato's inconsistent theorem. The belief ((1) we believe there is a wolf in the meadow) and the rational reasons ((3) we have rational reasons to accept that there is a wolf in the meadow) with ((2) there is a wolf in the meadow) may seem to be waterproof as a logical framework. But the premise (2) should be read/understood and set up like this: *The wolf is false, but there is a real wolf in the meadow that we do not see = it must be consistent with reality, and the whole complete reality with every underlying fact taken account for,* if the belief is to conform with truth. This is how we must see the adapting of the situation with the wolf and the dressed-up dog, I think. Had we just said; *It must be consistent with reality,* yes, it would have been correct. But should we allow the reality of our second premise to be so simplified as to say; "there is a wolf in the meadow"? If so, the premise would not be completely true, or at least not entirely complete. Look at the example with the costumed dog which had a wolf behind it. We have rational reasons to accept the belief that there is a wolf in the meadow when we run by in the train, according to the original theorem. We have the illusion of the dog as a wolf. But coincidentally there was a wolf in the meadow. Leaving aside premise (2), here in the form: "it must be consistent with reality, and the whole complete reality with every underlying fact taken account for"; is premise (1) and premise (3) merely cosmetic? They are at least "ideal types" constructed from our own shortsighted perspective, but still inconclusively constructed since they in Plato's original theorem are not based on any actual situation in an all in all complete situation with at least as in this case the dog and the wolf in E. Gettier's example. Premise (1) and premise (3) are merely _convictions_, which by chance happens to mess it up in at least one of the cases written above, where the wolf and the dog coexisted in the meadow simultaneously, in Gettier's example – hence "Accidental Conclusions".

In conclusion, we must revise Plato's theorem, or abolish it. And E. Gettier's example reveals more about the world or epistemology than he perhaps thought

it would. I'm sorry I in previous versions 1-9 did not recognize Gettier's genius potential!

Conclusion 1: <u>One</u> must have rational grounds for accepting the belief.

Conclusion 2: Convictions lead to "Accidental Conclusions."

Conclusion 3: The costumed dog must look like a wolf, and not a Dachshund or a water fountain, for the theorem to work.

Conclusion 4: The theorem proves more than it can prove, by the principle "the Earth casts its distinctive shadow on the Moon, and therefore the Earth is round", which is false for some.

In a textbook used at Lund University in the B course, called "Philosophy of Language a contemporary introduction" by William G. Lycan from University of North Carolina, chapter 13 on "Implicative relations", page 198 it says to read in the first lines; "Sentences entail other sentences, and in that strong sense imply them. But there are several ways in which sentences, or utterances also linguistically imply things they do not strictly entail."

It describes the chapter's content very briefly. Anyway, in this chapter you can read an interesting thing that you can directly connect to and make use of for Gettier's problem without Lycan, or rather Grice, seemingly had any intentions in that direction.

There you can read; "-Here as in many cases, a good way to investigate the nature of these different kinds of implications, is to ask about the penalty or sanction that ensues when an implicatum is false. When S:1 entails S:2 and S:2 is false, the penalty is that S:1 is false. When S:1 semantically presupposes S:2 and S:2 is false, then S:1 is sent ignominiously to zip. When someone utters S:1, thereby conversationally implicating S:2, and the conveyed meaning or invited inference S:2 is false, then the penalty is that, even if S:1 is true, the speaker's

utterance is misleading. If S:1 conventionally implicates S:2 and S:2 is false, then S:1 is misworded even if not false."

One can implicate and translate this into Gettier's example with the wolf directly like this:

"-Here as in many cases, a good way to investigate the nature of these different kinds of implications, is to ask about the penalty or sanction that ensues when an implicatum is false. When a "wolf" in the meadow (S:1) entails a belief (S:2) and the belief (S:2) is false, the penalty is that the wolf (S:1) is false. When the wolf (S:1) (semantically) (I here chose to put this word within parentheses) presupposes a belief (S:2) and the belief (S:2) is false, then the wolf (S:1) is sent ignominiously to zip. When someone utters wolf (S:1), thereby conversationally implicating a belief (S:2), and the conveyed meaning or invited inference of the belief (S:2) is false, then the penalty is that, even if the wolf (S:1) is true, the speaker's utterance is misleading. If the wolf (S:1) conventionally implies a belief (S:2) and the belief (S:2) is false, then the wolf (S:1) is misworded even if not false."

To translate this, one must resort to some drastic interpretations. Among other things, one must interpret the following sentence – "When someone utters Wolf (S: 1), thereby conversationally implicating a belief (S: 2), and the conveyed meaning or invited inference of the belief (S: 2) is false, then the penalty is that, even if the wolf (S: 1) is true, the speaker's utterance is misleading." - as utterances never are trustworthy regardless of whether they are true. But sequentially following a complementary interesting thing is mentioned, namely: - "If the wolf (S: 1) conventionally implicates a belief (S: 2) and the belief (S: 2) is false, then the wolf (S: 1) is misworded even if not false."

Also the philosopher Bertrand Russell addressed the self-contradictory logical problems one can construct with linguistics and set up in an equally contradictory theorem, in Russel's paradox or "Performative Contradiction". The paradox is as follows: *When people say; "all truths are relative" they make an absolute claim, and thus it becomes a contradiction in terms.* I can answer with

saying that; if all truths are relative, they are not truths, they are but a misch-mash or a composite of separate truths and non-truths and/or a mish-mash in the interpretation of the meaning of different non-hyphenated (usually) words, that need to be figured out separately, just like I did with the suggested variants of Gödel's incompleteness theorem above. Either "the truth" (or in other words - the claim) is true, or it is false, but it cannot be half true in between.

An example of Russel's paradox is the following: *A male barber in a village shaves all the men in the village who do not shave themselves. The question is: Does the barber shave himself? If the barber shaves himself, the claim that the barber shaves a man who shaves himself must go against the definitions and therefore he cannot shave himself. But if the barber does not shave himself, he is a man who does not shave himself and consequently he must be shaved by the barber - so the barber must shave himself.* This contradiction is Russell's paradox.

I personally look at the paradox in the following manner: the barber represents the answer to a math problem. The answer A should not be part of the calculation, it should be the result of the equation. Let us call the answer i.e., the male barber A. And let us call every man in the village whom the barber shaves (a). The rest of the male population in the village shaves themselves, let us call them (b). A represents not the barber, but the total number of shaved men, because why would you say that A is a person when (a) is the number of men that gets shaved and (b) is the number of men that shaves themselves. It's just numbers. We thus get the formula:

A = (a) + (b)

Suppose now that we rearrange the composition into:

A − (a) = (b)

Or:

A − (b) = (a)

A is the total number. If we subtract (a) from A we get the number of men who shave themselves. If we subtract (b) from A we get the number of men who get shaved by A. This is simple math and not a story about a barber, the result cannot

be about whether a barber shaves himself or not because that results in inconsistencies. Two of them being that (a) and (b) cannot be numbers if A is not a total number added from (a) and (b). That's it. It is not really a conundrum.

But let us set up the equation wholly and fallible according to Russel's paradox by starting with the barber A and assume that he gets shaved by the barber A, i.e., himself. As before, (a) is the number of men that gets shaved and (b) is the number of men that shaves themselves:

A + (a) − (b) = A

Or in other words:

A = A + (a) − (b)

Barber A gets shaved (depending on how you look at it), and so are a portion of the villagers (a) shaved by him, so he appears twice in the equation. Thus, we would get the absurd situation where the result A and the barber A becomes a factor on both sides of the equal sign, and then again, they don't because the A on the long side of the line-up represents a single barber that shaves the barber, while on the short side we have the total number of shaved men by the barber. Except we don't get a correct result from this equation since it is not a valid equation.

Now let us assume that the barber A shaves himself:

A + (b) − (a) = A

Or in other words:

A = A + (b) − (a)

Here we get the same paradoxical situation since A is one of the men that shaves himself. So, what does this faulty math tell us? It tells us that the total result A on the short side of the equal sign, would presuppose the result in the equation on the long side of the equal sign. That means that you will have the total number of shaved men called A on both sides of the equation (A should then equal A + (b) − (a)). Except you won't, since A shaves himself and adds to (b) who all shave themselves, and thus the remainder gets shaved, so you subtract (a) and get A.

The math line-up is incorrect since it doesn't add up, and you should not be upset over the bad math.

The German mathematician David Hilbert (born 1862, deceased 1943), who confessed to the formalists as opposed to the intuitionists, set up to prove that mathematics was both;

A) Complete

Meaning; does every true statement have a proof? If yes, then mathematics is complete.

B) Consistent

Meaning; is it free of contradictions, or contrary – can you prove both a, and not-a simultaneously? If you can prove both a, and not-a simultaneously, then mathematics is not consistent.

C) Decidable

Meaning; Is there an algorithm that can always determine whether a statement follows from the axioms? If yes, then mathematics is decidable.

Kurt Gödel (b. 1906, d. 1978) was thought to once and for all have proven that the first mentioned postulate A), can be considered to be incomplete. And that mathematics at best is questionable, partly contradicting the second postulate B).

Alan Turing (b. 1912, d. 1954) was thought to have proven that mathematics is undecidable, contradicting the third postulate C).

Alan Turing was presumably right in that mathematics is undecidable, albeit this might only apply in the quantum world but stepping up in the macro world as a "bug". That is why the Turing machine was not so useful in answering Hilbert's question on decidability, *iff* there is only supposed to be one possible macroscopic outcome based on the input, to each singular step in a digitally linear computer with a read-write head that can read one digit at a time and that

can perform one of only a few tasks. Even though Turing's computer machine has large electronic components, it might not be in the macro world that the computer operation "bug" emerges, it just pops up there. Same thing?

Let me give you another example of a quantum bug jumping up in the macro world. In May 2003, voters in Belgium went to the polls. Often the municipalities provided a computer for voting. One of them was in Schaerbeek in central Brussels. One of the politicians in Schaerbeek received more votes than mathematically possible. Luckily, they could recount the magnetic voter cards manually by inserting them into the voting machine. This time the outcome looked much more correct, and the opted for politician received four thousand less votes. They meticulously searched through the code but couldn't find any bugs. They tested the hardware but again they could not find any errors at all. The exact number of votes for this politician in the first instance was 4096. What happened was that the thirteenth binary Bit flipped from a zero to a one for no apparent reason. What is remarkable about the number 4096 is that it is exactly a power of two or 2^{12}. That is the thirteenth bit. The funny thing is that they counted the votes exactly in the same way the second time and got the correct number of votes, as opposed to the first time. Was it a quantum bug stepping up in the macro world, or was it a cosmic ray kinetically flipping the Bit from a zero to a one? We can only receive an answer if we reconstruct the Turing machine and run it till a bug appears. But it is weird that the bug in the voting computer manifested itself the way it did if it was caused by a cosmic ray.

But Kurt Gödel I assert was wrong in that mathematics would be incomplete (outside of the quantum realm; Roger's note).

What is the point with mathematics if it is both incomplete, inconsistent, and undecidable? If it were, we would not have been able to make any sense of it as a tool at all. Why don't we just focus on solving the puzzle of quantum mechanics instead? But for now, I suggest that scholars apply Karl Popper's empirical falsification criteria and Occam's razor as guidelines in the macro world. Occam's razor says, *"entities should not be multiplied without necessity"*. Occam has mapped out the way for me and you. Robert A. Heinlein states in his book Logic of Empire; *"never attribute to malice that which is adequately explained by*

stupidity". It is also a rule of thumb, even though it is just a paraphrase of Occam's razor. Readers excepted of course.

Author: Roger Klang, updated version 20 the 23d of May 2021. First translated into English in 2011.

A 5,000 year old murder mystery

Preface part 3

As a bonus, I solved a five-thousand-year-old murder mystery in a way that would have been accepted, at the time when forensics was a virtually non-existent tool. At least in the Middle Ages, the authorities had to rely on, or chose to rely on, confessions through torture methods in the absence of evidence. If your name was Cecil and you had the job as head of the intelligence service for the Crown and Elizabeth the I in service of England at the 16th century, and you had earned your post through meritorious cognitive talents and hand steady actions, you could be more cunning than that and trick the Catholic stooges out of information using the crown's aides who pretended to be kinsmen of Catholicism.

