# Teslawaves <br> <br> Quantum gravity 

 <br> <br> Quantum gravity}

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Gravity is little understood and considered the weak force, too weak to bind atoms together.

Several attempts by science have failed to produce a 'Final theory' that can describe a single force capable of unifying gravity with the quantum forces that hold both planets and electrons in their orbits. Indeed many attempts to unify gravity have created additional anomalies.

Teslawaves contraction hypothesis suggests that an expanding universe is an illusion caused by universal contraction. This process causes space and mass to contract through time allowing light from a distant galaxy to appear stretched or red shifted.

During contraction mass is not crushed into a soup of particles such as a neutron star but released as Mass energy which interacts with Spatial energy, the nothingness referred to as 'space', to create gravity. A contracting universe may explain why the universe 'appears', due to 'redshift' to be expanding which is an illusion created by contraction.

The theory also proposes that the surface gravity of an atomic nucleus may be as strong as the gravity of a star but because the radius of a nucleus is extremely short, the 'range' of the force is extremely short, weakening to the value of ' G ' at the atomic perimeter. In addition the theory states that the universe is multidimensional utilising gravity to manipulate the various levels of time, distance and space. And if gravity can be understood, science could use this mysterious force to manipulate a craft that could no doubt outperform all of the present day propulsion based aircraft.

The following document 'presumes' that universal contraction is a reality but in the very least attempts to provide an alternative view of our universe.

## Universal Contraction

## Normal time v Quantum time

Rather than an expanding universe, space including the space between and within mass contracts causing the universe to contact through time without creating a dense mass such as a neutron star. The reaction between contacting mass and the nothingness referred to as 'space' creates gravity. Therefore instead of requiring an additional area for the universe to expand into, the universe can be contained within the existing three dimensions while moving through the fourth dimension, referred to as time.

The Contraction theory states that over-time mass contracts causing pendulums and measures to shorten and time to speed up. When mass and pendulums have contracted by one half, two Quantum time seconds (Q.t/s) exist within a period of one Normal time second (N.t/s). When mass has contracted by two thirds, three Quantum seconds exist with a period of 1 N.t. second etc.

The relationship between a 'Normal' time second (N.t/s) and a 'Quantum' time second (Q.t/s) is the difference in time between the 'Normal' time second (N.t/s) that does not shorten and a 'Quantum' time second (Q.t/s) that does. Likewise the difference between a 'Normal' time metre (N.t.m) and a 'Quantum' time metre (Q.t.m) is the shortening of distance.

A Normal time metre (N.t.m) doesn't contract but a Quantum time metre (Q.t.m) is subject to continuous contraction, equal to 1 N.t.m. / n Q.t/s. Where $(\mathrm{n})$ is the next quantum second. Similarly the length of a Normal time second (N.t/s) doesn't change while a Quantum time second (Q.t/s) increases in number but is still contained within one Normal time second, equal to $1 \mathrm{~N} . \mathrm{t} / \mathrm{s}$. n Q.t/s where $(\mathrm{n})$ is the next quantum second.

A Normal time second ( $\mathrm{N} . \mathrm{t} / \mathrm{s}$ ) could be thought of as one Photonic or light second and a Normal time metre a Photonic metre. Similar to a standing wave of energy observing the contraction of mass and space through time. But how does contraction relate to gravity, time and space.

## Gravity

Ignoring air resistance and minor variances in gravity due to height Sir Issac Newton's theory of gravity states that a ball that has been falling in earth's gravity for 1 Second will be accelerating at 9.81 metres per second, per second.

Following subsequent seconds the ball's acceleration will increase from $9.81 \mathrm{~m} / \mathrm{s}$ to $19.6 \mathrm{~m} / \mathrm{s}$ and then to $29.4 \mathrm{~m} / \mathrm{s}$ etc. equal to $\mathrm{A}=\mathrm{t} \times\left(\mathrm{Gx}_{1} \times \mathrm{m} 2\right) /\left(\mathrm{r}^{\wedge}\right) / \mathrm{m} 2$. Where A is acceleration $t$ is time in seconds i.e. $1,2,3$, etc. $G$ the universal constant, M1 Earth's mass M2 mass of a ball and r earth's radius.

Although the conventional theory of gravity provides a formula for gravity it doesn't actually explain its mechanism. The contraction theory modifies Newton's formula to;
$A=\left(G \times M_{1} \times m_{2} \times t\right) /\left(r_{x t}\right)^{\wedge 2} / m 2$. But in this case $A$ is equal to Quantum time metres per Normal time second because the Q. .time measure is contracting.

In this case time $(\mathrm{t})=1 / \mathrm{n}$ where n is the next second and, compared to Normal 'time' and Normal time 'metres,' allows Q.t. time and distance to shorten from 1, to $0.5,0.333,0.25$ etc. and gravity (g) to increase by t x , allowing a 6 Kg ball in earth's gravity to increase its acceleration by 9.81 Q.t.m/s each additional Quantum time second (Q.t/s).

With the numbers inserted equal to;

$$
9.81 \mathrm{~m} / \mathrm{s}=(6.67 \times 10-11 \times 5.97 \times 1024 \mathrm{Kg} \times 6 \mathrm{Kg} \mathrm{x} 1) /(6,371,008 \times 1)^{\wedge^{2}} / 6 \mathrm{Kg}
$$

Omitting the ball's mass ( m 2 ) earth's Quantum gravity can be condensed to;

$$
A=\left(G \times M_{1} \times t\right) /(r x t)^{\wedge 2}
$$

Time 19.81 Q.t.m per Nt/s $=(6.67 \times 10-11 \times 5.97 \times 1024 \mathrm{Kg} \mathrm{x} 1) /(6,371,008 \times 1)^{\wedge}{ }_{2}$

Time 2 19.62 Q.t.m per Nt/s $=(6.67 \times 10-11 \times 5.97 \times 1024 \mathrm{Kg} \times 0.5) /(6,371,008 \times 0.5)^{\wedge}{ }_{2}$

Time 329.43 Q.t.m per Nt/s $=(6.67 \times 10-11 \times 5.97 \times 1024 \mathrm{Kg}$ x 0.333$) /(6,371,008 \times$ $0.0 .333)^{\wedge}$

According to the Normal time observer, gravity within the quantum dimension appears to be growing stronger, but because quantum time measures have shortened this stronger gravity weakens more quickly with distance, equal to the distance divided by the shortened mass radius squared. As mass contracts through time the mass repulsion also strengthens opposing earth's stronger gravity. Until a supporting surface, such as a diving board, is removed the Q.t. observer is unaware of this strengthening gravity.

According to the contraction theory energy lost in the contraction process reacts with the 'nothingness' we refer to as space creating gravity. However, to the N.t. observer, as Quantum mass contracts Quantum gravity grows stronger, but this 'stronger gravity' which is related to a shortened mass radius is also short in range. This strong N.t. gravity appears normal to the Quantum time observer because in this case Quantum 'time' and 'measures' have contracted to $1 / 3$ of their original length. Therefore according to the Q.t. observer a force of 3 g multiplied by 0.333 of one Normal time second is still equal to only $1 \mathrm{~g}(\mathrm{Q} . \mathrm{t})=3 \mathrm{~g}(\mathrm{~N} . \mathrm{t}) \mathrm{x}$ 0.333 N.t/s.

Each and every second Quantum mass, time and measures shorten by $\mathrm{t}=1 \mathrm{~N} . \mathrm{t} / \mathrm{s} / \mathrm{n}$, where n is the next quantum second. A Normal time second can be thought of as a 'light metre' that is frozen in time, or the difference in time between the Quantum dimension and our 'Normal' time dimension. In the latter case time moves forward at the same rate for both dimensions but is separated by time. Light's N.t. dimension doesn't contract therefore will see contracting dimensions disappear through time.

Because mass and measures contract the mass radius shortens, meaning that according to the N.t. 'Light' observer gravity appears to weaken more quickly away from its source. After two quantum seconds earth's Q.t. mass will have reduced and its radius will have contracted from 6,371,008 Normal time metres to 3,185,504 Normal times metres producing a surface acceleration or gravity of 19.63 Quantum time metres per Normal time second, and equal to 9.81 Normal time metres per Normal time second. Since the quantum observer operates within quantum time, earth's gravity always appears as 9.81 Quantum time metres per Quantum time second, In this case $=19.63$ Q.t.m $\times(1 \mathrm{~N} . \mathrm{t} . / \mathrm{s} / 2 \mathrm{n}$ ).

At a distance of twice earth's shortened radius, gravity will have weakened to 4.9 Quantum time metres per Normal time second $=\left(19.63 / 2^{\wedge} 2\right)$ equal to 2.45 Normal time metres per Normal time second and 2.45 Quantum time metres per Quantum time second.

Relative to both the Normal time and Quantum time observer timeframe, earth's surface gravity of $9.81 \mathrm{~m} / \mathrm{s}$ Normal time metres per Normal time second is the same as 9.81 Quantum time metres per Quantum time second but according to the N.t. observer gravity appears to weaken more quickly from its source due to earth's shortened radius.

As the Q.t. earth continues to contract through time, earth appears to the Q.t. observer to retain a surface gravity of 1 g , equal to $9.81 \mathrm{~m} / \mathrm{s} / \mathrm{s}$. But to the N.t. light observer earth's Q.t gravity appears to become stronger, although this strong gravity shortens in range, equal to the contracting mass radius, squared.