There are four main theories as to why "Ötzi", the Austrian discovered iceman, who was found in the Alps in the 1990s, was murdered 5000 years ago in the "copper age". The copper age marks the transition between the stone age and the bronze age. Ötzi was naturally mummified centuries before the first blue-blooded Egyptian was mummified. I believe in the theory that Ötzi had a rival in his own relatively large village, but I think it is possible to penetrate the murder plot and speculate further on the methods of the murder, and on how the plot turned out. Ötzi was a distinguished person in his clan, which is a known fact because he died with an exclusive copper ax in his possession. The fact that the ax was not stolen indicates that it was one of his own who murdered him.

With a little help from modern science, if I have not proved it, so in any case I have probed a certain causal course of events that preceded and led to a regal murder, and I have shed light on the power positioning that probably followed on the regal murder. All the indicators point in the same direction. It was probably an internal power struggle over the chief position, between two slightly older antagonists in what is today's Italy.

The author

Ötzi

The mummified murdered iceman "Ötzi" was discovered on the Austrian side of the Alps, laying with his head towards the mountain ridge another 5000 years after the murder. There is a church stone in Austria, which describes the murder in detail. A church stone which, incidentally, has not always been a church stone since Christianity did not exist 5000 years ago. Viking Age rune stones were used in similar ways in Swedish churches, as paving, so it was common to do so after the Viking Age in Sweden, and one can assume that it was just as common in Austria if we presume that there were engraved pagan stones available.

Clues

1) Ötzi was found on the Austrian side of the Alps laying on a mountain top with his head towards the mountain ridge.
2) Ötzi was shot with an arrow in the back wryly upwards from below and the arrow had cut an artery after which Ötzi bled to death.
3) The distance between the archer who killed Ötzi and Ötzi himself was relatively large, the arrow did not hit his body with full force but stopped a bit from the heart.
4) The arrow was pulled out of the body and there was no trace of it when they found the body, but the tip of the arrow remained inside Ötzi's body.
5) Several of Ötzi's arrows from his arrow quiver had been broken off at the site.
6) When they found Ötzi's body in the 1990s, they discovered an exclusive copper ax laying five meters away from the body, which could only have belonged to an important man during the Copper Age.
7) Ötzi was murdered 5000 years ago during the short copper age in "Italy".
8) The investigated stomach contents in Ötzi indicate that Ötzi came wandering from the "Italian" side walking to the Austrian side. It is also known because of the stomach contents, that Ötzi climbed the mountain in the springtime.
9) Ötzi had wounds on his body from a fight a few days earlier.
10)   Metal ore was mined at the Austrian side of Inndalen in the era.

11)   There is an engraved pagan stone that later has been used as building
       material in an Austrian church, which describes the murder in detail.

Hypotheses A, B, C, D (and E)

A) One of the theories is that Ötzi was ritually murdered in the mountains.

What contradicts this theory is that Ötzi had wounds to the body, which had begun to heal, from a battle a few days earlier. And also, the fact that Ötzi was on one of the mountain ridges when he was murdered, and consequently was in the only place in the mountains where you could comfortably lie and await and look for him without risk of detection a number of people, indicates that it was deliberate murder, not ritual murder. Another thing that struck me was that a ritual murder would hardly have been committed on an alpine peak where no one was there to witness it. I think we can disregard the theory that it was a ritual murder, for several reasons, as most scholars will agree on.

B) A second theory is that Ötzi was murdered by a rival clan in another community. [I contextually distinguish between rival clans in other communities and rival family constellations in their own village.]

I do not believe this either, that a clan on Ötzi's side of the Alps or the opposite side of the Alps were the perpetrators. If, for example, we assume that the rival clan lived on the opposite side of the Alps, then it would seem strange that such a clan, on the other side of the Alps, would first have learned that the man who was obviously their enemy - Ötzi - planned to come to their side and in addition know that he would travel alone, and then climb the Alps and ambush the (supposedly) alone Ötzi somewhere at the border of Ötzi's territory. Now, Ötzi may have been beaten in the diametrically opposed clan area in "Austria" or "Italy", of course, and in that case, theory B is not impossible. I will hereafter refer to Austria and Italy when I speak of "border states" or geographical division

with the mountains as dividers. But as you will see if you read on, I think that Ötzi came from Italy because the probable approach (at least I would have ambushed him that way) at the actual murder site a short time after Ötzi got wounded, logically imply that Ötzi crossed the mountain ridge from the Italian side.

He was found on the Austrian side and must therefore have been beaten in Italy sometime before the murder of him, and probably by a bellicose party of Ötzi's own "clan members" from his own place of residence, if my theory of the approach for the murder itself is true. Continue reading.

If the murderers came from a rival clan in another community from the same side of the mountains as Ötzi, then they would have taken Ötzi's copper ax after the murder. Likewise, they would have taken the copper ax if they came from a rival clan from across the mountains.

C) Inner clan rivalry, i.e., rival family constellations in their own village.

This (C) is the third and most probable theory, which can be inferred from my text.

D) Is that Ötzi would have been some kind of customs officer murdered by smugglers.

I am very skeptical of this, especially as he died alone. Why would a customs officer who runs the risk of encountering dangerous smugglers be alone when working? Everyone must have known that it was tough times, especially a customs person. Furthermore, the distance between the archer who killed Ötzi and Ötzi himself was relatively large. The arrow had penetrated the back wryly from below and stopped before the heart but cut an artery so that Ötzi bled to death. If it had been smugglers who killed a custom official (if we suspect Ötzi of being that) then the copper ax would have been stolen. But that was not the

case, the copper axe was not stolen, it remained five meters away from the body when the 5000-year-old mummy was discovered. Although a customs official would hardly have had a copper ax in his possession for more than a day, so, we can probably strike that scenario.

Then there is a fifth hypothesis, an ad hoc theory, which is not very likely either;

    E) It was customs officials who murdered Ötzi.

If it had been customs men who murdered Ötzi, the copper ax would have been confiscated.

The murder mystery

Now that we have established the most probable theory (C) inner clan rivalry, we can move on. Here's how I think the murder happened:

The fact that the lethal arrow didn't hit Ötzi with full force, and that it hit him in the back, suggests that Ötzi was trying to escape and thus put some distance between himself and the archer. The fact that the arrow hit the chest wryly from below in his back indicates that the murderers (in plural) ambushed Ötzi right behind the mountain ridge that Ötzi passed, on the Austrian side so that they could scout for him with a clear view without risk of being detected from a long distance or be discovered from the tracks left by the murderers in the snow when Ötzi came up the crest from the Italian side. If you come from the same side of the mountains as Ötzi, then by taking a detour and ambushing him on the other side of the mountains you do not reveal yourself by leaving footprints in the snow, which you do when you ambush someone on the same side of the mountain. Of course, it is necessary to take a detour from the Italian side to the ambush place in Austria, but there is nothing contradictory in such a method, on the contrary, it is logical, practical, and probable. But we know that Ötzi climbed the mountain in the springtime, so leaving traces in the snow was perhaps not

the biggest problem for the killers. The plotter had placed some men on the other side of the top behind a stone or under camouflage on the Austrian side, so that Ötzi could not escape in several directions if the environment allowed that. At least I would have tried to arrange it that way, but it is entirely dependent on the environment on the mountain at the regular hiking trail at the time. Ötzi saw the men where his nose first pointed a little further down the mountain on the Austrian side and turned and ran upwards, whereupon he was shot in the back by the archman. It is known that Ötzi was shot in the back wryly from below. And this happened on the Austrian side where Ötzi was found with his head towards the mountain crest. If the body had slipped in the snow during these five millennials, chances are that the heavier upper body would have been heading downwards. Ötzi should thus have traveled from the Italian side. Once we have determined that Ötzi came from Italy, we can make conclusions that would otherwise have been considered a little bit wild. Go on reading!

But why did Ötzi have wounds to his body from a few days earlier? And why didn't the killers take the valuable ax with them, and why did the killer pull out the arrow shaft? And why did Ötzi think he would go safe alone on his hike? He went alone, because if any of Ötzi's men (supposedly) had managed to escape, the obvious benefits to the murderers of leaving the ax would be lost, otherwise Ötzi's men would also have been killed and become mummified or skeletons and they would have found them at the same time they found Ötzi 5000 years later. And why is there a church stone in Austria that describes the murder in detail if the murder was so secret that the murderers left the ax? I have a good answer to all of this.

On the Austrian side of Inndalen, metal ore was mined from which metal was extracted, and the area was already quite densely populated. I think that Ötzi was an Italian gentleman who was about to hold a clan marriage with some prominent person from the Austrian side. An intermarriage was extremely important, because on the Austrian side they had a well-developed metal industry. The clan marriage was rejected by some rivals on the Italian side, who had hitherto kept a low tone or at least tried to keep it within a relatively narrow circle. I think this because Ötzi took the risk of traveling alone across the border, probably in a manner that he thought was stealthy. I think Ötzi was already losing his role as clan leader for a relatively large village, otherwise he would not plan

to leave his village alone at a fateful time, for a marriage arrangement, probably what he thought was a secret one until the wedding was supposed to take place. After all, he must have planned his journey if mine and other scientists' assumptions that Ötzi's death was preceded by an internal conflict is sound. Then the antagonist could send some men to ambush Ötzi, when he got the information about Ötzi's departure. The antagonist could hardly have received the information from Ötzi, about Ötzi's planned departure, which points to simultaneous intrigues (alternatively a reverse causality - that the simultaneous intrigues made Ötzi not give the information to the antagonist - the result would be the same). Approaches like this and the supposed wedding arrangement suggest that neither Ötzi nor his antagonist were spring chickens, but they were family fathers with adult children, if it is a correct assumption. It was one of Ötzi's own children that Ötzi wanted to wedlock with some Austrian nobleman or woman, otherwise he would not have traveled over the Alps himself. Ötzi may not have had many trusted people at the time of his departure because he chose to travel alone. It may therefore be that Ötzi knew that there was an informant in his own circle of friends. Or he needed every man in his own village. And given that Ötzi's antagonist had trusted men to spare for two separate assault sites, it seems contradictory that Ötzi exposed himself so much by traveling alone. But if Ötzi was a risk taker, an A-personality, a player with leadership qualities which was probably the case, both hypotheses seem to be true - he needed every man in the village and therefore traveled alone as the risk taker he was, much like that of successful soldiers and officers in war, taking risks not to commit "selbstmord aus angst vor dem tod" (suicide from fear of death), as German soldiers said during World War II. So, it is not I who said that leaders with leadership qualities are risk-taking A-personalities. In addition, the village must have consisted of at least 100 people for someone to be able to mobilize at least a dozen men without noticing that these men had left the village at least one day in advance before Ötzi did so. In addition, they must have taken a detour so that they wouldn't leave traces at the usual climbing route where Ötzi would travel. And as mentioned - the only place they could ambush Ötzi in the Alps was therefore on a mountain ridge, otherwise it would become obvious that the killers had gone before and how many there were. The fact that Ötzi traveled in the springtime indicates that Ötzi wanted to get the marriage completed before the next winter, so that he would gain influence in the metal clan or at least access to metals and a strengthened position in his village before it would no longer be possible to cross the Alps. But whatever matter anyone may have on

the other side of the mountains, it is likely that they would have traveled in the spring, summer or fall, intrigues or not intrigues in the village.

Ötzi's half-healed wounds indicate that his antagonist had taken the safe option before the unsafe option and prepared for an ambush on Ötzi at two different places, first in the forest on the Italian side and then on the ridge but failed on the first occasion when Ötzi fled. According to the analysis of Ötzi's intestinal system and stomach, it appears that Ötzi first climbed up the mountain, only to turn and walk down again, and then walk up again on the same path as he went down. It can only indicate two things, together or separately:

a) Ötzi had his family in the village and he feared for their lives.
b) Ötzi feared what awaited him at the ridge.

It is likely that Ötzi chose to continue over the mountain ridge at night, but it is also likely that Ötzi traveled across the Alps at full Moon, which you can assume that everyone did at the time. The fact that he first turned and went down, without being attacked downside, also indicates that no one bothered to follow Ötzi after the first attack. This reinforces my partial theory of two separate assaults by different perpetrators but with the same antagonist still in the village, and it also confirms some scientists' theory that it was precisely an internal clan struggle that was the underlying cause behind Ötzi's death, otherwise he would have had no reason to first walk up the mountain and then down and then up again, and he was injured in a fight a few days earlier. The Italians were the only ones who knew that Ötzi would pass where he passed at that particular time and place. A handful of men ambushed and murdered Ötzi as described. They had to leave the copper axe because Ötzi was a clan leader and the clan was in Italy where they would retire later, otherwise they would probably have been punished for regal killing. I bet Ötzi feared an attack on the peak of the Alps, after the first assault that probably took place in a forest because he escaped the archers at that time. But Ötzi was not just anyone, he was a clan leader and a brave man, and the road to the "top" was the quickest and fastest if the murderers pursued him. The murderers coldly calculated that Ötzi was most likely to do so, since they knew Ötzi. Ötzi couldn't turn back because he knew who it was that had made an assault on him, and he knew that this area would

be the first area for them to scout. Besides, it wasn't an option to come back empty handed. His only chance was to continue the fastest route to Austria and seek help from his new-found allies there.

The killers pulled out the arrow in Ötzi's back to leave as few traces as possible, perhaps fearing that the Italian woodcraft on the arrow shaft or feathers would reveal them. In the heat of the moment, they did not realize that precisely this would cast shadows on them if Ötzi's body was discovered. Why? Let's turn the steak and see it from the eyes of a criminologist: Someone had tried to hide his identity (the murderer) by pulling out the arrow (the tip remained inside the victim's body). These perpetrators left the precious copper ax untouched, so it was hardly from stinginess they pulled out the arrow. Nor was it from fear of being left without ammunition that they pulled out the arrow, as Ötzi's killer broke off several of Ötzi's arrows on the spot. Had there been one or more robbers, he/she would not have bothered to pull out the arrow, but they would have taken the copper ax. But now it was some of Ötzi's tribal members from their own village, and then it seems logical, in the eyes of a criminologist, for the perpetrators to pull out the arrow but leave the copper ax. This is a good indication (which also reveals the motive for the murder) as I said, but it is no evidence. (As if evidence would be a requirement for police action in the Neolithic era, when one has such a strong indication. Evidence at that time was scarce.) And the approach can certainly be confirmed by any police officer, prosecutor, lawyer, judge, and committee of any kind, being a criminal's (in this case, a regal murderer's) typical approach.

The church stone in Austria with the engravement of the murder scenario then? Why didn't the murderers take the ax if they were so happy to brag through engraved stones with ocher? I explain the church stone with the fact that the murderers were successful in climbing the social ladder after the murder. The church stone was thus created after the situation had stabilized for the new clan leaders, perhaps one or more generations afterwards, when the murderers had built up their empire and the murder had transformed into a heroic act. But for it to be true, an intermarriage arrangement must still have taken place sometime later between someone in the new clan and the Austrians since the engraved stone was found in a church in Austria.

The alternative explanation for the handcrafted church stone (which was not initially a church stone since it was made 5,000 years ago) is a bit far-fetched, namely that the murder was revealed when the body was found by the Austrians 5,000 years ago, and it was found that an arrow had caused Ötzi's death - all according to my criminologist's reasoning - and that it coincided that the body could not be carried home because of a snowstorm which subsequently covered the body with snow and ice which never melted again and thus made it impossible to find the body again. Until a little more than a decade ago. The copper ax was located some distance from the body (five meters), and with a little luck it could have been hidden in snow when the body was first found at the time following the event. Everything depends on how exactly a storm strikes, or how nature appeared at the time when the body was supposedly found 5,000 years ago, partly because the ax must be hidden in snow without any traces left, but the body must still be partly discoverable in the snow. The copper ax is the first thing a rescue team would have been looking for in the era. One can imagine even more wild speculations about Austrian murderers who switched sides, but then we would be talking conspiracy theories.

My indicated theory, incidentally, means that the civilization in Europe did not necessarily have its cradle in Italy or Greece.

Roger Mikael Klang, civis Lundensis, Scaniae Sveciae on October 25, 2019. Previous versions on June 19, 2012 and March 22, 2013 and September 29, 2014. Original version from December 12, 2009

climatology

It is the Moon's gravitational pull that causes the ice to break up in the Arctic, not the warm Gulf stream

Start from the state of nature and count forward in time, not from the greenhouse effect theory counting back in time.

The reason why large icebergs break loose from the Arctic ice and the ice on the continent's Antarctic waters, may be not because it gets warmer in the atmosphere or in the ice oceans, it may be due to the Moon's gravitational pull that cause tension on the ice and over time breaks off large icebergs. I think like this; Both the waters near the ice in the Arctic and outside Antarctica have a temperature of zero degrees all year round, so it cannot be warmer water that causes the cracks in the ice that allegedly lead to ice melting. Same thing with the temperature in the atmosphere, it is constantly below zero degrees and cannot melt the ice or cause cracks in the ice that allegedly lead to ice melting.

Quote translated from Swedish Wikipedia: *"Water turns to ice when the temperature falls below 0 °C at normal atmospheric pressure. When water turns to ice, heat is released, which means that the temperature of a mixture of ice and water will always be 0 °C, until it consists of only water or only ice. Water has a higher density in liquid form than frozen, which is a very unusual physical property. This means that ice only forms on the surface of bodies of water, something that has a fundamental impact on the climate on Earth.*

Characteristics/…/

The structure of the ice means that its density is about 917 kg/m³, assuming the ice is not contaminated. This can be compared to around 1,000 kg/m³ for liquid water. Because of the hydrogen bonds in water, the melting point of ice is very high. If there were no hydrogen bonds for water, the melting point would be around −100 °C.

Ice has a heat capacity of 2.1 kJ/kg°C while liquid water has 4.2 kJ/kg°C. The liquid form therefore needs twice as much energy to become one degree warmer. At the phase transition itself, it takes 334 kJ to make 1 kg of 0-degree ice melt into 0-degree water." End quote 2022, Wikipedia

Icebergs, sometimes as large as Gotland, that break loose in the Arctic must therefore be a normality caused by the Moon's gravitational pull. Otherwise, one may wonder what the Titanic sank from if ice melting is a new phenomenon. It is probably not normal in the same way that large icebergs break loose from the continent of Antarctica and slide down into the ocean, because the ice that lies on the continent's solid land cannot be exposed to the same forces by the Moon's gravitational pull. Only the ice that covers water in Ronne Ice Shelf and Ross Ice Shelf can break up and slide out into warmer water and melt. But it is generally the case that the surrounding waters of the south located Antarctica are significantly more "isolated" from warmer water currents from the north, compared to how the Arctic is affected by the Gulf stream.

Except it is now proven that the Arctic ice has melted away a lot in the last 10 years (the Northeast Passage is ice-free, parts of the year), so if this is a coincidence, it is very well coinciding with the theory of the man-made greenhouse effect that was presented before one had begun to see any real signs of climate change (the hypothesis came in the 80s). For me, it is not a problem to recognize this convergence of theory and reality. But even though the Northeast Passage is almost traversable for large parts of the year at present, this does not automatically mean that it is because of the human impact on the climate. As early as 1878 Adolf Erik Nordenskiöld traveled with a ship named "Vega" through the passage.

To start from the premise humans' impact on the climate and then make conclusions about the environment back in time, is unscientific. In this reverse way, one can prove everything and nothing. I will reiterate myself below, because it is difficult to express myself correctly and completely with a few sentences so that everyone will understand. Carefully read the numbered passages one by one and try to make your conclusions about what I mean, and if you do not understand the first passage then you may understand the second or the third or the fourth when studying them:

1) It would have been ideal if climate researchers realized that one must start from the natural state of nature, and from there theories must be conceived about climate models based on man-made greenhouse gas emissions. You sure as hell don't ascertain that human produced carbon dioxide emissions, which according to most climate researchers can lead to an atmospheric greenhouse effect, should be the starting point for researchers. I assert that the doomsday-

prophesying climate researchers have the burden of proving that variations in the climate are not natural variations in the climate. It is not a normality when climate skeptics must prove scientifically that climate change is not man-made. The alarmists show a clearly unserious, unscientific side. How could you ever be able to do research about the past such as studying annual rings in trees, or drill cores in ice and tundra, etc. if you do not have the state of nature to start from? If one starts from the climate model called the "greenhouse effect" such research is complicated when reversing the problem and counting the years backwards. With such a methodology you can prove anything and nothing, it becomes a circular reasoning where you start from what you are trying to prove, i.e. one "begs the question" as it is called within the discipline of philosophy.

2) The "eternal" alt. the cyclical ice must be what we start from when we make conclusions about climate change. Drill cores from the Arctic and the Antarctic and the tundra on the continent as well as annual tree rings in old and dead trees may serve as our starting point, not climate change which without necessary and sufficient reason by many is considered to be caused by humans, or in other words - which is considered a "symptom" of a disease which is not yet diagnosed as we have not proven the causal link between man and the greenhouse effect or the cause of the climate change in the Arctic. The positive thing is that this can be done.

3) If you start from the partial climate changes or symptoms, which can be misdiagnosed and become a factoid, as caused by humans, you assume what you are trying to prove as you then calculate events backwards in time. A factoid is an untrue truth, i.e., statements that are perceived as true, but which are in fact incorrect. If, on the other hand, you look at it from the only correct timeline direction and let the research be based on the long term history of the Arctic and Antarctica and thereby make conclusions about human impact on the climate, then it will not be a matter of you "Begging the question" as it is with the climate alarmists' approach since you wouldn't start from the alleged man-made greenhouse effect and be deducing that the ice is melting because of it.

4) The question that should be asked is not; "When the ice melts due to human impact on the environment, what happens to the environment?", because it is a circular reasoning. The question you should ask is; "Is there any basis for the assumption that the polar ice melts because of man-caused influence?" Only then can you arrive at the goal that climate scientists want to achieve - making

the climate skeptics sensitive alt. submissive. You can get there by extracting drill samples in Greenland, the Arctic, and the Antarctic. This is achieved by studying the annual tree rings in living and dead trees at all northern and southern latitudes and comparing them with each other. This is achieved by studying the tundra in Russia and its gas emissions into the atmosphere through the ages up to and including today. You can get there by considering the activity of land volcanoes in the past. And all the above. Universities should work together to arrive at a satisfactory answer, whether this answer is satisfactory for climate alarmists or not. You can ask whether a negative answer is satisfactory to them, or whether a confirmation of the greenhouse theory will give them more satisfaction.

Fortunately, scientists now seem to have understood that they must drill in tundra and ice, as well as counting annual tree rings in old trees located throughout the northern and southern hemispheres, to arrive at the truth. The studying of Volcanoes and the global history of man-made environmental activity are the last pieces of the puzzle to add. So, the question is; *Have there been other eras when the Arctic and Antarctic ices have reduced alt. increased in size after the last ice age?* One should also divide the question dichotomously and ask the question whether this has then taken place synchronic alt. diachronic between the two poles, and if it has taken place cyclically or irregularly at respective poles, and if this retraction or growth of the ice has taken place partially or continuously in all directions of the poles. Dichotomy is a logical division of a class into two mutually exclusive subclasses. The cursive letter question above is the main question, which can only be answered with the help of ice drill cores and older layers of tundra as well as old annual tree rings.

The Northeast Passage is the sea route north of Europe and Asia between the Atlantic and the Pacific Ocean.

Roger M. Klang, October 2011

Who has the burden of proof - the climate alarmists or the climate skeptics

A pseudo-argument has emerged against climate skeptics. It pertains that the skeptics must produce data that it is not man who caused the climate change (if one now assumes that the climate change exists, as the climate alarmists assert). The climate alarmists thus presume that climate change is a reality caused by humans and then oblige climate skeptics to prove that this is not the case.