## Displacement \& gravity

During the early 1730s French natural philosopher, mathematician, physicist, and author Emilie Du Châtelet heard about an English man Isaac Newton who stated that the energy of an object, the force at which it collided with another object, can be accounted for by its mass times its velocity. However in correspondence with scientists in Germany Emilie Du Châtelet learned of another view, that of Gottfried Leibniz, a German who proposed that moving objects have a kind of inner spirit which he called vis viva, from the Latin for 'living force'. Many discounted his ideas but Leibniz was convinced that the energy of an object was made up of its mass times its speed 'squared.'

Inspired by the theories of Gottfried Leibniz Emilie Du Châtelet repeated an experiment conducted by Willem Gravesande, a Dutch mathematician and philosopher that involved dropping balls from different heights into clay. After dropping the first ball Gravesande dropped a second ball from a higher height calculated to be double the speed of the first ball.

Newton tells us that doubling the speed of the ball doubles the distance it travels into the clay. Leibnitz however asks us to square that speed therefore if true the ball will travel not two, but four times as far. Gravesande's experiment proved that Leibnitz was correct which was a giant leap forward for the time, however just because the squaring of velocity works mathematically for falling objects it doesn't provide a thorough understanding of why it works.

In the absence of air resistance, gravity close to Earth's surface causes mass to accelerate earthward at about 9.8 metres per second per second ( $\mathrm{m} / \mathrm{s} / \mathrm{s}$ ) or $9.8 \mathrm{~m} / \mathrm{s} x$ time. After the 2 nd second mass will be accelerating at $19.6 \mathrm{~m} / \mathrm{s}$, twice the initial velocity and after the third second at $29.4 \mathrm{~m} / \mathrm{s}$, three times the initial velocity indicating that the force of gravity 'appears' to be growing stronger.

According to the 'traditional theory' the number of metres a mass falls or is displaced in earth's gravity is calculated as $\mathrm{D}=\left(\mathrm{A} \times 0.5 \times \mathrm{t}^{\wedge}\right)$ where D is Displacement, A is Acceleration equal to $9.8 \mathrm{~m} / \mathrm{s}$ within earth's gravitational field, 0.5 is the average displacement due to acceleration and $t^{\wedge 2}$ the time the mass has been falling, squared.

Following the first second mass was displaced by $\mathrm{D}=\left(\mathrm{Ax0.5} \mathrm{xt}^{\wedge^{2}}\right)=4.9$ N.t. metres $=(9.8$ $\mathrm{x} 0.5 \times \mathrm{l}^{\wedge 2}$ ).

After two seconds the mass was displaced 19.6 Q.t. metres $=\left(9.8 \times 0.5 \times 2^{\wedge 2}\right)$

And after three seconds the mass was displaced 44.1 Q.t.metres $=\left(9.8 \times 0.5 \times 3^{\wedge 2}\right)$. Note that over time gravity is accelerating or displacing mass at an ever greater rate.

According to the contraction theory, following that 1 st second mass is displaced 4.9 Q.t. metres equal to;

Total displacement (Td) of 4.9 Q.t.m $=(4.9$ N.t.m $\times 1$ Q.t.m $) \times 1$ Q.t/s Note that initially both N.t and Q.t. time and distance are the same.

Following the 2 nd second $\mathrm{Td}=19.6$ Q.t.m $=(4.9 \mathrm{~N} . \mathrm{tm} \times 2 \mathrm{Q} . \mathrm{t} / \mathrm{m}) \times 2$ Q.t/s

Following that 2 nd second $1 \mathrm{~N} . \mathrm{t} / \mathrm{s}$ contained 2 Q.t/s \& 1 N.t.m contained 2 Q.t.m.

Note the 'Traditional formula' requires the squaring of 'time' i.e. $\mathrm{D}=\left(\mathrm{A} \times 0.5 \times \mathrm{t}^{\wedge}{ }^{\wedge}\right)$. However Teslawaves multiplies 'Q.t. time' by the 'current' number of 'Quantum time metres' in one N.t. metre.

Following that 1 st second mass was displaced 4.9 N.t.m and displaced another 4.9 N.t.m after the 2 nd second, totalling 9.8 N.t metres. Due to contraction the Normal time measure of 4.9 N.t.m was then equal to 9.8 Q.t.m. So the total displacement of the ball over 2 Q.t. seconds was equal to 19.6 Q.t.m $=(9.8$ N.t.m $\times 2$ Q.t.m $)$.

After the 3 rd second total displacement was equal to 44.1 Q.t.m $=(4.9 \mathrm{~N} . \mathrm{tm} \times 3$ Q.t/m $) \times 3$ Q.t/s

Since the mass was displaced 4.9 N.t.m each Q.t. second, over 3 Q.t. seconds the mass was displaced a total of $14.7 \mathrm{~N} . \mathrm{t}$. metres $=(4.9 \mathrm{~N} . \mathrm{tm}+4.9 \mathrm{~N} . \mathrm{tm}+4.9 \mathrm{~N} . \mathrm{tm})$. But since the Q.t. observers measure is currently only one third of N.t's measure the Q.t. observer will note that the mass was displaced a total of 44.1 Quantum metres $=(14.7 \mathrm{~N} . \mathrm{tm} \times 3 \mathrm{Q} . \mathrm{t} / \mathrm{m})$.

Gravity ensures that close to earth's surface the ball is always displaced just 4.9 N.t. metres per Q.t/s.

Therefore due to contraction the ball never travelled further than 4.9 N.t. metres each quantum second, diagrams $1 \& 2$.