Drilled Ice cores from the Arctic, drilled cores from the tundra, and annual tree rings in living and dead trees can reveal much about the climate of the past. The truth can be collected from the time traces before the industrial revolution of the last 150 years. The truth cannot be collected in time traces after 1860 because that statistics can only be used as control material. The climate alarmists are trying to impose a reverse burden of proof on climate skeptics, and in the light of what I am saying, that is just foolish.

Britain's SMHI - Met office - assumes what they want to prove, as most other climate alarmists do, and this is proved by the following statement:

"The British equivalent of SMHI, Met office, is now publishing the database used to analyze climate change. The database contains 160 years of observations from thousands of weather stations around the world and is considered very important in the analysis of how human activity has affected the climate and it will now be published shortly." Source; SR;Ekot

They presume what they want to prove because it is clearly said; "The database contains 160 years of observations from thousands of weather stations around the world and is considered very important in the analysis of how human activity has affected the climate…" I assume that the journalist understood it correctly and that he does not interpret it contradictory. A clear case of circular reasoning, as they literally assert that human activity affects the climate and that research should be based on this, while nowhere is there any talk of data from the time

before the industrial revolution. Such pre-industrial data could be offered from elsewhere than the Met office.

In fact, one should have the objective attitude that it is the climate alarmists who must prove that something has happened to the climate due to activity of mankind, it is not the other side that must prove that climate change does not come from human influence. There are few who doubt that climate change is a fact from a historical perspective, what is doubted is that this climate change originates from human activity. Some climate skeptics believe that we are not moving towards a climate with warmer weather, but there is nothing that supports this pretense, and it is not a debate climate skeptics should get involved in, because if they do, they take on themselves the burden of proof, I think. And if they are imposed the burden of proof, they'll make methodologically correct research and future insights impossible. It is today difficult to know whether humans have caused climate change, due to existing poorly and circular reasoning in bad research caused by strong feelings for the subject in almost all climate alarmists. But even some climate skeptics put too much prestige into their research.

Much climate research today seems to take place in the debate room, and that is not so strange considering how little we know. I suggest that the two polemicizing opposites merge in their research and find out the truth about whether the Earth is facing a climate threat, and whether in that case it is caused by humans or by Sunspot activity alt. something else, so that they can agree on what they cannot agree on. Imagine what rewarding dialogues they could have, instead of, as usual, putting out their research results and taking the debate on the legitimacy of research methods with the opposing side in the media. And how much faster wouldn't research proceed? I do not want to say this or that about what the answer will be, I just want to criticize the climate alarmists' pseudo-scientific approach and point out that it is they who have the burden of proof. It is the responsibility of climate skeptics to falsify that research if they can. Some of the alarmists' research is not falsifiable for practical reasons, but then the research should not be treated as irrefutable facts until it is possible to falsify it. Falsification basically means what it sounds like; to disprove a theory by demonstrating that the theory, either alone or together with other statements that are presumed to be true, entails a false statement. A theory is said to be

falsifiable if it is possible to state some conditions under which the theory would be falsified. Falsifications, which is one of several scientific theoretical positions, can be formulated stronger or weaker. Falsification is the predominant theoretical position in all sciences except mathematics. One factor that is empirically falsifiable and that can become an episteme (Greek for knowledge, science) is the question of whether the melting of the Arctic ice mass leads to ocean level rises, as it is possible to build a model with salt water and ice and observe if Archimedes' principle has some significance for ocean water level when (compact) liquid ice melts. It sounds obvious that it has no significance for ocean level rise, but the alarmists research is based on so many emotions that Archimedes principle is not attributed any significance for the constancy of the ocean level.

Archimedes' principle for the Arctic means that the ice pushes away as much water as the ice weighs in total if one considers the viscosity of the water. Viscosity tells what buoyancy the water provides, or in other words how salty it is. This is also applicable to ships and everything else that is placed on water. What decides if e.g., an iron vessel will sink or not is also its contact surface with the water. The ship needs to displace more water than its body weighs in addition to the viscosity/density of the water. Therefore, the hull must be curved and hollow. Ice, on the other hand, has a lower density than both freshwater and salt water because water expands when it freezes to ice, and ice therefore floats in compact blocks unlike scrap iron. The amount of salt in the water is important for the viscosity/density of the water, but saltwater does not become ice in nature.

Roger M. Klang, December 2009

Geophysical climatology, half science - half religion

Many people are alarmed about global warming, or perhaps rather, alarmed about "climate change", as it is a bit vaguely called because the research reports are so ambiguous about whether the Earth is expected to warm up, or whether we can expect varying climate changes depending on where in the world we live.

From time to time there are alarming reports that icebergs as large as Gotland have broken loose in the Arctic. The breaking of the icebergs may be due to the water at the edge of the ice warming up, and/or it is something completely normal for large icebergs to break loose. But, in any case, the question that should be asked is do these giant icebergs really drift south and melt? Or is the ice in the Arctic melting because the water is becoming warmer there? Or do the icebergs not melt at all or very little, but stay in the Arctic and merge with the polar ice in other places? God knows what happens to them, no one reports what is happening to the icebergs after the icebergs have broken off. And then it was, that thing with Archimedes' principle. This means that the water, which is displaced by the ice, does not increase in volume when the ice melts.

Saltwater freeze poorly into ice

One possible argument for an increase in ocean water level would be that the high salinity of the ocean means that the salt-free ice, mainly created by precipitation, weighs less in relation to the liquid water in its surroundings, and thus displaces the water to a lesser extent, so that when it melts it takes up more space. The precipitation is believed to bind up much of the Earth's water on Arctic ice while leaving the salt in the oceans, therefore the ice would presumably contain larger amounts of fresh water than it displaces saltwater, due to the weight difference between salt water and freshwater. But we will soon see if this reasoning is true.

As I said, saltwater freezes poorly, especially below the water surface. Since salt water does not freeze under the Arctic ice, neither can the Arctic's surrounding water to the ice masses, in a historical or contemporary perspective, have added salt to the ice masses that can change the ice's potential water mass/weight by binding ocean salt. It would be unrealistic to assume.

The ocean level will presumably remain the same regardless of how much ice melts or does not melt from the Arctic, according to Archimedes' principle, due

to the salt-free but bulky ice having a lower density than the surrounding water. Thus, the ice weighs less per unit volume than the salt water, which is why it floats. Result for the ocean water level; plus minus zero.

Antarctica and its significance for the ocean water level

We should rather turn our eyes to the ice of Antarctica in the south, which rests on bedrock. Is Antarctica's ice mass melting? This is interesting on several levels, because on the one hand water would be added to the oceans if this was the case, and on the other hand the continent underneath would rise due to the lighter ice-mass that forces the bedrock down. But I still doubt that Antarctica's ice, which is not in contact with warmer ocean water from the north, can melt at the southernmost latitudes. It is generally the case that the surrounding waters of Antarctica are significantly more "isolated" from warmer currents in the north in a completely different way compared to how the Arctic is affected by the Gulf Stream. But in West Antarctica, there seems to be a slight weakness in the closed Antarctic system.

According to a study by Jonathan Bambers, professor of physical geography at the University of Bristol, the biggest danger is that when the ice melts from above, an ice that rests on the bedrock below the ocean surface, water flows through the ice down to the rock, which leads to an increased friction that can occur between the ice and the bedrock, which increases the risk that parts of the cover ice will slowly slide out into the ocean.

First, the ice will not melt from above at those latitudes, not even if the temperature rises by three degrees Celsius, because the temperature around the clock will still be well below zero degrees. Secondly, as I said, most of the ice is not in contact with warmer water, and there is also no Gulf current to include in the calculations, for the South Pole. There is ice in the water in West Antarctica, which is admittedly connected with the continental ice further in, and it is this ice that lies like a disk on the large bay that is melting next to the Atlantic. The result; very small ocean level rise, if any.

The significance of glaciers for the ocean level

The glacier ice in Greenland has melted down to today's lowest level since the year 1900. This involves considerable amounts of ice. But at the same time, the ocean level has only risen 5 centimeters (some say 1-2 dm) through the total melting from the Greenland Glacier and other glaciers and the net sum of any melted ice cover in Antarctica. All in all, there are indications that there will be no major land areas under water by an apprehended meter-high ocean level rise. Some say 70 meters ocean water level rise if all the Antarctic ice melts, i.e., like in "Waterworld", the movie with Kevin Costner you know.

But the frightened scientific world and the media have reluctantly become increasingly aware about the state of the alleged danger from the two polar caps in the north and south, respectively, i.e., that the only risk factor is the Antarctic. Most climate scientists and **climate research geophysicists** (the latter is a contradiction between two disciplines of which only one part is scientific, the other is religion, and when you mix the two you get voodoo geophysics) presume what they want to prove with their pseudo-research, and therefore they do not deny previous research positions, regarding the Arctic's alleged but incorrect influence on the ocean level, since it became clear to them that there is something called Archimedes' principle.

Higher sea level without meltwater from the Arctic

If the ice in the Arctic had not melted from time to time but perhaps even increased in volume, some of the world's freshwater reserves and inland lakes would have been bound in the Arctic ice mass. This has the consequence that the ocean level would rise a little because fresh water becomes snow and ice on the Arctic's enormous ice cap and you know, Archimedes' principle. Rain and snow are not an enclosed phenomenon, so the water that disappears from inland lakes through evaporation, to the ice at the poles through precipitation, is often replenished with water from the world's oceans and vice versa. But

enclosed inland lakes do not affect Archimedes' principle on the ocean water because inland lakes are surrounded by land mass. This means that the Arctic's pressure on the world's oceans increases as precipitation increases and ocean levels rise overall, but only slightly.

All in all, our globe appears more and more like the universe, it is a well-balanced geological and atmospheric system that seems to be made according to technical designs.

A well-educated layman can comment on climate change, as climate scientists are at a level of knowledge that can be compared with the knowledge/beliefs of pharmaceutical experts in the 17th century.

Roger M. Klang, December 2009

Aviation may be a small environmental culprit, but it is not really an environmental culprit for the climate change

There are those who say that airline companies are major polluters. I say they are wrong, aviation is environmentally benign, and also a necessity for our economies. According to the documentary "Congestion in the sky", aircraft consumes large amounts of fuel. They mention that a two-way trip between New York and Heathrow consumes as much fuel in one day as a large car consumes in a year. But then you must remember that in a car, maybe four or five people can travel, compared to the 60-200 people who travel in an airplane. They mention the itinerary "across the Atlantic", but the same distance trip by car London-New Delhi in reality spews out more than double the amounts of greenhouse gas emissions as do the corresponding air traffic London-New York. But by only mentioning the itinerary London-New York, they suggest that one cannot make such a comparison, even though one can and should do so. Now there are also other emissions, than the supposed greenhouse-creating carbon dioxide, which aviation emits. I list nitrogen oxides, unburned hydrocarbons, and carbon monoxide. Whether cars emit these substances or other toxic substances

to a comparable extent remains for you to find out, but in any case, they emit the same kind of residual products as aviation. But what type of aircraft, what delays and what percentage of passenger occupancy do they allude to when comparing the fuel consumption of the aircraft with that of the car? It makes a big difference. Globally, aviation is estimated to account for about 3,5 percent of man's total contribution to the greenhouse effect. Since the 1970s, aircraft engines have reduced the amount of toxic carbon monoxide emissions by 80 percent, and hydrocarbons and particulate matter by 60 percent. But not carbon dioxide emissions that are at least partially absorbed and converted into carbohydrates by plants. In modern engines, nitrogen oxide emissions have also been reduced by 30-40 percent. Aircrafts have a relatively long service life, 20-30 years, so it must be expected that it will take a long time for the new technology to make an impact on the market.