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4.9 N.t.m = (1g x 4.9 N.t.m x 1 N.t./s)
4.9 N.t.m = (2gx 4.9 N.t.m x 0.5 N.t./s)
4.9 N.t.m = (3g x 4.9 N.t.m x 0.333 N.t./s)
```



The contraction theory suggests that both Newton and Leibnitz were correct in as far as Newton represented the N.t. observer and Leibnitz the Quantum time observer.

When the ball was dropped from a higher height doubling the speed, the Newton or N.t ball travelled twice as far into the clay. However because the Leibnitz Q.t. measure had contracted by one half the ball actually travelled four times further into the clay, equal to $4_{\mathrm{Q} . \mathrm{tm}}=\left(2_{\mathrm{N} . \mathrm{tm}} \mathrm{X}\right.$ $2_{\text {Q.t.m }}$ ), hence squaring the result. Dropping the ball from a higher height and tripling the speed will cause the ball to travel 3 normal N.t. metres into the clay, which according to the Q.t. observer is equal to 9 'Leibnitz' Quantum time metres $=(3 \mathrm{~N} . \mathrm{t.m} \times 3 \mathrm{Q} . \mathrm{tm})$ or $3^{\wedge}{ }_{2}$.

Because nature abhors a vacuum, mass can be displaced through space. Gravity appears to be a form of spatial 'low' pressure that exposes contraction through displacement.

## Contraction Summary

Unbeknown to the Quantum time observer as Q.t mass contracts, Q.t time, distance \& measures shorten while Q.t. gravity strengthens. Q.t. Time shortens by $1 / n$ where ' $n$ ' is the next fraction of the initial Normal time second i.e. $1 / 2,1 / 3,1 / 4$ etc.

Following the 1st second a ball in freefall in earth's gravity will descend 4.9 Q.t. metres. After the 2nd Q.t. second Q.t. gravity will have doubled from 1 g to 2 g and 1 N.t. second will consist of 2 Q.t. seconds. Therefore the ball will have travelled 4.9 N.t. metres $=(2 \mathrm{~g} \mathrm{x} 4.9$ N.t.m x $0.5 \mathrm{~N} . t / \mathrm{s}$ ). However because in relation to N.t. distance Q.t. distance has doubled, 4.9 N.t. metres will appear to the Q.t. observer as 9.8 Q.t metres $=(4.9 \mathrm{~N} . \mathrm{t} . \mathrm{m} / 0.5 \mathrm{N.t/s})$.

After the 3 rd Q.t. second Q.t. gravity will have tripled from 1 g to 3 g and one 1 N.t. second consists of 3 Q.t. seconds. Therefore the ball will travel another 4.9 N.t. metres $=(3 \mathrm{~g} \mathrm{x}$ 4.9N.t.m x $0.333 \mathrm{~N} . \mathrm{t} / \mathrm{s}$ ). Again because Q.t. distance is currently one third of N.t's original distance then the current 4.9 N.t. metre will now appear to the Q.t. observer as 14.7 Q.t metres $=(4.9$ N.t. $/ 0.333$ Q.t.m $)$.

Following that third second the ball had fallen a total of 14.7 Normal time metres $=(1 \mathrm{st}$ second) 4.9N.t.m + (2nd second) 4.9 N.t.m + ( 3 rd second) 4.9 N.t.m. which according to the Quantum time observers current measure, after 3 seconds converts to a total distance of 44.1 Quantum time metres, equal to ( 14.7 N.t.m. / 0.333 Q.t/m).

If the ball had fallen for just two seconds the total distance would have been 9.8 Normal time metres $=(1$ st second $) 4.9$ N.t.m $+(2 n d ~ s e c o n d) 4.9$ N.t.m. Again converted to current Quantum metres is equal to 19.6 Quantum time metres or (9.8 N.t.m x 2 Q.t.m).

The ball fell 44.1 Quantum metres over 3 Quantum seconds, also equal to 44.1 Normal metres over 3 Normal time seconds, demonstrating that the force of gravity is the same for both dimensions.

Acceleration follows a similar principle, diagram 3.

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9.8 Q.t.m per Q.t/s =
( \(9.8 \mathrm{~N} . \mathrm{t} . \mathrm{m} \times 1 \mathrm{~g} \times 1 \mathrm{~N} . \mathrm{t} / \mathrm{s}\) ) \(\times 1\) Q.t.m
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Contracting mass

9.81 N.t.m per N.t/s $=$ (9.81 N.t.m $\times 1 \mathrm{~g}$ )
19.6 Q.t.m per Q.t/s $=$
$(9.8 \mathrm{~N} . \mathrm{t} . \mathrm{m} \times 2 \mathrm{~g} \times 0.5 \mathrm{~N} . \mathrm{t} / \mathrm{s}) \times 2$ Q.t.m

19.6 N.t.m per N.t/s $=$ ( 9.81 N.t.m $\times 2 \mathrm{~g}$ )
29.4 Q.t.m per Q.t/s = ( $9.8 \mathrm{~N} . \mathrm{t} . \mathrm{m} \times 3 \mathrm{~g} \times 0.33 \mathrm{~N} . \mathrm{t} / \mathrm{s}) \times 3$ Q.t.m

29.4 N.t.m per N.t/s $=$ (9.81 N.t.m $\times 3 \mathrm{~g}$ )

Acceleration due to earth's gravity is equal to 9.81 Normal time metres per second.
Initially when mass contracts acceleration doubles \& time and distance is halved, so after two seconds in earth's gravity acceleration is equal to 9.81 N.t.m per Normal time second $=(9.81 \mathrm{~N} . \mathrm{t} . \mathrm{m} \times 2 \mathrm{~g} \mathrm{x} 0.5$ $\mathrm{N} . \mathrm{t} / \mathrm{s}$ ). However because distance is halved, 9.81 N.t.m per Normal time second translates to 19.6 Q.t.m per Quantum time second or half of the current N.t. second or 19.6 Q.t.m per Quantum time second $=$ (9.8 N.t.m $\times 2 \mathrm{~g} \mathrm{x} 0.5 \mathrm{~N} . \mathrm{t} / \mathrm{s}$ ) $\times 2$ Q.t.m

After three seconds 29.4 Q.t m per Qt/s $=(9.81$ N.t.m $\times 3 \mathrm{~g} \mathrm{x} 0.333 \mathrm{~N} . \mathrm{t} / \mathrm{s}) \times 3$ Q.t.m
Therefore after three Quantum time seconds in earth's gravitational field the 'Quantum time mass' is accelerating at 29.4 Q.t.m per Quantum time second. But still only travelling a distance of 9.81 Normal time metres each Quantum second allowing acceleration to be contained within a Normal time and space while preventing spatial expansion.

The exact strength of quantum gravity doesn't really matter because gravity increases by the next fraction of the next quantum second. It is the difference between the first and last moment of contraction that depends on the current state of contraction is, i.e. $3=(275-272)$.

The formula $\mathrm{A}=\left(\mathrm{GxMxt} /(\mathrm{rxt})^{\wedge 2}\right.$ where t is equal to time divided by n which is the next Quantum second or $\mathrm{t}=1 / \mathrm{n}$ and allows a single mass to contract through time without being crushed into a dense soup of particles. During the process of contraction mass energy reacts with the nothingness we refer to as space resulting in a weakening of Spatial energy and the creation of gravity. The distance at which gravity weakens significantly beyond the mass surface is dependent on the mass radius that shortens with time, equal to $\mathrm{gd}=\mathrm{sg} /(\mathrm{d} / \mathrm{r})^{\wedge} \wedge^{2}$, where $g d$ is weakened gravity at distance (d) from the mass surface and sg the surface gravity.

Contraction converts mass into positive mass energy which interacts with negative Spatial energy or 'space' producing a partial Spatial vacuum known as gravity. This process allows a very small mass such as an atomic nucleus to possess a relatively strong gravitational field close to its surface but one that weakens very quickly over a very short N.t. distance.

Relative to their individual clocks and measures the strength of gravity for both the Normal time and Quantum time observer is the same. However because earth's radius contracts gravity's 'range', the distance at which gravity weakens is shortened. Indicating a relatively strong force for such a small mass capable of accelerating a mass the same number of Quantum time metres per Quantum time second as Normal time metres per Normal time second. For instance when $3 \mathrm{Qt} / \mathrm{s}$ exist within $1 \mathrm{Nt} / \mathrm{s}$, after falling for $3 \mathrm{Q} . \mathrm{t} / \mathrm{s}$ in earth's gravitational field a ball will be accelerating at 29.43 Q.t.m per Q.t./s, equal to 88.29 Q.t.m per N.t./s = (29.43 Q.t.m x 3 Q.t./s) or 29.43 N.t.m per N.t./s $=(88.29$ Q.t.m $/ 3 Q . t . / s)$. So relative to both dimensions the ball is accelerating at 29.43 metres per second.

There are two different types of N.t. observers. Type one referred here as the N.t. photon, i.e. 'light' that does not contract but appears to a Q.t. contracting observer to expand at the speed of light. The stationary N.t. photon however will note that the Q.t. observer appears to contract through time at the speed of light . The second type is the contracting N.t. observer who contracts but is separated from the Q.t. observer by dimension, a 'certain' amount of
time and space. Similar to the difference between the 'Normal time world' and the 'Quantum time world'.

If the sun our star is compared to a typical atomic nucleus, one atomic quantum metre might be in the region of $1.37 \times 10-21$ of one N.t. metre. Equal to the average diameter of a particular atomic nucleus multiplied by the sun's diameter in metres, equal to $1.37 \times 10-21=$ (9.89 x 10-15 (atomic nucleus) x $1.39 \times 10-07$ (sun diameter / metres neg) ).

Based on the radius of the nucleus, the 1 g range of quantum gravity isn't going to extend very far into the N.t. dimension, although is seen as big G, and may be responsible for holding electrons in orbit around the atomic nucleus.

## Spatial energy

Teslawaves theory proposes that Spatial energy, the nothingness referred to as 'space' holds the universe apart, preventing its immediate collapse. Spatial energy probably contains a combination of both positive \& anti energy causing the vibration of space to increase with time. The vibration is time pushing mass toward areas of low pressure space we call gravity. Gravity is the dampening of space energy caused by the release of additional mass energy into space due to contraction.

As spatial energy shortens N.t. distance shortens and mass contracts allowing the universe to contract through time, diagram 4.

## Spatial energy, mass energy, gravity \& spatial frequency



Although a contracting mass radius maintains its original surface gravity, the N.t. range of this strong force is weakened. Released mass energy is highlighted in table 1.

| N.tearth mass | time $/$ sec | Q.t. earth mass | Mass (e) to gravity | N.t.earth radius metres | Q.t. earth radius |
| :---: | :---: | :---: | :--- | :--- | :---: |
|  | 0.9 | Nt earth mass $\times$ <br> time. | Nt original mass <br> minus contracting <br> Qt mass |  |  |
| $5.97 \mathrm{E}+24$ | $5.37 \mathrm{E}+24$ | $5.97 \mathrm{E}+23$ | $6,371,008$ | $5,733,907$ |  |
| $5.97 \mathrm{E}+24$ | 0.5 | $2.99 \mathrm{E}+24$ | $2.99 \mathrm{E}+24$ | $6,371,008$ | $3,185,504$ |
| $5.97 \mathrm{E}+24$ | 0.3333333333 | $1.99 \mathrm{E}+24$ | $3.98 \mathrm{E}+24$ | $6,371,008$ | $2,123,669$ |
| $5.97 \mathrm{E}+24$ | 0.25 | $1.49 \mathrm{E}+24$ | $4.48 \mathrm{E}+24$ | $6,371,008$ | $1,592,752$ |
| $5.97 \mathrm{E}+24$ | 0.2 | $1.19 \mathrm{E}+24$ | $4.78 \mathrm{E}+24$ | $6,371,008$ | $1,274,202$ |
| $5.97 \mathrm{E}+24$ | 0.166666667 | $9.95 \mathrm{E}+23$ | $4.98 \mathrm{E}+24$ | $6,371,008$ | $1,061,835$ |

Table 1
N.t. distance of Q.t. gravity weakened with time.

N.t. earth mass equal to earth's current mass of $5.97 \times 1024 \mathrm{~kg}$

Time $/ \mathbf{s e c}$ indicates the shortening of Q.t time equal to $\mathrm{t}=(1$ divided by the $(\mathrm{n})$ the next Q.t. second). N.B. 0.9 instead of 1 is used to begin the contraction process.
Q.t earth mass is the current Q.t. earth mass equal to $5.97 \times 1024$ multiplied by current Q.t. time.

Mass e to gravity is 'mass energy' equal to earth's original mass of $5.97 \times 1024$ minus the current Q.t. time mass, indicating that the lost mass has been converted to gravity..
N.t earth radius metres is earth's original radius in N.t. metres.
Q.t. earth radius is equal to earth's original N.t. radius in metres multiplied by current Q.t time equal to $\mathrm{t}=1 / \mathrm{n}$, where $(\mathrm{n})$ is the next Q.t. second. The result is earth's current Q.t. radius.

The production of gravity creates a partial spatial vacuum causing external Spatial energy to 'push' mass together, diagram 5.


Diagram 5

## Inertia

A tendency to do nothing or to remain unchanged becomes apparent as mass begins to accelerate. Mass is anchored in position within an area of space by the partial Spatial vacuum created by the process of contraction. As both negative Spatial and positive mass energy interact, the space surrounding that mass is weakened creating a sphere of gravity making the mass more resistant to displacement.

The contraction theory states that Acceleration due to earth's gravity is equal to $\mathrm{g}=(\mathrm{Gx} \mathrm{M} 1$ $x t /(r x t)^{\wedge 2}$ where $t$ represents time, so as matter contracts gravity becomes stronger and measures contract equal to $(1 / n)$, where $n$ is the next fraction of a second i.e. $0.5,0.333,0.25$ etc.

## Acceleration

A single mass suspended in space without the influence of another force will remain anchored to a specific location in space by its own gravity, equal to $0 \mathrm{~g}=\mathrm{g} 1-\mathrm{g} 2$, diagram 6


When a second but equal mass is present $\left(G \times M_{1} \times m_{2} x t\right) /(r x t)^{\wedge^{2}} / m_{2}$ provides the value of gravity between the two masses, effectively creating one single mass. The combination of the two masses creates a depression in space located at a point between each mass. The space
surrounding, what is treated as a single mass, contains a relatively high spatial pressure pushing the two masses together. As mass contracts gravity strengthens, seen as acceleration, diagram 7.


At a time before each mass was aware of the other's gravity, the mass anchor was located at each mass centre, providing momentum or energy in that direction. When the two masses become attracted that mass anchor energy remains and becomes the differential between outer spatial pressure and a deepening gravity well between each mass.

This transfer of energy in the form of momentum is important because it is responsible for regulating the gravitational anchor, allowing a mass to 'hold on' or drag its heels within a region of space as gravity grows stronger with time. The gravity well allows stronger 'spatial energy' to push mass toward the well with the deepest potential. Although gravity is negative in relation to space the word 'push' is used because it is the energy of space, in the form of a higher spatial frequency, that does the pushing against the lower spatial time $\&$ frequency created by the gravitational well.

Prior to the next moment in time, two equal masses feel each other's gravity, allowing space to push them together. And due to the close proximity of each mass they are now acting as a single mass because the centre of gravity has shifted toward the space between each mass. Even so, the initial energy in the form of momentum pushing toward each mass centre is still present, opposing this new gravity well. In the meantime, due to the contraction of mass, gravity is becoming stronger. So following the next moment gravity on the outer side of each mass now creates a gravitational push of 2 g , which allows the pressure of space to overcome this initial 1 g anchor, and the net push is equal to $1 \mathrm{~g}=2 \mathrm{~g}-1 \mathrm{~g}$, diagram 7 .

After the second moment gravity increases to 3 g minus the initial 1 g anchor, so we have a net external gravity of 2 g accelerating each mass together, diagram 8 . After the third moment the process continues accelerating the mass to 3 g , diagram 9 .


If an identical pair of masses feel each other's gravity at moment 3, their gravitational anchor is equal to 3 g , but after the fourth moment gravity then increases to 4 g but with a potential difference of only $1 \mathrm{~g}=4 \mathrm{~g}-3 \mathrm{~g}$. This process also continues to $2 \mathrm{~g}=5 \mathrm{~g}-3 \mathrm{~g}$ and then to $3 \mathrm{~g}=$ $6 \mathrm{~g}-3 \mathrm{~g}$.

Because the second pair of mass experienced a stronger gravitational anchor, different mass pairs can experience different rates of attraction within the same space.This is how two different pairs of mass can be seen to accelerate toward each other at different velocities, which is dependant on the difference between spatial energy and the strength of each mass's gravitational anchor.

Acceleration is based on the time when two masses experience each other's gravitational energy. Gravitational energy is created when mass contracts causing mass energy to interact with space, creating a gravitational depression within the energy of the nothingness referred to as space.

Gravity is the difference or potential between moments in time. Mass contracts through time by converting mass into gravitational energy. According to mass, energy moves backwards in time because mass moves forward in time. But according to energy, mass moves forward through time while energy remains outside of time, table 2.

When two earth size mass fall for each other acceleration is equal to $2.45 \mathrm{~m} / \mathrm{s} / \mathrm{s}=$ $\left(G \times M_{1} \times m_{2} \times t\right) /(r \times t)^{\wedge} / m_{2}$

| Table <br> time |  | earth mass <br> 1 | $\begin{gathered} \text { earth mass } \\ 2 \end{gathered}$ | Newtons | radius | radius / newtons | $\begin{aligned} & \text { Qtm } \\ & \text { per } \\ & \text { Qt/s } \end{aligned}$ | Q.t.m per <br> $\mathrm{Nt} / \mathrm{s}$ | $\begin{aligned} & \text { N.t.m } \\ & \text { per } \mathrm{Nt} / \mathrm{s} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $6.67 \mathrm{E}-11$ | $5.981 \mathrm{E}+24$ | $5.981 \mathrm{E}+24$ | $2.39 \mathrm{E}+39$ | $1.63 \mathrm{E}+14$ | $1.47 \mathrm{E}+25$ | 2.45 | 2.45 | 2.45 |
| 0.5 | $6.67 \mathrm{E}-11$ | $5.981 \mathrm{E}+24$ | $5.981 \mathrm{E}+24$ | $1.19 \mathrm{E}+39$ | $4.07 \mathrm{E}+13$ | $2.93 \mathrm{E}+25$ | 4.90 | 9.81 | 4.90 |
| 0.3333 | $6.67 \mathrm{E}-11$ | $5.981 \mathrm{E}+24$ | $5.981 \mathrm{E}+24$ | $7.96 \mathrm{E}+38$ | $1.81 \mathrm{E}+13$ | $4.40 \mathrm{E}+25$ | 7.35 | 22.06 | 7.35 |
| 0.25 | $6.67 \mathrm{E}-11$ | $5.981 \mathrm{E}+24$ | $5.981 \mathrm{E}+24$ | $5.97 \mathrm{E}+38$ | $1.02 \mathrm{E}+13$ | $5.86 \mathrm{E}+25$ | 9.81 | 39.22 | 9.81 |
| 0.2 | 6.67E-11 | $5.981 \mathrm{E}+24$ | $5.981 \mathrm{E}+24$ | $4.77 \mathrm{E}+38$ | $6.51 \mathrm{E}+12$ | $7.33 \mathrm{E}+25$ | 12.26 | 61.28 | 12.26 |

Both $\mathrm{M}_{1}$ and $\mathrm{M}_{2}$ are equal to $5.97 \times 1024 \mathrm{Kg}$. The distance (r) between mass centres is two earth radii equal to $12,742,016$ metres. The difference (Diff) in acceleration is 2.45 metres per second per second.

Table 2.

## Acceleration of two Skydivers in Earth's gravity

Void of atmosphere a contracting skydiver will note that following the 1 st second of their descent they will be accelerating at 9.81 Q.t.m/s and that their acceleration is increasing by 9.81 Q.t.m/s each subsequent Q.t. second. After two seconds the skydiver will be accelerating at 19.62 Q.t.m/s and after three seconds 29.44 Q.t.m/s.

The skydiver notes that after that 2 nd second acceleration increased from $9.81 \mathrm{~m} / \mathrm{s}$ to $19.62 \mathrm{~m} / \mathrm{s}$, then following the third second to $29.43 \mathrm{~m} / \mathrm{s}$. The process of acceleration was hidden from the skydiver because both distance and time had shortened making it difficult for the skydiver to understand how they could accelerate with velocity greater than $9.81 \mathrm{~m} / \mathrm{s}$ within a gravitational field equal to $9.81 \mathrm{~m} / \mathrm{s}$.

If a second skydiver begins their descent after the first skydivers third second and falls for two seconds they will be accelerating at 19.62 Q.t.m/s $=(39.24$ Q.t.m per Normal time second x 0.5 Q.t/s). But the first skydiver who has been falling for five seconds will now be accelerating at 49.05 Q.t.m per Q.t/s $=(245.25$ Q.t.m per N.t/s X 0.2 (1/5) Q.t./s).