If I fly from JFK airport in New York to Stockholm Arlanda in a Boeing 777-300 (medium-sized plane with 28 years in service 2022, but the model 300 has 19 years in service) then I will consume 158 kg of fuel at a 90 percent occupancy rate. Occupancy rate is the number of passengers in percent. Roughly speaking, it compares with about three full refueling of gas in a large car, according to the Swedish Transport Agency. Three full refueling with a little more than 50 liters per refueling in a large car for me and three other adults would take us ~1,500 km by land. The same amount of fuel takes me (and only me) over 3,200 km to New York in an airline airplane. It is two times the efficiency for the car (provided that the car has one driver and three adult passengers) compared to that of the Airplane and if the airplane has a 90 percent passenger occupancy. A car often does not have three passengers, but perhaps only one driver on the way to and from work, and then a Boeing 777-300 with a 90 percent occupancy is twice as fuel efficient as a car, and thus in theory two times less malicious for the environment. An airliner aircraft is like a bus environmentally, and don't all environmentally possessed people want more buses? In practice, there is additional maintenance and replacement of parts on each car, which leads to additional heavy traffic. Also, road constructions and road maintenance are not good as seen from an environmental point of view. A Boeing 777-300 with a mere 65 percent occupancy rate, consumes fuel equivalent to 212 kg per person from Arlanda to JFK, i.e., about 1.4 times as much fuel as an older large car consumes on the land road from Ystad to Haparanda or barely 1,000 US miles. There is thus a difference of more than 50 kilos of fuel consumption per person,

on a 65 percent compared to a 90 percent occupancy rate on a Boeing 777. Then there are airplanes that consume less fuel than the Boeing 777-300.

So far the airplane Vs. the car. Everyone agrees that we cannot stop traveling across the Atlantic without being forced to cut back on our living standard, right? But what would happen if we took the boat instead of taking the airplane across the Atlantic? The Danish shipping company Maersk's thousand-headed fleet emits over one million tons of sulfur dioxide per year. That's as much as 9 billion cars (9,000,000,000 cars or six and a half times as many cars as there exist on the Earth). Emma Maersk alone, the world's largest container ship, emits as much sulfur dioxide as 50 million cars (50,000,000 cars). The boat is thus not a solution, it is so inferior in terms of emissions that I here completely end the comparison between the boat and the airplane without further discussion.

In the airline companies further defense, there is much more fuel to save in this industry, which indirectly leads to environmental improvements, than in the car industry. With GPS-navigation, an aircraft flying from Toronto to Los Angeles will fly 3,035 kilometers, compared to the previous 3,080 km. The difference is that aircraft cannot travel the straightest route to reach their destination but must fly in a semicircle due to the Earth's curvature. With GPS, you can fly the straightest possible route, instead of a mathematically calculated route. That 45-kilometer reduction saves 100 kg of fuel for each flight. Additional fuel losses can be saved through "advanced descent approaches", i.e. more efficient landings, as well as by letting the plane on the ground wait to a greater extent than the plane in the air, and by compressing the approach routes of the airborne aircraft, which can be achieved through new aviation monitoring technology. Critics say that no matter how much aviation fuel we can save through technological advancement, aviation emissions will increase in the future as the aviation services market grows. And that is true, but we save emissions from correspondingly decreased car traffic in the future and all in all reduce emissions more than the expanding aviation is adding emissions. And we save natural resources. There is an objection, and it is that if the airlines did not exist, we would travel shorter distances. But in that case, economic growth would regress, and we would see the end of our civilization as we know it with a high standard of living. In other words, no travel or limited travel between continents would mean no or limited living comfort. In addition, airlines operate on a private

market, and as such the airline industry is subject to the law of supply and demand, which when natural resources become scarcer and fuel more expensive means that ticket prices will increase and that many will therefore refrain from flying as often as they used to or refrain from flying at all. The market for aviation will therefore not be as steeply rising as some fear if jet fuel becomes a scarce commodity. We have already seen this development as the world would need 10 percent more petroleum products during an economic boom.

Roger M. Klang, September 2010, partly updated 2022

Evolution

An evolutionary theory

Beaks, hooves, skulls, and body constitutions do not differ noticeably between individuals on most animal species, except for when mutated and in difference in muscle mass. This creates some problems for Darwin's theory of evolution, at least with species other than herd animals. A female or a male individual of a certain species cannot know which anatomical differences are advantageous for a possible offspring's chances of survival. Therefore, the animal also does not know where to look for the small alterations that may be present in a mating partner of the same species. On the other hand, in very rare cases, a genetically modified individual can survive longer than its own species relatives and perhaps mate for a season longer than its species relatives. In theory.

It could of course be that an animal secretes odors, odors that reveal the genetic composition of an individual of the opposite sex. You may object that, according to the theory of evolution, animals do not need to know the small differences in the constitution of their mating partner, because it is the survivability of the individual that decides whether the anatomical features will be passed on through the generations, and that individuals who do not have benefits before others dies out if the predatory pressure or environmental pressure on the species becomes too great. But I am sure that the small anatomical variations that may exist on the individuals, which in much later generations might be accentuated to become a survival advantage, at this moment do not bring any survival advantage. The physiognomic margins are too small for animals that have a uniform anatomy to alone increase the chances of survival when targeted by a predator, or alternatively cause the individual to perform better with more successful attacks if it is a predator during a time when food availability is low, compared to their relatives. That is probably the case for most mutations that an individual in different species can have. From time to time, a unique individual among conformist species relatives may succeed in excelling, but not consistently for their own part or the part of their offspring. It is rather luck and misfortune in hunting or flight, which is crucial with these small variations in the anatomy.

However, one of my revisionist theories contains that large differences can appear on many individuals during a time when the species is at risk of extinction. Mutation has long been considered a cause of evolution, although Darwin may not have said so. However, I think that permanent mutations only appear in numbers through inbreeding, when a species or a population of individuals of a species, is on the verge of extinction. Either the species dies out, or it succeeds more or less purposefully through "smart evolution" by mutating so that it gains a survival advantage over its prey or predators. What I have to add to the theory is that this only happens when the species is endangered and inbreeding is large, and that this is the reason why it is so difficult to find "missing links" in fossils, i.e. because macroevolution usually takes place in limited populations. In addition, there is a possibility that parts of the brain are used to calculate how a mutation could be able to provide survival benefits and thus have the chance to spread the individual's genome more often. This is what I call "smart evolution". What is smart evolution, you might ask? Read the full article, I reply!

The number of variations in the genetic predispositions, which results in variations in the appearance and shape of species, should determine how fast evolution proceeds for the species, at least among thinking animals. The animals can decide what is attractive so that some predispositions have an advantage over most others. Man is an extreme example of a species that is rapidly evolving. Large differences between various individual's constitutions entail that the selection of DNA materials increases. Some predispositions get lost while good breeding material is favored. Animals such as horses, pigs and cattle have small variations in appearance and therefore compete mostly on size and courage. But on the other hand, only the strongest and most suitable ones are allowed to reproduce among the males and therefore inferior genetic material is eliminated more efficiently, but the variations do not increase in the same way as with the human genome.

I believe that apes have different facial features between individuals because they do not consciously understand how to interpret body odors. They cannot determine each other's position in the pecking order through the body odors more than subconsciously. Therefore, they must visually distinguish their fellow

flock members. In addition, evolution is a faster i.e., a shorter procedure with large differences in bodily appearance in a species individual.

Intelligent Design (I.D.)

A creationist's explanation why two animal species, or for that matter a human and a chimpanzee, can look similar, comes from the fact that just like two cars of different brands with more or less necessity must have four wheels, wheel axles, an engine, a chassis, a coach and a steering wheel to be functional, mammals must have two or four legs, a heart, a skeleton, a body and a brain to be functional. Creationists believe that God is not stupid or irrational (which is true), and therefore can use a successful biological construction many times over, although there are always anatomical differences between species as well, otherwise they wouldn't be species.

According to creationists, God also created creatures who were meant to live in similar environments, although they sometimes ended up on different continents, and the physiognomy of the creatures can therefore be confusingly alike. Am I fair in this description? Most terrestrial mammalian species have four legs, these and other similar practical functions exist side by side with amazing species richness, created by God separately at one and the same time according to creationists. Thus, the Creationists consider themselves to have explained how anatomy and DNA between the chimpanzee and man can be so similar even in a creationist perspective.

Microevolution is making its entrance

So far, we have described the vision of creation theory up to recently, since then the creationists have put forward a hypothesis about microevolution. And microevolution is true under any circumstances. But microevolution cannot eliminate the existence of macroevolution without further discussion.

According to creationists, microevolution cannot be derived from the fact that all species are related to each other DNA-wise, and species have thus not evolved from other species. Man, and animals were still created separately as species in six consecutive days with unique but sometimes similar chromosomes and DNA species in between. According to the creationists, the similarities in chromosome structure and DNA between species have the same practical origin as the creationists ascribe to physiognomic similarities, such as God's created functional "templates". Think four legs in mammals, etc. Is this an accurate description?

The argument could be true, but it can also be a fallacy. If creationism is true, then God must have been consistent when creating DNA when he created, because he was consistent when he created physiognomic templates, such as four legs, a heart, two lungs, a liver, two kidneys, etc. for mammals. The species Donkey and Horse can mate with each other and get one generation of offspring but not more and thus these species seem to confirm the theory of evolution regardless of where these animals originate from. But if we compare two mammals like the Lama and the Camel, two species that live in South America and Africa, separated from each other for 9-11 million years until modern man appeared, it gets odd. The llama animal in North America has much the same DNA as the Camel in Africa and they can even have offspring with each other (Cama). If the theory of creationism is correct, then the Llama in North America should have similar DNA as the Camel in Africa. Of course, all mammals have a relatively similar gene pool, and that is the point of the argument for creationists. But it is also the only valid argument against the theory of evolution.

But we certainly must, if we are to accept the theory of creationism, disregard the fact that there demonstrably are sediment fossils all over the globe of today's extinct animal species, and that the universe and the origin of Earth (with its fossils) can be traced back billions of years. Animals which, according to the theory of evolution and the simplest geological and paleontological teachings, had been separated from each other on the various continents for millions of years and which stood high up in the animal hierarchy.

Noah's Arc

First, I must mention that the word Arc or by extension Arca probably has a symbolic meaning in the story of Noah's Ark, because the word Arca means church vault in the not completely extinct Roman language. But it is difficult for me to determine the origin of the word and when the word originated.

Without going into the literal truth content of the Bible, one can say that the fact that there are several different continents separated from each other for millions of years, with a variety of animal species, does not exactly speak for the literal believers who believe in the Garden of Eden and Noah's Ark. Suppose all animals emanated from the Garden of Eden. Suppose that it rained for forty days and forty nights so that the whole Earth was submerged in Noah's time, and that Noah's Arc landed on Mount Ararat with animals coming from one and the same continent, taken from the offspring of the Garden of Eden which are not all related species according to the Bible creationism. Then Noah's Ark, with all its different species of animals of both sexes onboard, must have landed in either South America, Europe, Australia, or Africa, for example, continents that have distanced themselves from each other for millions of years (according to most biblical believers). This makes it virtually impossible for some animals to spread to other parts of the world, no matter where Mount Ararat was located. Ararat can only have been in one and the same continent, whether it is in Eurasia or Australia, Africa, Antarctica, or America. If some tropical animals would have been able to migrate from Eurasia across the Bering Strait between Russia and Alaska down to the tropical environment of South America, then these must have consisted of several animals of the same type. And whether the species is Lama or Camel does not matter, or any of the other physiologically similar species, which today live on different continents and which live in the same type of environment, they still had the same physiognomic abilities to do the migration. And what about what we today call species migration both among insects and to some extent mammals, could not all the same species migrate across the Bering Strait and survive in unfamiliar environments? Why then do you not see Eurasian insect species in abundance in South America but only South American insect species in abundance? Did some species get the impulse to cross the Bering Strait at the same time as other species decided to stay in Eurasia, in the case of each individual insect? Thousands of billions of individual

insects of some species all stayed in Eurasia, but thousands of billions of individual insects of many, many other species all went across the strait without a single individual exception? This if they could even have made such an amazing geographical journey as a species.