The upward force of the skydiver's aircraft overcame the pull of earth's gravity effectively cancelling earth's gravitational field. So at the moment skydiver 1 left the aircraft they experienced $0 \mathrm{~g}=$ (earth's gravity of $+1 \mathrm{~g}_{\mathrm{Q} . \mathrm{t}}$ minus the aircraft's upward force of $-1 \mathrm{~g}_{\mathrm{Q} . \mathrm{t}}$ ).

One second later earth's gravity increased by another 1 g . The value of g isn't known because the time at which the universe began contraction isn't known. For instance the value might be equal to 200 g but it really doesn't matter, because as mass contracts and gravity strengthens repulsive forces strengthen too, such as the 'upward' force of the aircraft which initially cancels out the force of earth's gravity. Any increase in the force of gravity only becomes apparent when the repulsive force is removed such as when the skydiver is in freefall. So after one second in freefall gravity is equal to $1 \mathrm{~g}=201 \mathrm{~g}-200 \mathrm{~g}$ then $2 \mathrm{~g}=202 \mathrm{~g}-200 \mathrm{~g}$ etc. allowing the initial value of earth's gravity to appear normal at $9.81 \mathrm{~m} / \mathrm{s}$.

Following that 1st second the skydiver only experienced a downward acceleration of $1 \mathrm{~g}=(2 \mathrm{~g}$ of earth's gravity -1 g from the initial upward force of the aircraft). After the 2nd second the skydiver then experienced $2 \mathrm{~g}=(3 \mathrm{~g}$ of earth's gravity -1 g from the upward force of the aircraft $)$ and then $3 \mathrm{~g}=(4 \mathrm{~g}$ of earth's gravity -1 g from the upward force of the aircraft $)$ etc. Note that this upward force from the aircraft on the skydiver is maintained until cancelled when the skydiver begins their freefall in earth's gravity.

When the second skydiver left the aircraft the upward force was -3 g so skydiver 2 also experienced $0 \mathrm{~g}=\left(3 \mathrm{~g}_{\mathrm{Q} . \mathrm{t}}-3 \mathrm{~g}_{\mathrm{Q} . t}\right)$. After the next second (time 4$)$ after earth's gravity increased from $3 \mathrm{~g}_{\text {Q.t }}$ to $4 \mathrm{~g}_{\text {Q.t }}$ Skydiver 2 then experienced 1 g of gravity, equal to $1 \mathrm{~g}=\left(4 \mathrm{~g}_{\mathrm{Q} . \mathrm{t}}-3 \mathrm{~g}_{Q . t}\right)$ and at time 5 experienced $2 \mathrm{~g}_{\mathrm{Q} . \mathrm{t}}=\left(5 \mathrm{~g}_{\text {Q.t }}-3 \mathrm{~g}_{\mathrm{Q} . \mathrm{t}}\right)$.

Ignoring air resistance and minor variances in gravity, after five seconds Skydiver 1 was accelerating at 49.05 Q.t m/s. But skydiver 2 who fell for only three seconds was only accelerating at 29.43 Q.t m/s. The difference between gravity and the 'upward force' allowed two different skydivers to fall at different velocities within the same gravitational field.

Both skydiver's were unable to detect the fact that earth's gravity was becoming stronger with each passing moment of time because as quantum time and distance shortened mass shortened, including the fuel tank and the original N.t.m distance the aircraft was required to travel causing the orbital velocity of subatomic particles within the Q.t. mass to increase their velocity. This increase in orbital velocity created a stronger repulsive force both within the structure of the aircraft and the fuel counterbalanced earth's strengthening gravitational field.

## Energy

Individually both Spatial energy and mass energy create velocity causing planets to orbit their stars and electrons to orbit their nuclei. Both gravity and energy attempt to achieve a state of stability. When a third planet is introduced into a normally stable two planetary system orbiting a star, gravity may create instability by creating a gravitational slingshot causing one of the planets to gain sufficient energy to exit the system. Therefore from the N.t. observers point of view gravity can also be a repulsive force.

Changes between gravity and energy can be seen when the energy of rocket propellant pushes a rocket skyward. If the propellant's energy overcomes gravity the rocket will rise above the surface of the earth.

If at time $1\left(\mathrm{t}_{1}\right)$ the rocket engine is fired propelling the rocket skyward at $20 \mathrm{~m} / \mathrm{s}$, gravity will be exerting a partial spatial vacuum attempting to pull the rocket back to earth. Following that first second after take off, gravity will exert a downward force of nearly $10 \mathrm{~m} / \mathrm{s}=(20 \mathrm{~m}-$ 10 m ), so the upward force will be $-10 \mathrm{~m} / \mathrm{s}$.

After $t_{2}$ gravity will have doubled in strength so the upward force from the rocket will be equal to $0 \mathrm{~m} / \mathrm{s}=(20 \mathrm{~m} / \mathrm{s}-20 \mathrm{~m} / \mathrm{s})$. And after $\mathrm{t}_{3}$ the upward force will be $+10 \mathrm{~m} / \mathrm{s}=(20 \mathrm{~m} / \mathrm{s}-$ $30 \mathrm{~m} / \mathrm{s}$ ), causing the rocket to fall back to earth at $(+) 10 \mathrm{~m} / \mathrm{s}$. Where gravity is shown as positive + and energy, or upward force, as Negative (-), diagram 10. Note that gravity weakens with altitude therefore depending on the mass and the amount of energy used to propel the rocket the device might achieve orbital velocity. Acceleration per $\mathrm{m} / \mathrm{s}$ has been rounded up to the next whole number.


A diver perched on a diving platform is held above the surface of earth by the repulsive energy of the platform while being pulled earthward by gravity. As mass contracts gravity and the repulsive force become stronger but remain balanced. However free of the diving platform the diver falls earthward due to the difference between the platform's pre-existing repulsive force and earth's strengthening gravity, diagram 10.

## Muon time

A subatomic particle known as a Muon can experience both N.t. and Q.t. time. When a mass such a Muon travels at a velocity close to the speed of light, changes in the Muon's mass time can be detected.

Cosmic ray Muons that decay after 2.2 microseconds are created at altitudes above 15,000 metres when highly energetic particles from deep space collide with atoms in the Earth's upper atmosphere. A photon travelling at the speed of light will travel about 660 metres in 2.2 microseconds so the muon should decay long before it has time to reach Earth's surface. But a Muon travelling at about $99.91 \%$ the speed of light is able to reach Earth's surface because the Muon has slowed its mass time by a factor of 24 , equal to $y=1 / \sqrt{ }(1-$ $\mathrm{V}^{\wedge} / \mathrm{C}^{\wedge} \wedge_{2}$ ) or $1 / \mathrm{SQRT}(1-8.97138 \times 1016 / 8.98755 \times 1016)$. Where v is velocity and c the speed of light.

Because Muon Q.t. mass time 'expands' into Muon N.t. mass time, earth and atmosphere appear 24 times slimmer to the Muon. The Muon was only able to travel about 660 Q.t. metres in 2.2 microseconds before decaying. But now the Muon is now able to travel 15,840 Q.t. metres $=(24 \times 660$ metres $)$ in 2.2 microseconds and reach earth's surface.

## Pendulum time

As mass contracts pendulums swing faster because time speeds up.
Consider again two hypothetical observers, the Normal time (N.t.) observer who stops contracting while earth and the Quantum time (Q.t.) observer continue to contract. As the Q.t. observer contracts they will note that the N.t. observers measure \& 'seconds pendulum' appears to lengthen causing the N.t. observer's clock to run slow. But the N.t. observer will notice that the Q.t. observer's pendulum is swinging faster.

The N.t. Observer 'seconds pendulum' has a length of a metre and swings 'backwards' and 'forwards' called a 'period' every 2.006 seconds, based on the calculation $t=2 \mathrm{pi} \mathrm{Sqrt}(\mathrm{L} / \mathrm{g})$ or $(2 \times 3.14) \times$ Sqrt ( $1 / 9.81$ ). Where $t$ is time, $L$ the length of the pendulum and $g$ earth's gravity that varies slightly across different parts of earth. A single swing in either direction counts as 1 second $=(2.006 \mathrm{~s} \times 0.5)$.

## Q.t.Observer - 2nd dimension

When the quantum pendulum has contracted to 0.5 of N.t's pendulum length, the N.t. observer will detect that Q.t. gravity is equal to $19.6 \mathrm{~N} . \mathrm{t} . \mathrm{m} / \mathrm{N} . \mathrm{t} / \mathrm{s}=2 \mathrm{~g} \times 9.81 \mathrm{~N} . \mathrm{t} . \mathrm{m} / \mathrm{N} . \mathrm{t} / \mathrm{s}$ creating a Q.t. pendulum period equal to $1,=(2 \times 3.14) \times \operatorname{Sqrt}(0.5 / 19.6)$. Therefore the pendulum swings both ways in 1 Nt second and one way in $0.5 \mathrm{~N} . t$. second, indicating that quantum time is currently passing by twice as fast as Normal time.

## Q.t.Observer - 3rd dimension

When the quantum pendulum has contracted to 0.33 of N.ts pendulum length, the N.t. observer will detect that Q.t. gravity is equal to $29.43 \mathrm{~N} . \mathrm{t} . \mathrm{m} / \mathrm{N} . \mathrm{t} / \mathrm{s}=3 \mathrm{~g} x 9.81 \mathrm{~N} . \mathrm{t} . \mathrm{m} / \mathrm{N} . \mathrm{t} / \mathrm{s}$ creating a Q.t. pendulum period equal to $0.6,=(2 \times 3.14) \times \operatorname{Sqrt}(0.33 / 29.43)$. Therefore the pendulum swings both ways in 0.6 Nt second and one way in 0.33 N.t. second indicating that quantum time is currently passing by three times faster than Normal time. The process continues as the pendulum contracts further, table 3.

Pendulum Dimension $\mathrm{t}=2 \mathrm{pi}$ Sqrt(L/g)

|  | Sqrt(L/g) | Period | Single swing | Difference |
| :---: | :---: | :---: | :---: | :---: |
| 2nd dimension | Sqrt(0.5/19.6g) | $\times(2 \times 3.14)$ |  |  |
|  | 0.1597191412 | Q.t. period 1.003 | $0.5 \mathrm{~s}=1 \times 0.5$ | Q.t $\times 2$ |
|  |  | N.t. period 2.006 | $1.0 \mathrm{~s}=2 \times 0.5$ | $\mathrm{~N} . \mathrm{t} / 2$ |
|  |  |  |  |  |
|  | Sqrt(L/g) | Period | Nt second |  |
| 3rd dimension | Sqrt( $0.33 / 29.43 \mathrm{~g})$ | $\times(2 \times 3.14)$ |  |  |
|  | 0.1064251375 | Q.t. period 0.668 | $0.33 \mathrm{~s}=0.6 \times 0.5$ | Q.t $\times 3$ |
|  |  | N.t. period 2.005 | $1.0 \mathrm{~s}=2 \times 0.5$ | $\mathrm{~N} . \mathrm{t} / 3$ |
|  |  |  |  |  |
|  | Sqrt(L/g) | Period | Nt second |  |
| 4th dimension | Sqrt( $0.25 / 39.24 \mathrm{~g})$ | $\times(2 \times 3.14)$ |  |  |
|  | 0.0798188571 | Q.t. period 0.501 | $0.25 \mathrm{~s}=0.5 \times 0.5$ | Q.t $\times 4$ |
|  |  | N.t. period 2.005 | $1.0 \mathrm{~s}=2 \times 0.5$ | N.t $/ 4$ |

## Time and Space

The key to contraction is the space that fills the universe, referred to as negative 'Spatial energy,' or 'space' that contracts at the speed of light (c) causing the wavelength of spatial energy to shorten causing Q.t. time, relative to N.t time to speed up. Therefore spatial contraction is equal to: $\boldsymbol{\Delta \boldsymbol { \lambda }}=\boldsymbol{\lambda} / \mathrm{t}$ Q.t. indicating that space is contracting at the speed of light. However, the speed of light is relative to the length of both the quantum measure and quantum time, diagram 11.

Where $\boldsymbol{\Delta} \boldsymbol{\lambda}$ is the change in wavelength and $\boldsymbol{\lambda}$ original wavelength. tQt is quantum time which shortens each Q.t.second by $1 / n$ where $n$ is the next quantum second.


As Spatial wavelength shortens the distance between mass shortens by $0.5,0.333,0.25$ etc. which includes the distance between galaxies, stars and atoms. Even the space within the quantum world shortens causing mass and measures to contract. Mass begins in the Normal time (N.t) dimension and contracts into the Quantum time (Q.t) dimension, while smaller Q.t. dimensions contract into their micro quantum dimensions where time and distance is much shorter than the Quantum dimension.

Gravity can be a long range force attracting stars and planets or a short range force holding atoms together and a very short range 'nuclear' force responsible for glueing protons \& neutrons together.

## Perspective

Perspective gives measure to an object at a distance. When an Observer moves further away from that object the object size, or perspective appears reduced. One would expect that at a certain distance when the object appears half its original length, at twice that distance the object's length should appear one quarter size, equal to half of the half but it does not. The object's perspective decreases by a half then one third, a quarter one fifth etc. This 'slowing down' of apparent 'size' is due to the contraction of mass.

The traditional view assumes that light travels away from its source and it is the angle of visible light sent to the Observer that determines 'size'. The 'contraction theory' proposes that light does not contract but exists outside of time in the volume of Space where it was created therefore it is mass that contracts into the light, diagram 12.


Because space contracts, wavelength shortens causing mass to shorten resulting in shorter measures and light detectors which contract each Q.t. second by $1 / 21 / 31 / 4$ etc. So distant objects only appear smaller because the observer's detector is receiving a smaller proportion of the available light, diagram 13.


The mirror image of a mirror in diagram 13 demonstrates how mass contracts and receives a lesser section of the light.

Apparent reduction in the size of a distant object can be confirmed by holding a measure at the midpoint between the eye and the object. In order that a standard 30 cm desk measure can be used the measured width or length of the object should be 30 cm or less. When the measure is placed at the midpoint between the observer's eye and object, the object will appear to be $1 / 2$ or $50 \%$ smaller than its actual known length. When this 'initial distance'

Perspective

between the measure and object is doubled the object will appear to be $1 / 3$ of its known length. When the distance is tripled the object appears $1 / 4$ of its known length etc.diagram 14.

From the photons point of view as both mass and the galaxy continue to contract the partial vacuum created allows adjacent mass to move closer together. However, because Q.t's measure has also undergone contraction the Observer's relative position within the universe appears the same, as though nothing has actually changed.

## Light and contraction

Light travels at approximately 299,792,458 N.t metres per N.t/second. But when Q.t. time and distance have shortened to one quarter ( $0.25 \mathrm{~N} . \mathrm{t} . \mathrm{m}$ ) light now only needs to travel $74,948,115$ Normal time metres over one 'Quantum second', currently equal to 0.25 of a Normal time second. Therefore the speed of light of $299,792,458$ Q.t.m. per Q.t/s appears normal to the Q.t. observer because the distance light is required to travel has shortened. Hence the speed of light is only relevant to the observer's current timeframe, diagram 15.


As 'Space' contracts, mass is drawn closer together to fill the spatial vacuum. And because time and measures have shortened, light still appears to a contracting observer to travel at c . Consequently it is difficult for the observer to notice that anything has changed.

In relation to 'normal' time, contraction slows down by $1 / 2,1 / 3,1 / 4,1 / 5$ etc. each and every Quantum time second, graph 1. If mass contacted by a half and then by half again and again
then objects would be contacting too quickly, equal to a rate of contraction $=d / 2^{\wedge} t$, where $d$ is the object's diameter and $t$ is time in Quantum time seconds. If the universe had continued contracting at this rate galaxies close to ours would no longer be visible.


The height of each bar in graph 1 represents both Spatial and mass contraction. Spatial contraction has shortened by $\boldsymbol{\Delta} \boldsymbol{\lambda}=\boldsymbol{\lambda} / \mathrm{t}$ Q.t. The distance between time 1 ( t 1$)$ and t 5 is longer than the distance between t 5 and t 12 demonstrating the slowing down of contraction with time which prevents light from a distant galaxy becoming invisible over a relatively short distance. Where $\boldsymbol{\Delta} \boldsymbol{\lambda}$ is the change in wavelength $\boldsymbol{\lambda}$ original wavelength and $t q t$ is quantum time which shortens each Q.t.second.

Contraction is a continuous process with both the object and observer contracting equally. Light effectively takes a snapshot of the object's current state of contraction and freezes it in time while the observer continues contracting. The perspective or size of that object is related to the time in light seconds light takes to interact with the observer. The contraction of mass appears to remain consistent based on the perceived diameter of the sun and moon as viewed from earth during a solar eclipse, where the Moon appears to almost cover the face of the sun.

Light from the sun takes approximately 500 light seconds and from the moon about 1.3 light seconds to interact with earth. The sun's diameter of $1,392,700,000$ metres divided by the speed of light multiplied by the number of seconds it takes for sunlight to interact with the observer (299,792,458 metres x 500 light seconds) x 1000 , to convert to millimetres, provides a visual perspective on earth of the sun of about 9.29 millimetres.

A similar calculation based on the moon whose diameter is $3,474,000$ metres / ( $299,792,458$ metres x 1.3 light seconds) x 1000 provides a visual perspective of the moon of about 8.91 millimetres, causing the sun and moon to appear a similar size at earth's surface.

One might expect that if the diameter of the moon appears to have contracted from 3,474,000 metres to 8.91 mm over a distance of 1.3 light seconds then at three times this distance the moon would be almost invisible but it isn't. At three times that distance the moon will only contract down to $2.971 \mathrm{~mm}=3,474,000 \mathrm{~m} /(299,792,458 \times(1.3 / \mathrm{s} \times 3)) \times 1000$ indicating that contraction is slowing down and that the distance light travels in the current second is not as far as it once was.

The current rate of contraction is not known. Mass may have contracted from $1_{\mathrm{N} . t \mathrm{~m}}$ to 1x10-21Q.t/m or maybe from 1x10-21Q.t/m to $1 \times 10-44 \mathrm{Q} . \mathrm{tm}$ of its original N.t 'size', it doesn't matter. It is the time between light transmission, contraction and the reception of light that determines an object's perceived 'size'.

The contraction theory suggests that the size or perspective of an object is determined by the rate of contraction of the observer over time and distance. In the following description the sun, earth \& moon are used as examples.

The contraction theory states that the size or perspective of an object is determined by the rate of contraction of an observer over time and distance. In a vacuum light travels at 299,792,458 metres per second relative to the length of time and the length of the metre. However 500 seconds ago light travelled 149,896,229,000 Quantum time metres in 1 Normal time second $=$ ( $299,792,458 \times 500 / \mathrm{s}$ ) when the current diameter of the sun of $1,392,700,000$ Normal time metres was extended to $696,350,000,000$ Quantum time metres $=(1,392,700,000 \times 500 / \mathrm{s})$. Indeed everything in the universe including the earth, the wavelength of space and time was relatively longer compared to current time. Note that 'Normal time metres (N.t.m) refers to a time and length when the universe was younger. Quantum time metres (Q.t.m) refers to current time and length.