One possible objection to the reasoning about a species' sudden urge to start migrating is that in all cases without exception the individuals that remained succeeded in becoming extinct on the continent of origin. Except, that is not very plausible. The more examples there are of physiologically similar albeit genetically different species located on different continents, the more crushing my sub-theory becomes for the creationists. Since the creationists claim that there is no such thing as macroevolution, it sure is strange that the species generally differs so much between the continents.

I suppose the orthodox Christians may object that the environments in Eurasia and Alaska and the Mexican desert may have been different from today's environment there, some 6,000 years ago. But that makes it even more unlikely that two species with similar physiognomy and the same type of food intake would not both have made that alleged journey.

The fruit fly

When you manipulate the genes on banana flies so that its wings get bent, this deformation will last a couple of generations, after that it disappears in the lineage. There is no doubt that having bent wings does not result in a survival advantage for the fly. But if one manipulated another trait, which really resulted in a survival advantage, then with the above logic it would mean that this trait disappeared after a couple of generations, even if the ability to survive increased for the individual in nature. A certain level of inbreed is probably required for the trait to be preserved. Except we are talking about a fly here. Although it might be that a regulation of the genome within a species after several generations may become lasting because the small alterations that have the potential to result in survival benefits become attractive to the opposite sex, and that therefore a certain form of inbreed is not required for evolution to continue. Or

macroevolution occurs because of both theories. Inbreeding occurs partly when species are endangered, but even if for example genome alterations also occur among flies and other insects in a natural environment, traits can be passed on even in the third or fourth generation, even though flies hardly become an endangered species.

Is it the case that all species evolve abruptly when the species is threatened with extinction, or when a smaller group of animals is isolated? New research shows that individuals of the same species do not need to be isolated from each other geographically, to genetically go their separate ways. By "isolated" I mean divided into two groups with, for example, a desert separating them. Could it be that a certain form of inbreeding is desirable if macroevolution, a transition between species, is to occur? In extreme cases when a species is threatened with extinction, it results in many mutations in the genome, and the genetic tree eventually gets many branches. For a species to be in balance, it is important for the species to find a golden middle way, a little bit of inbreeding but still not too large groups of individuals. After all, direct inbreeding is malicious. One can imagine that when the apes left the trees and went out into the savannah, they became very vulnerable even though they certainly had something to gain from it, or they were simply forced to do so. This vulnerability may be one of the reasons why so many branches of the apes and hominids have become extinct. This theory coincides well with the fact that fossils of certain species are rarely found in transitional stages, or to put it more clearly - Where is the missing link?

Lamarck's and Darwin's limited theories

Lamarckism is associated with the belief that acquired traits in an organism are inherited by the offspring, and the theory has therefore encountered much criticism. What Lamarck originally observed was that changes in the environment and habits go hand in hand with changes in the organism's structure so that new species emerge. Although Darwin added that there is a natural selection in the struggle for resources, none of them really knew how properties are inherited.

Here's what I mean with "smart evolution"

Are external attributes according to the current theory of evolution only caused by mutating genes? Or is there a mechanism that determines whether a survival advantage should be passed on even though it is a regulation of the body forced on it from the environment, but which becomes genetic if only enough generations are allowed to pass? Jean-Baptiste de Lamarck thought so. The new living environment out on the savannah can be counted as an external influence. It is conceivable to think that when our human ancestors became upright walking it may not have been the ability to survive that led to the genetic alterations, but it was the five senses. Changes often proceed so slowly that they do not bring any special benefits in survival for the individual. I have a hard time imagining that when our human ancestors adapted to walking upright, that small variations in the degree of uprightness may have contributed to that the individuals who walked more upright had a greater survival probability than the others. It was probably rather luck, or the ability to innovate, that determined who would be the prey or not, for the fast predators. I rather think that the physiognomy of our ancestors in the form of upright walking was a consequence of the aspirations of the species to do so. The body felt that the need existed, and it brought about the change e.g., through a mechanism in the brain that says that upright walking is preferable and attractive unlike the not so upright walking, and therefore it is appreciated by the opposite sex. This addition makes it possible to take in Lamarck's teachings again as a complement to Darwin's teachings. It shortens the selection process and the evolutionary process that something is seen as attractive by an individual of the opposite sex. When we cannot spot the new features because they are internal it does not necessarily mean that we cannot receive information about it. Even insects can be attracted to scents in where the information is found. Within botanicas, it is known that in nuts there are environmental sensors that determine when it is time to sprout, this year or next year. Amphibians also have environmental sensors. I believe that in the animal kingdom, the plants and among us humans there are built-in sensors that outline the alterations in steps towards a new trait if only enough generations pass where the need is obvious. The five senses are allowed to act as sensors. External factors lead to evolution, even though it is genetically determined from within. The changes that occur, and which facilitate or relieve some of the senses due to extreme bodily influences or at least moderate influences, become genetic after a number of years. It may come suddenly with small changes each time within a limited group of individuals or for that matter a larger group of

individuals, but it can also come gradually in the true sense of the word. It all depends on how the genes create the predominant features. To take the example of man, it has only been 50,000 generations from when we were animals a million years ago, to 200,000 years ago when we were almost complete, if we assume that each female has her first child at 16 years of age. It does not contradict my theory in any way because it is a reasonable time to develop human traits through external influences towards genetic change, in the sense that it is considered attractive within the species. Perhaps man is not a good example because he probably evolved in leaps in several respects. But the giraffe's long neck may have come into being that way, or the elephant's long trunk when the elephant grew in size.

I believe that random genetic alterations and survivability do not account for most of the evolutionary process in nature, except when a decimation of the number of individuals has taken place to the brink of extinction for a species. My theory is partly a new theory compared to Lamarck's, because he lived in a time before Gregor Mendel and therefore considered (it can be argued of course) that the offspring generated its own "genome" (he didn't know anything about genome either) while I mean that the properties are refined by means of natural selection (which is Darwin's contribution), and this is a fusion of the two theories. Darwin, of course, believed that it was random changes in the genome that led to evolution.

Properties such as the upright walking in the early hominid, or the elongation of the neck in the species giraffe, come from the aspirations of the species to e.g., walk upright, and that those aspirations lead to precisely those qualities becoming attractive to the opposite sex. Then natural selection follows. Whereupon there is a non-random change in the genetic material over time. In any case, it is true that beauty is judged differently in different parts of the world, and that supports my theory.

It may be that monkeys began their evolution into apes by having identical anatomy and facial features, and an ability to find out the status and health of individuals in the flock simply by smelling them on a conscious level. Even back then, monkeys probably had a limited number of sweat glands. Then perhaps

the ancestor of the humanoids became a flock-bathing monkey, such as the Japanese macaque, which takes winter baths in hot springs. Our ancestor apes then lost their fur, and since it also lost some of its odor due to the water in which the animal bathed, it forced the individuals in the flock to learn to distinguish other individuals in a different way. Then different facial features and different body constitutions followed, which also meant that the anatomical evolution went faster. Monogamy emerged at the same time, as it was required for anatomical evolution to go faster, because "scrap genes", to put it bluntly, must be cleared away by pushing out some individuals of both sexes into involuntary loneliness, even in situations with equal numbers of individuals between the sexes. Albeit 1,060 boys are born per 1,000 girls in all countries of the world. Clothes and sexual morality developed when man became partly monogamous. This shows how a random development through the choices of the individuals, choices like bathing among apes, and monogamy, can result in the modern man in a very short geological time. It's amazing really if it's true. This supports the theory that in some cases the individual can control evolution by sensing the demands of the environment and choosing a partner according to how suitable it is to survive and reproduce, in what she believes the new demands will be. "Beauty lies in the eyes of the beholder" is a partial truth, which helps evolution proceed. But there is also an anatomical genetic template for what the ideal human should look like. The idea of "smart evolution" does not differ from when a seed chooses to sprout, in the sense that the seed senses a sudden influx of water and knows when to sprout or not sprout, as well as that man or animal senses the environment around him and his own limitations.

Size does not matter

Many of the animals that lived in the era of the dinosaurs were extremely large. We can ascertain that size was an excellent and common way (perhaps the best way) to compete, even among insects. But since the time of the dinosaurs, only a few of the species have developed large size as a way of survival in order not to be eaten, to be able to hunt their ever-larger prey or to compete for females, and if they have done so, it has only been to a certain limit, such as elephants and dragonflies. The obvious exceptions are aquatic animals like whales.

What is this force that has brought about that monumental shift in the evolutionary process? If the theory of evolution is real, then there must be an explanation. It doesn't really matter that all large dinosaurs have been wiped out in a cataclysm, it is the evolutionary process or the form of competition we are talking about here, not the offspring' genome. It is not the case that mammalian species necessarily tend to get bigger and bigger until their muscles can barely carry them any longer, or that today's flying insects become so large that their outer "skeletons" with difficulty barely hold the insects together in one piece. It is as if there were two completely different evolutionary rules for species adaptation before and after the dinosaurs became extinct.

How can evolution for all animals at the same time determine that now no species should rush away and become too large just to increase a specific individual's descendant's chances of survival, and consequently the survival of the species, because then it would just entail that all species will grow too large, even until no one individual can gain from it when food supplies becomes a scarce commodity and the roaming territory gets limited?

This contradicts the core structure of the theory of evolution since the species seem to have genetically decided together that no species should become too large in the animal kingdom, despite the fact that the individual and its lineage and the particular species benefit from it for the "moment being", and by saying the moment being I mean over millions of years.

An explanation is required, which I do not have, for the above. Although the theory of evolution is a fact and the evolutionary process for dinosaurs such as birds, lizards, and crocodiles, as well as mammals, implies that a shift from size to specialization must have occurred whether a large meteorite hit the Earth or not.

According to Darwin's theory, no evolutionary change can take place that provides no survival benefit for the individual. Therefore, changes in the evolutionary rule from size to specialization for all competing species cannot take place at one and the same time.

An example of how the theory of evolution needs to be revised concerns ants. I have had ants in my kitchen at certain times of the year. These work ants that run around show great respect for my stove plates. Also, after I have killed some for a while, they become more anxious and run more desperately when I approach them with my hand, but if I do not kill any of them for a while, the duller they get if I lift a glass or poke near them. This shows that work ants have a survival instinct. It is not so strange, you may think, Darwin's theory of evolution already explains it. Yes, but it is a fact that the work ants do not get offspring, they are only infertile offspring of the queen. According to the theory of evolution, the physical ability to survive must be tested by predators and the environment, and not until then will the traits that lead to survival benefits in the species be passed on. And as I said, work ants don't have any offspring.

There are other examples of insect communities like e.g., bee societies, where the work bees apparently continue to improve the viability of the species even though work bees themselves do not reproduce. This means that it really should be as I describe it that part of the brain of animals actively works to find solutions to improve the species' viability, for example in the bee queen or ant queen brain. It is conceivable that the information about what individual ants have experienced in their survival trials is transmitted through pheromones to the queen ant, like a language. In that case, it does not entail that the working ant has found a way to improve its chances of survival, it means that the ant community has found a way to improve its chances of survival. But that does not mean that the work ant is not an individual. It is known that work ants like to be slackers, so the soldier ants snap off their heads if they catch them relaxing. Therefore, there must be an explanation for the work ant's self-preservation drive, an explanation that apparently cannot be coupled with the queen's reproduction and the spread of the queen's own genes.

A reflection that no one mentions that not only refutes, but rather crushes, creationism

There are no fossils of either humans or apes until really late in geological history. But there are plenty of fossils of a lot of other mammals and reptiles in each layer of sediment. Many Christians claim that we lived side by side with the dinosaurs in the Garden of Eden, or something like that. But I bet everything I own that we will never encounter any "Black swans", i.e. we are not going to find any human or humanoid fossils in these deep layers of sediment.

Can chimpanzees also display cultural traits

What if the normative chimpanzee with its war faring and its theft of females can be compared with that of Arabs or Americans, while the Bonobo chimpanzee can be compared with today's Swedes? If chimpanzees also display cultural traits, it does not necessarily mean that Bonobo chimpanzees must always remain Bonobo chimpanzees in their behavior if they end up in a long-term conflict with normative chimpanzees. And a Bonobo female who raises a normative chimpanzee boy must in that case create a Bonobo male. In any case, we humans do not function like these two chimpanzee species. We humans are the perverted animal, and it is the oppressors of women who are the most perverted of us, but most of the perversions take place in secret, unlike among chimpanzees.