Due to contraction the sun's wavelength created 500 seconds ago, the time light from the sun takes to interact with earth, was 500 times longer than it is now. However, as space contracted, wavelength shortened by a factor of 500, appearing normal to the earth based
observer. Equal to a wavelength of $3934 \AA=(3934 \AA \times 500 / \mathrm{s}) / 500 / \mathrm{s}$. The absorption feature of calcium that normally has a wavelength of 3934 Angstrom $=1 \times 10$-10m used in this example. Note The wavelength here refers to areas of 'space' that contract between areas of energy that do not contract.

This shortening of the wavelength of space allows mass to contract, shortening the lens of the observer and restricting the available light from the sun allowing the sun to appear smaller than its actual size. Photons however do not contract, diagram 16.


When sunlight interacts with the earth \& observer the sun's 'younger' diameter provides a visual perspective of the sun of about 9.29 millimetres $=696,350,000,000 /(149,896,229,000$ metres x 500 light seconds) x 1000 converted to millimetres.

The moon currently has a diameter of $3,474,000$ metres but 1.3 seconds ago had a diameter of $4,516,200$ Q.t. metres $=(3,474,000 \times 1.3 / \mathrm{s})$ and light, relative to current time, appeared to travel at $389,730,195$ Q.t.metres per 'normal' time second $=(299,792,458 \times 1.3 / \mathrm{s})$. Therefore from earth the moon appears to have a diameter of about $8.91 \mathrm{~mm}=4,516,200 /(389,730,195$ x 1.3/s) x 1000 .

Although light can be used as a measure to determine the diameter of an object, calculations must take into account the distance light travels in 1 second, which depends on both the length of that second and the length of the observer's metre.

After 500 seconds, the time it takes for sunlight to interact with earth, the sun appears to contract down to 9.29 millimetres $=696,350,000,000 /(149,896,229,000$ metres $\times 500$ light seconds) $\times 1000$. When the sun's measure is used to determine the visual size of the moon the result is equal to $0.0000599 \mathrm{~mm}=4,516,200$ / the sun measure of $(150,285,959,195 \mathrm{x}$ $501.3 / \mathrm{s}$ ) x 1000 but this figure is incorrect. Note: 501.3 seconds ( $500 / s+1.3 / \mathrm{s}$ ) is used as the sum by assuming the moon is 1.3/s further away from the sun and behind earth. $150,285,959,195=(299,792,458 x$ 501.3/s)

The moon appears a similar size as the sun because the observer must use two different measures, each one relating to the distance light takes to interact with the observer. At the moon this time is 1.3 seconds ago. The number of Quantum time metres (Q.t.m) light travelled in 1 'young' Normal time second, equal to $389,730,195$ Q.t. metres $=(299,792,458$ $\mathrm{x} 1.3 / \mathrm{s})$. The diameter of the moon that was $4,516,200$ Q.t. metres $=(3,474,000 \times 1.3 / \mathrm{s})$ cancels back to $3,474,000$ Q.t. metres $=(4,516,200 / 1.3 / \mathrm{s})$ its expected size as seen from earth.

When light left the moon, the relative difference in diameter between the earth \& moon was the same. The moon had a diameter of $4,516,200$ N.t. metres $=(3,474,000 \times 1.3 / \mathrm{s})$ and earth had a diameter of $16,546,00$, a ratio of 1:3.667, the same ratio as Q.t. time. Therefore using the moon's current light measure of $389,730,195$ Q.t.m per Normal time second (N.t.s.) equal to $(299,792,458 \times 1.3 / \mathrm{s})$. When viewed from earth, the moon's diameter appears to be about $8.91 \mathrm{~mm}=4,516,200 /(389,730,195 \times 1.3 / \mathrm{s}) \times 1000$. A difference in diameter between the sun and moon of about $0.38 \mathrm{~mm}=9.29 \mathrm{~mm}-8.91 \mathrm{~mm}$

The moon's light measure can also be used to calculate earth's perceived diameter at the moon. Earth's younger N.t. diameter was $16,564,600$ Q.t.m $=(12,742,000$ earth diameter x $1.3 / \mathrm{s})$. The speed of light was equal to $389,730,195$ Q.t. metres $=(299,792,458 \times 1.3 / \mathrm{s})$. So earth's diameter as viewed from the moon is equal to $32.69 \mathrm{~mm}=16,564,600 /(389,730,195 \times 1.3) \mathrm{x}$ 1000

Calculations can be reduced to;

The diameter of the 'younger' object in metres = (Diameter of the mass $x$ time $)$ divided by (Speed of light x time squared) x 1000 to convert to millimetres.
$(\mathrm{dmxt}) /\left(\mathrm{c}_{\mathrm{x}}^{\mathrm{t}} \mathrm{\wedge} 2\right) \mathrm{x} 1000$.
The word 'younger' refers to a time prior to the present time when the universe was a bigger place so the sun's diameter 500/s ago was much longer.

Or

The diameter of an 'existing' time object in metres = (Diameter of the mass) divided by (Speed of light x time) x 1000 to convert to millimetres.
(dm) / (c x t) x 1000 .
The word 'existing' refers to current time and expected mass diameters such as the moon with its usual diameter of $3,474,000$ metres.

Where $d m$ is the diameter of the mass, $t$ is the time light from the object takes to interact with the observer, $c$ the speed of light and the 'younger mass' is mass at an earlier point of contraction.

Contacting iris

Although much has been said about a light, the apparent size of a distant object is dependent on the amount of available light to the eye's iris. An average sized iris has a diameter of 0.012 m or 12 N.t.mm. But during the time it takes for light from the moon to interact with the eye the iris will have contracted by $(\mathrm{d} \mathrm{mm}) /(\mathrm{c} \times \mathrm{t}) \mathrm{x} 1000$. Where $d$ is diameter, mm millimetres, $c$ the speed of light and t time.

With the numbers inserted equal to; $3.08 \times 10-8 \mathrm{~mm}=(0.012 \mathrm{~m}) /(299,792,458 \times 1.3 / \mathrm{s}) \times 1000$. So in the time it has taken for moonlight to interact with the eye the iris has contracted from 12 millimetres down to $3.08 \times 10-8$ millimetres, a difference of $3.90 \times 105=(0.012 \mathrm{~mm} /$ $(3.08 \times 10-8 \mathrm{~mm})$. So the eye received a much smaller proportion of the original moonlight that didn't contract.

The diameter of the young moon was $4,516,200$ metres and one seen from earth is 11.588 m $=4,516,200 /(299,792,458 \times 1.3) \times 1000$. Also a difference of $3.90 \times 105 \mathrm{~m}=(4,516,200 \mathrm{~m} /$ 11.588 m )

The need to use different measures is important because they represent the amount of contraction that has taken place since the light from an object was produced. In the case of the moon measures were shorter than the light measures used at the sun, diagram 17.


Diegram 17

## Red shift

In 1922 Russian cosmologist Alexander Alexandrovich introduced the idea of an expanding universe but a Belgian physicist and priest Georges Lemaitre was one of the first to theorise that the recession of galaxies can be explained by an expanding universe. In 1929 the American astronomer Edwin Hubble by examining the relationship between distance and a galaxy's radial velocity as determined by redshift confirmed observationally that the universe is expanding.

Data collected by Hubble included the spectrum's absorption and emission lines from star light. Highlighted in the spectrum of the light were hydrogen, calcium and other elements which appear at longer (redder) wavelengths compared to similar lines measured in earth based observations. The absorption feature of calcium normally has a wavelength of $3934 \AA$
so this unit can be compared to the light from a star or distant galaxy to determine its velocity.

The term 'Dark Energy', a mysterious force coined by the theoretical cosmologist Michael Turner is thought to be responsible for the expansion of the universe. This dark energy is believed by scientists to be pushing the most distant galaxies away much faster than those closer to our galaxy.

Galaxies at a distance of 1 megaparsec, about 3,260,000 light years, are observed to be receding at about 73.5 kilometers per second. At twice this distance galactic velocity doubles to $147 \mathrm{~km} / \mathrm{s}$ and at three times this distance to $220.5 \mathrm{~km} / \mathrm{s}$ implying that at a far greater distance galaxies will eventually exceed the speed of light, which doesn't make sense. Teslawaves contraction theory proposes that galactic expansion is an illusion created by universal contraction making 'Dark energy' redundant.

Astronomers observed that the wavelength of light from galaxies 3,260,000 light years away or 1 Megaparsec ( Mpc ) appear to have lengthened by about 1 Angstrom, equal to $1 \mathrm{x} 10-10 \mathrm{~m}$. At twice this distance 2 Mpc , wavelength lengthens by 2 Angstrom and at $3 \mathrm{Mpc}, 3$ Angstrom etc.

The following calculation suggests that distant galaxies are moving away from us faster than those closer to our galaxy. Astronomers calculate this by working out the value of $Z$ which is the fractional change in wavelength and multiplying this figure by c , the speed of light, which provides the rate of recession in Kilometres per second.

Angstrom $=1 \AA=3935 \AA-3934 \AA$
$=(3935-3934) / 3934$
$Z=0.0002541942043$ fractional change
Galaxy moving away at $\mathrm{Cx} \mathrm{Z} \mathrm{m} / \mathrm{s}$
$76 \mathrm{Km} / \mathrm{s}=76,205 \mathrm{~m} / \mathrm{s}=299,792,458 \times 0.0002541942043$

Angstrom $=2 \AA=3936 \AA-3934 \AA$
$=(3936-3934) / 3934$
$\mathrm{Z}=0.0005083884087$ fractional change
Galaxy moving away at $\mathrm{Cx} \mathrm{Z} \mathrm{m} / \mathrm{s}$
$152 \mathrm{Km} / \mathrm{s}=152,411 \mathrm{~m} / \mathrm{s}=299,792,458 \times 0.0005083884087$

Angstrom $=3 \AA=3937 \AA-3934 \AA$
$=(3937-3934) / 3934$
$\mathrm{Z}=0.0007625826131$ fractional change