Roger M. Klang, 2008-2010

There is a reason why man doesn't discard all his or her clothes just because the clothing weighs him/her down. You can try this yourself – hold your clothes up with one hand. Let us say that your clothes weigh 2 kg. Now hold a two-kilogram massive weight in your other hand. Which one seems heavier? You will perceive the massive weight to weigh much more than you perceive your clothes doing.

Evolution or God, God or evolution, or God and evolution, no matter what it is, God and/or evolution seem to have a thing for moral decency among humans.

Roger M. Klang, 2022

Religion Vs. Patriotism

There are two different types of uniting cement in different cultures. In e.g., the Viking societies and in our society today, among Swedes, the patriotic cement dominates. In the Muslim world, the religious cement dominates. But a society does not always have to stay in one and the same state of oppression of women.

We Swedes live in a matriarchy today 2020. In the Middle Ages we had a patriarchal state of mind. In those times, the cultural resemblance between Muslims and medieval Swedes was probably quite conspicuous. The Vikings had a better balance between the two sexes.

To enter into secret agreements, to make shady deals, to give and take bribes, to have hidden intentions. These are all manifestations of personal perversions.

Of course, there is a whole world between the Muslim countries and Sweden, a world with varying sexual preferences with degrees of sexual inclinations or pure perversions in different people. The most common deviation is a large age difference. There is no such thing as a person completely free, throughout his life, from improper desires. But there are people who want to appear as being free from it. But the incest witch trial in the United States in the 1980s tells me that they're lying.

The rock carving below from Tanum in Bohuslän is called "The Bride and Groom". I think the artist rather tried to portray that our society is culturally cemented,

that we are a nation. As I see it, the prehistoric Sweden of that era is not culturally different from today's Sweden.

The fact that Muslims oppress their women and practice child marriage and polygamy is a winning concept from a purely Darwinian point of view. The cultural glue that holds our society together has not been strong enough. Therefore, we will probably end up as a Viking state.

It does not matter what you think about Viking states. We are an ant community or a species of apes. Negative emotions, which most people have, are just nature's tool so that the ant community can survive the alien invasion. Nature is cruel. We are a social being for the purpose that we should be able to build societies. Therefore, nature allows it, up to a certain point, that we accept foreign oppressive men who seek refuge in our country. But when a certain point is reached where Swedish men's gene pool is seriously threatened, there is a great risk that there will come a kickback.

Checklist for behavioral ecologists concerning species' individual behavior and/or group behavior

Before proposing a theory about e.g., why plankton migrates vertically up and down in the ocean over the course of the day, or why Bonobo chimpanzees are so promiscuous, one should define which factors can lie behind, before formulating a theory, and this must be considered partially in the sequel order described here.

1. Is a theory for the behavior of species individuals explained by survival instinct?
2. Is a theory for the behavior of species individuals explained by the nurturing of their own young ones?
3. Is a theory for the behavior of species individuals explained by the nurturing of the young in a group/flock?
4. Is a theory for the behavior of species individuals explained by reproductive instincts?

   Subgroup: Does a theory explain the behavior of species individuals for their social position in the group, including violent tendencies and submissiveness within the group?

   Subgroup: Does a theory explain the behaviors of species individuals concerning sexual preferences?

5. Is a theory explained by the availability of food, or the lack of food?

   Subgroup: Does a theory explain preferences for a certain type of food?

6. Does a theory explain the propensity of the species for competitive violence against other conspecifics?
7. Does a theory explain the propensity of the species for competitive violence against other species?

8. Is a theory for the species' behaviors explained by the season?
9. Is a theory for the species' behaviors explained by the lunar cycle?
10. Is a theory for the behavior of the species explained by the circadian rhythm?
11. Is a theory for the behavior of the species explained by changed environmental factors?

Roger Klang, April 2023

My testimony

Since mankind is only 6,000 years old, beginning with Adam and Eve, the dinosaurs must have lived in the Garden of Eden. I do not know why all of them suddenly made their mark in sediments by leaving their fossilized remains in hard-to-reach places and then disappeared from the face of the Earth, apparently without any good reason.

Then the ground was turned upside down so that all the dinosaur fossils, which turned into fossils almost immediately in the sediments, were sorted and arranged neatly so that all the remains of primitive life forms were placed in the lower parts of the sediment further down, and all the higher life forms ended up on top. But fortunately for us, none of the bones from the other animal species, especially the mammals which still live here on Earth today, were mixed with the dinosaur bones, not even in a single known case.

Then there was a flood, but fortunately a guy named Noah was able to build a ship and gather all of today's living animal species, two of every kind, and herd them onto the ship. I guess he had some kind of magnifying glass because he had to travel to every continent and collect ants and other insects, about a hundred million of them, and accommodate them in his ship.

He must have been well prepared, and he must have lived for hundreds of thousands of years to finish this job. But since mankind is only 6,000 years old, he probably had supernatural help even though the scriptures do not mention such small of a detail in the contexts.

It must have been a mighty big ship to collect and house all these species, two of each kind of animal, and feed them on board with all the different kinds of food they were specialized in eating. As for the carnivores, he must have fed them with other mammals. And think of the water tanks and water systems on board the ship, how amazing were not they. Imagine that small detail. Noah and his wife and children must have moved at supernatural speeds from animal pairs to animal pairs to feed them on board the arc, all the hundreds of millions of different sized animals. Only the knowledge of what all the animals should be fed with must have been acquired over the course of, I don't know, a month?

Then Noah, after 40 days and 40 nights of constant rain, sailed from continent to continent to release all the animals and insects, and he did not confuse two pairs with any other two pairs. Everyone with a certain DNA relationship ended up on one continent and everyone with another certain DNA relationship ended up on another continent. And he managed to do it without a single mistake. What a fellow. Imagine the work, a 100 million insects twice! It must have been particularly difficult to keep the animals he released on the different continents from eating each other quite soon, before they had offspring that could mate with their siblings, because there were only two of each species.

We know this is true because it says so in the holy scriptures, which are not written by men, but by God himself. Woe to him who does not believe in the holy scriptures.

The Human brain

How our brain(s) learn

Here's how I think that my brain learns. But first, let us not forget that we in essence have three brains. Cerebral Cortex, which is doing the deductions, and the Reptilian brain where our instincts are based. The third brain is the repetitional Cerebellum, in which we learn how to walk and chew chewing gum simultaneously, but this brain cannot think for itself, and it has no emotional center. Our Cerebral Cortex is tightly linked to our Reptilian brain in that it was developed simultaneously with the Reptilian brain. At least it is what I believe. If we hadn't had the Reptilian brain, we would in essence be zombies or non-aware computers. Think about it! Every rational decision you have ever made was aimed at improving your chances to survive and reproduce and take care of your offspring and compete against other tribes. You may have participated in sports. Sports are, albeit they have long term health benefits for your body, also risky for your wellbeing and your physical functions. But they often have the benefit of attracting the opposite sex. Same with military service, it is risky for your wellbeing and your physical constitution and even your life. But serving often has the benefit of attracting the opposite sex. In the case of female service personnel there might be other awakening sentiments that serve to increase the importance of her role in society. You may at some time in your life have wanted to build a house for your family. You may have bought a car to be able to get to work and buy groceries for your family. You may even have taken care of your parents in their old age. Family is important when raising children. What if your whole core family gets cut off from you parents losing your jobs, who would you turn to? Your neighbours? More likely your old and retired parents.

If we take a look at irrational decisions that people make then. Actual suicides and not just suicide attempts, must be founded in the most irrational feeling of them all - depression. How then can human feelings be one hundred percent rational? They are of course not, but neither are animals' feelings one hundred percent rational. But emotions in combination with cognitive thinking are necessary in order for us to have a personality, and we need that to have a self-awareness or otherwise we wouldn't have had an "I" that can be conscious. Our consciousness could not have come to be without both our emotions and our cognitive thinking. Think about it. Even a fly has a survival instinct and

reproducing drive, based on basic emotions and basic cognitive abilities. However, needle head small insects don't seem to have the survival instinct, so there is probably a limit size for any living organism with this feature. However, needle head small insects have a reproducing drive and an urge to eat, and it scans the area for mating partners and nutrients. Plants and trees usually don't have the ability to move around, that is why they have no survival instinct or any instinct. There just isn't any need for it.

But how do I think that humans learn then? I think that I learn, if we start from a certain basic early life knowledge albeit small, by seeking answers to questions that I need to have answered in order to proceed with my learning, even if it takes years for me to finally get the answer I am searching for. But it may also be that my cognitive very natural logical wiring in my head ends up falsifying my preconditional belief. Of course, I can simultaneously have multiple, even hundreds of questions I need to get an answer to. When I do get an answer to any one of them, a tangled juncture is created in my brain and the neural network eventually gets denser. This will lead to further questions that I need to get an answer to, and new cognitive discoveries start from there. And so, my learning increases. You would perhaps think that the questions that I want to have answered would increase exponentially from year to year. But they don't. My calculator in my head does most of the deduction. I never engage in nonsense activities, albeit when I was an adolescent, solitaire for instance was a good lesson to learn. It's Occam's razor that speaks, at least for me.

I picked this following up from Sabine Hossenfelder's video about Chat GPT. She is wrong though. She asserts that Chat GPT is conscious.

"The Chinese room"

John Searle, the philosopher, came up with a thought experiment he called "the Chinese room". The Chinese room was just an imaginary room with an English-speaking person in it, holding a rulebook for the Chinese language's vocabulary and grammar. Let us call this English-speaking person John Searle since I believe

he used himself as the first person in this thought experiment. The only way for the English-speaking John Searle inside of the Chinese room to interact with the outside world is through an opening slit in the door. Now suppose that someone drops a note written in Chinese through the opening slit in the door, to John Searle sitting with the rulebook inside of the Chinese room. John Searle uses his Chinese rulebook to translate the scrabble on the note and he returns the result to the outside person through the opening slit in the door. One would imagine that the outside person believes that there is someone inside the room who understands Chinese. But in reality, John Searle doesn't understand a word of the Chinese language, he is just following the rulebook he has received. Searle argues that this is the way a computer program works, that the computer lacks any true understanding. The computer is just following the rules. John Searle was of course right.

There are two common objections to Searle's argument. The first objection is that the system which understands Chinese isn't just consisting of the English-speaking person inside of the room, but instead it consists of the English-speaking person *including* the rulebook. Saying that the English-speaking person doesn't understand Chinese is a correct assessment, but the assessment doesn't give an answer to the question because in John Searle's analogy the person does not constitute the computer program singularly.

The second objection to Searle's analogy is that it might well be correct that the English-speaking person inside of the Chinese room and the rulebook, don't understand Chinese. But that is because the input is so limited. Language lacks the physical information that we have learned to associate with words. A software algorithm that received the same physical information could perhaps develop understanding as we can.

Of course, computer algorithms have become many times more advanced since 1980. But it won't matter if the algorithms become as smart as even God can be, there will be nothing that can experience ever so smart calculations. It will only be an immensely smart pocket calculator. Consider a cow. A cow can see and compute everything around her. She can see cars passing by her pastures. Does she truly have an understanding of cars and their purpose? She may understand

its purpose, that people get from place A to place B in their cars, but she does not have an understanding of the technical explanations for how cars work, and she will never be able to understand it. She is the equivalent of the English-speaking person in the Chinese room. She is experiencing something that the English-speaking person doesn't, yet she isn't as smart as a human. She doesn't have to understand something to actually experience something. That is what is so fantastic about living creatures. (No pun intended) An ever so smart computer could never experience what a cow can experience, and it has got nothing to do with the cow being able to watch stuff from outside of the Chinese room. We were talking about understanding and self-awareness, weren't we. And since a man can be brighter than another man put inside of a Chinese room, just like a cow is less smart than any bright man, the intelligence level of the cow should be of no crucial importance for the argument.

This chapter was authored and added to the book in March 2023

Economics

Barter economy Vs. market economy

Silver and gold have a value also in barter economies. But in a world where money does not contain precious metals, it will become difficult to successfully incorporate developing regions into Western market economies. The market economy still took hundreds of years to develop in the Nordic countries and the baby stage culminated with the northerners trading in Roman coins, sometimes handled smelted, and silver filaments which, thanks to the scale which was every man's property in its most primitive form with a small stick, two pouches and three short threads.

NASDAQ or NASCAR

Hedge fund managers, banks and stockbrokers today use something called the "black box" to make money on "bugs" in the financial system. It is all about using technology to make trading become thousands of times faster than a person could ever react on NASDAQ and the NYSE.

The "black box" buys and sells in the course of microseconds. This is called high frequency trading. The agents have developed computer programs (algorithms) that analyze patterns in the trade, without considering the companies' fair value. The computers search hundreds or thousands of stocks around the world and try to find abnormal patterns in trading. In past times, such abnormal patterns could be found by skilled stockbrokers, but it took minutes or even hours. Now it is done in microseconds.

However, an agent is not allowed a greater advantage than that he must be connected with at least three hundred meters of cable. So, when the black box is plugged into NASDAQ, actually every box who is placed in the room, regardless of where in the room, has the same opportunity to earn money as anybody else. It is a form of financial "doping", for the mentioned agents on the stock market, which unfortunately lead to obvious advantages for those agents at the expense

of small savings players. The largest black box facilities that are used today cost hundreds of millions of dollars to build.

An agent benefits from trading at lightning speed, and it is important to have a fast connection and a short cable. The signals travel at the speed of light. In Stockholm, it is possible to rent a square meter in the same room as the Stock Exchange's main computer. It costs xx.xxx kronor a month. Everyone who rents space there gets exactly the same length of cable to the main computer. Ordinary stockbrokers, not to mention small savers, end up hopelessly outpaced. Their connections require seconds, not microseconds, and in addition, trading patterns must be analyzed cognitively, which takes time.

If trade is completely controlled by agents, with black boxes, that compete with microseconds as a weapon, ordinary people risk ending up in a situation where they can no longer make money on the Stock Exchange. Why then should they be active in the stock market? Why should they line up with money that gives no interest? The industry has problems generating capital and when the Stock market becomes uninteresting as an investment object, the people's money instead ends up in the housing market, where another kind of bubble can be inflated. But it is probably not primarily the public that is affected by the black boxes. The public saves in shares with years as a perspective.

However, there are traders partly in the large brokerage houses but also in the form of private individuals who are "day traders" and who have gained momentum when it has become possible to trade from their own computer with the help of low-price brokers such as Avanza and Nord net. But this type of trader has been trading with the perspective a few hours. They may have bought and sold the same share several times a day, something that has evened out irregularities in pricing and largely improved market efficiency. But those who trade in the perspective of hours become bypassed when others trade in the perspective of milliseconds and microseconds. Bank after bank has also closed their trading departments since it turned out that this cash cow can no longer deliver any profits. Day traders have become a rarer phenomenon in the columns of business magazines, probably because they can no longer make any profits and thus are slowly disappearing or have already disappeared from the market.

High frequency trading is protectionist

It must be said in connection with black boxes that not only are the market economy and small players threatened, but business is also stacked in favor of the countries and financial institutions that are geographically closest to the US and Wall Street and that have microseconds or even milliseconds faster communication with NASDAQ and NYSE due to that light has a finite speed. This creates a time relay in the flow of information between agents in different countries, which means that effective tariff rates are created between the financial centers. When the length of the cable becomes decisive for market success, a new kind of protectionism is created, a post-globalist protectionism. A Swedish agent with money can always afford to build a black box facility in the outskirts of New York if he can find land for this purpose. If he is already in Nasdaq or Nyse's premises, he of course has a small black mini box available.

Economics is a social science, and the Latin word capita means head or person, from which the word capital derives. The problem is that money is equivalent to people, which means that when the agent makes money on NASDAQ or NYSE, it means that he loses most of the money invested in Sweden, to the US economy. The money only exceptionally comes back to Sweden and contributes to the Swedish economy. It doesn't have to be so, because we have the same opportunities to get American money home to our country, but under current circumstances, the United States is large with a lot to offer, and Sweden is small and uninteresting except culturally. We lack marketing and charisma. The Swedish agents can have a black box facility in Sweden if they are smart, which means that they may find it easier to keep our Swedish money in Sweden and that the Americans find it more difficult to compete for capital (people). The US is ahead with the implementation of black boxes, in Sweden there is still resistance to high frequency trading. The winner is of course the US, this is proven by the fact that significantly more Swedes move to the US than Americans move to Sweden, and this means that the economic weight is to be found in the US. It doesn't really matter that you can plug in a small black box on NASDAQ as a Swede, because all you do is contribute to the American economic system for the most part. But after all, it's better to be present on the NASDAQ

and NYSE on equal terms by having the black box, than not to be. The problem is that the Stockholm Stock Exchange is owned and operated by NASDAQ Stockholm AB, which since 2008 has been part of NASDAQ Inc. The share in this company is listed on the Nasdaq Stock Exchange. NASDAQ also operates the stock exchanges in Helsinki, Copenhagen, Reykjavik, Tallinn, Riga and Vilnius under the common name NASDAQ NORDIC.

Anyone can see the long-term consequences of this. Doping in some of the financial markets of the Western world is not good for the market economy and therefore it is not good for growth and prosperity. Doping can even be a contributing factor to the financial crisis and a strong contributing factor to large parts of the world not seeming to be able to recover from the economic crisis that began in 2008, as doping can be compared to tariff rates between countries where some countries are favored over others by bringing these countries closer to the NASDAQ epicenter. Already in 2006, a third of all EU and US stock trading was driven by algorithms i.e., automatic programs. In 2009, such algorithm programs accounted for 73 percent of all US equity trading. Artificially intelligent self-learning black boxes can be assumed to have progressed and be generating even more money for hedge funds and banks today. Today, an average stock in the United States is owned for 22 seconds. But someone must lose the game when others win, and it seems to be states, homeowners, small savers, pension savers and peripheral small players on the financial market, depending on where you live in the world. Financial institutions deceive themselves and lose out in the long run on high-frequency trading due to its anti-global nature. We should have acted earlier, but unfortunately the hedge fund players, banks and stockbrokers have had time to invest hundreds of millions in giant, electronic indoor facilities. If we do not get the United States with us on the black box issue, we will probably have to live with the phenomenon.

As early as in the 1920s, there was an equivalent to "the black box", so-called Ticker tapes (Teleprinter strips). Ticker tapes were found everywhere in the United States, on ocean-going ships, trains, beauty salons, bars, in villages, and everyone from directors to housewives to shoemakers speculated in stocks in America in the 1920s, though mostly the middle class. In Europe, only aristocrats were involved in the stock market. The difference between the Ticker tapes of that time and today's black boxes is that with Ticker tapes, it was always people

who "pressed the button" to buy or sell, even though they had a real advantage over the British and the rest of the Europeans. Since it was people who pressed the button, the difference in cable length was highly marginal. The finite speed of light made little difference. What made a real difference was that the American stock market was democratic while the European one was feudal. Only in America were Teleprinters available to the public.

Does the black box have implications for the world's economies and ultimately world peace

The black boxes have replaced ticker tapes and high tariff rates as a protectionist tool for certain state leaders to create economic benefits for their own country at the expense of the economy of the rest of the world. Protectionist decisions often emanate from an international economic crisis. But tariff walls in any possible form are probably always counterproductive for the country that implements them. Tariff walls can also eventually lead to war. It is not obvious that the world's state leaders are fully aware of this.

In September 1922, the Fordney – McCumber Tariff bill was passed, as a more urban successor to the agricultural protectionist The Emergency Tariff of 1921. Approximately 1923-1924, the Germans got hyperinflation in the D-mark.

This Tariff Bill was later followed by The Tariff Act of 1930, also known as the Smoot-Hawley Tariff, which was enacted on June 17, 1930, and which raised the United States tariff rate on over 20,000 imported goods to record levels. In 1932, the United States had an unemployment rate of 8 percent calculated on the 1930 census. Unemployment peaked in 1933 at up to 25 percent in some states. Shortly after Franklin D. Roosevelt was inaugurated in 1933, all of USA's agriculture in the Midwest was hit by severe drought, and hundreds of thousands were forced to leave their farms.

It is interesting that the US Republican presidents, who sat in office uninterrupted between 1921-1933, seem to have preceded both of Germany's

two biggest crises of all time, with increased tariff rates and on more goods, with barely one or two years shifting. The Republican initiative "the Dawes plan" after Vice President Charles G Dawes deserved the Nobel Peace Prize at least.

Residuum

I have very recently discovered that I am probably dyscalculic, or perhaps unevenly gifted. The proofreader for my book is named Peter Blixt and he has also contributed a little to my book as he has put a lot of effort into also understanding it, not just complaining about commas and spelling mistakes. Blixt has critically reviewed the book, and in that Blixt has done an extraordinary job. Peter Blixt is a computer-savvy author who resides here in the university city of Lund, Sweden. Lund University is the largest and the first founded university in Sweden. Peter Blixt is the author of the book *Hur hjärnan fungerar*. Blixt certainly isn't dyscalculic, and he has made some corrections for math errors in my book. I want to thank Peter for all the work he has put in for me. He didn't have to do it, but he did a thorough job with my book on his own initiative. Thank You Peter!

I would like to point out a relevant thesis from the year 1942, before anyone else gets a chance to point it out:

MECHANIZATION IN PROBLEM SOLVING
The Effect of Einstellung

by Abraham S. Luchins PhD Instructor of Psychology Yeshiva College and Research Assistant, Graduate Faculty, New School for Social Research

Here is a dumbing down video source:

https://www.youtube.com/watch?v=-adHRNYHbm0 [Can Learning Make You Dumb? Yes.]

But it took some serious thinking for me to come to my conclusions in part 1 and part 2 of this book, at least thirteen years. I don't like to label myself stupid but lucky. I hope the scientific community will grant me either the scorn for writing this book, or the credit for writing this book, depending on their ability to understand it. If it even is understandable to any scholar? I think it is.

The author

The End

Image # 5

(*a*) a=a (*a*)

Ejected body's distance as seen from object

Dashing body's distance as seen by an outside idle standing observer

Not *exaggerated speed of object x moving at same speed as vertical* (*a*)

x →

Image # 6b

B
2
1
C 2 1 A

1 = ~3.54 *fifths of both* A *to* B *and* A *to* C

2 = ~1.46 *fifths of both* A *to* B *and* A *to* C

Image # 6d

Stone *x* *x*
x
x
x
x

Toss

Tossed stone *x* as it is perceived to travel by an outside idle standing observer

x as it is perceived to travel from train

Direction train

Image # 6e

(*a*) (1) (*b*) (2) (*c*)

x *x*

Object *x* is in motion to the right

(*a*) *equals* (*b*) *as seen by an outside idle standing observer.*

(*b*) *is* (*c*) *for the same observer.*

Motion of x equals those of (*a, b, c*)

(*a, b, c*) *have straight trajectories whilst bodies in* (1, 2) *do* not *travel in linear trajectories* for *an outside idle standing observer*

Image # 6f

Body

Body

The body traveling 45 degrees from object *x* will always be 45 degrees as seen from *x* and only *x* at any time

The distance *x* at a to *x* at b equals the vertical distance Body to Body

x at a *x* at b

Object *x* oriented to the right

Image # 7b

1
1
1
1

Point of origin 0k
67k
1 1

1. *Close to 0k. 67k is where you would* not *expand with the rest of the universe*

(*c*)

Object orbiting star

Basically, the object's trajectory alternates, with a decreased radius from the star and *an increased velocity*

Body within the object's gravitational field and *with an open trajectory*

Star

Image # 15

energy source

energy source

thermal energy high

stove

light low intensity

thermal energy low

flash-light

light high intensity

Transfer of thermal energy into light is greater in the flashlight

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