Galaxy moving away at C x Z m/s
$229 \mathrm{Km} / \mathrm{s}=228,616 \mathrm{~m} / \mathrm{s}=299,792,458 \times 0.0007625826131$

Where Z is fractional change, c is the speed of light and $\AA$ Angstroms $=1 \mathrm{x} 10-10 \mathrm{~m}$

Light from the sun takes about 500 seconds to interact with an earthbound observer therefore according to the contraction theory the wavelength of light was, in comparison to current earth time, 500 times longer at the moment the light departed the sun equal to $1,967,000 \AA=$ (3934) x 500s. Compared to current earth time this lengthening of wavelength appears excessive but at the time when this younger light was created measures were 500 times longer so the wavelength of light at the sun appeared normal at $3934 \AA$.

For instance if an indestructible detector was placed close to the sun, then relative to earth's 500 second future time frame the detectors clock will be running 500 times slower and the devices 'measure' will be 500 times longer, reducing the calculated wavelength at the sun from $1,967,000 \AA$ to $3934 \AA=(1,967,000 \AA / 500)$. Spatial contraction ensures that 500 seconds later when light interacts with earth, wavelength shortens as expected to $3934 \AA=$ $1,967,000 \AA \mathrm{x}$ the rate of spatial contraction 0.002 or $1 / 500$ th.

According to the contraction theory the wavelength of sunlight interacting within the earth bound observer is equal to:

$$
\boldsymbol{\Delta} \boldsymbol{\lambda}=(\mathrm{t} / \mathrm{s}) \mathrm{x}(\boldsymbol{\lambda}+\mathrm{Z}) / \mathrm{t} / \mathrm{s}
$$

Where $\boldsymbol{\Delta} \boldsymbol{\lambda}$ is shift in wavelength, $\mathrm{t} / \mathrm{s}$ time in seconds, $\boldsymbol{\lambda}$ Normal wavelength and Z the fractional change in wavelength.

The time light from the sun takes to interact with the earth observer is multiplied by the wavelength of 3934 Ångstoms and multiplied again by Z the percentage of either the blue or red shift, in this case zero and then added to 3934 Ångstoms. Finally the result is divided by the time light from the sun takes to interact with the earth observer resulting in the same figure of 3934 Ångstoms, equivalent to $3.934 \times 10-10 \mathrm{~m}$.

With the numbers inserted:
Wavelength $=3934 \AA=(500 / \mathrm{s}) \times(3934+0.00 \mathrm{z}) / 500 / \mathrm{s}$.

Where $t / s$ is time in seconds, $3934 \AA \boldsymbol{\lambda}$ is expected wavelength $\& Z$ the fractional change in wavelength detected as the amount of 'blue shift' such as when the sun and earth are moving toward each other or 'red shift' where the sun and earth are moving away. However because earth orbits the sun the value of $Z$ is negligible and is set to zero.

In the ancient past when light departed a distant galaxy about $1.03 \times 1013$ seconds ago, this galaxy, in respect to today, was $1.03 \times 1013$ larger and its wavelength $1.03 \times 10_{13}$ longer. If light from that galaxy is observed to have stretched by 1 Angstrom $=3935 A-3934 \AA$ and at double that distance stretched by 2 Angstrom $=3936 \AA-3934 \not A$, one might assume that the farthest galaxy is speeding away at twice the velocity of the first.

Teslawaves contraction hypothesis suggests that this perceived universal expansion is just an illusion caused not by expansion but by contraction. The process allows space to contract, 'Spatial contraction,' causing mass to contract through time allowing the wavelength of light created quadrillion seconds ago to appear stretched. Of course there will be a certain amount
of blue and red shift created by galactic velocity, but this is unlikely to explain the increasing velocity of younger galaxies at ever greater distances.

The contraction theory suggests that when light encounters a galaxy's perimeter the difference between the gravitational tug of the galaxy and open space stretches the light only by an average of 1 Angstrom for the majority of galaxies.

Light received from distant galaxies was created when the universe was relatively speaking a much bigger place. At a distance of 3 megaparsecs measures were a magnitude of 3 times longer compared to current time measures, meaning that a stretch of 1 Normal time Angstrom was equal to 3 'current' Quantum time Angstrom. So when light is received by the earth observer it is stretched not by 1 but 3 Quantum Angstrom.

In diagram 18 young starlight was stretched by 1 N.t. Angstrom but compared to current time, 1 N.t. Angstrom is equivalent to 3Q.t. current time angstroms, providing the illusion that galaxies are speeding away from one another. Although at its destination light shortens to its expected wavelength an element of 'stretch' remains embedded within the light.


The formula below calculates the amount of galactic 'stretch' or red shift by taking the length of the current time measure which in this case is the absorption feature of calcium that normally has a wavelength of $3934 \AA$ and adds the number of Megaparsecs to that galaxy. The result is multiplied by the distance in light metres to that galaxy resulting with the 'younger' wavelength. The result is then divided by the distance to that galaxy in light metres
to provide the 'current' wavelength. The aim is to demonstrate that a red shift of only 1 Angstrom occurred at the perimeter of each galaxy but is stretched further by the 'younger' galaxy which was much longer than our 'current' time galaxy stretching the wavelength further than expected. Instead of 1 'Quantum time' Angstrom light was stretched by 1 'Normal time' Angstrom which according to the current time measure is equal to 3 'Quantum time' Angstrom.

## Example 1



Note;
Since the theory is attempting to identify Galactic 'red shift' at the perimeter of a galaxy, 'red shift' due general momentum is ignored. 'Megaparsec' is used to represent both the time and distance light travels over several Mрс.

Galaxy 1 Mpc distant;

Current time stretch $=3935 \AA=(3934 \AA+1) \times(1 \mathrm{Mpc} \times \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c}) /(1 \mathrm{Mpc} \mathrm{x} \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c})$ with the numbers inserted;

Current time stretch $=3935 \AA=(3934 \AA+1) \times(1 \times 2.6306 \times 3.1507 \times 3.0008) /(2.6306 \times 3.15$ $07 \times 3.0008$ )

Where Mpc is Megaparsec, ly/s are light seconds in a year and c the speed of light.

Galaxy 2 Mpc distant;

Current time stretch $=3936 \AA=(3934 \AA+2) \times(2 \mathrm{Mpc} \times \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c}) /(2 \mathrm{Mpc} \times \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c})$ with the numbers inserted;

Current time stretch $=3936 \AA=(3934 \AA+2) \times(2 \times 2.6306 \times 3.1507 \times 3.0008) /(2 \times 2.6306 \mathrm{x}$ $3.1507 \times 3.0008$ )

Galaxy 3 Mpc distant;

Current time stretch $=3937 \AA=(3934 \AA+3) \times(3 \mathrm{Mpc} x \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c}) /(3 \mathrm{Mpc} x \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c})$ with the numbers inserted;

Current time stretch $=$ Current time stretch $=3937 \AA=(3934 \AA+3) \times(3 \times 2.6306 \times 3.1507 \mathrm{x}$ $3.0008) /(3 \times 2.6306 \times 3.1507 \times 3.0008)$.

Light received from a star from within our own galaxy does not exhibit a 'galactic' red shift because the light has not passed through the galactic perimeter. Within our own galaxy the difference in 'stretch' between the observers measure and a 'younger' measure cancels back to $3934 \AA$, equal to;
$3934 \AA=(3934 \AA+0) \times(1 \mathrm{pcx} \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c}) /(1 \mathrm{pcx} \mathrm{ly} / \mathrm{s} \mathrm{x} \mathrm{c})$

Where one Parsec (Pc) is equal to 3.26 light years, ly/s are light year seconds \& c the speed of light. Note; calculations refer to 'Galactic red shift' and not light that is shifted due to 'general' momentum.

Because younger galaxies were much longer than our current galaxy, the amount of light that is stretched 'appears' greater the further we look back in time. But the amount of 'stretch' is equal to 1 N.t. Angstrom and remains the same for each galaxy, diagram 19.


Based on the contraction theory the following formula calculates the shift in wavelength using ' $Z$ ' for three distant galaxies.

Wavelength at $1 \mathrm{Mpc}, \boldsymbol{\Delta} \boldsymbol{\lambda}=(1 \mathrm{Mpc} \mathrm{x} \operatorname{ly} / \mathrm{s}) \mathrm{x}(\boldsymbol{\lambda} \times \mathrm{Z}+\boldsymbol{\lambda}) /(1 \mathrm{Mpc} \mathrm{x} \operatorname{ly} / \mathrm{s})$
$\Delta \boldsymbol{\lambda}=3935 \AA=(102,807,360,000,000 / \mathrm{s}) \times(3934 \times 0.0002541942044+3934)$
$/ 102,807,360,000,000 / \mathrm{s}$.

Wavelength at $2 \mathrm{Mpc}, \boldsymbol{\Delta} \boldsymbol{\lambda}=(2 \mathrm{Mpc} \times \mathrm{ly} / \mathrm{s}) \mathrm{x}(\boldsymbol{\lambda} \times \mathrm{Z}+\boldsymbol{\lambda}) /(2 \mathrm{Mpc} \times \mathrm{ly} / \mathrm{s})$
$\Delta \boldsymbol{\lambda} 3936 \AA=(205,614,720,000,000 / \mathrm{s}) \times(3934 \times 0.0005083884087+3934) /$ 205,614,720,000,000/s.

Wavelength at $3 \mathrm{Mpc}, \boldsymbol{\Delta} \boldsymbol{\lambda}=(3 \mathrm{Mpc} \mathrm{x} \operatorname{ly} / \mathrm{s}) \mathrm{x}(\boldsymbol{\lambda} \times \mathrm{Z}+\boldsymbol{\lambda}) /(3 \mathrm{Mpc} \mathrm{x} \operatorname{ly} / \mathrm{s})$
$\Delta \boldsymbol{\lambda}=3937 \AA=(308,422,080,000,000 / \mathrm{s}) \times(3934 \times 0.0007625826131+3934) /$
308,422,080,000,000/s

Where ( Mpc ) is one Megaparsec or 1 million parsec $=326,000$ light years. $(\mathrm{ly} / \mathrm{s})$ are seconds in a light year. $\lambda$ is the Normal wavelength equal to an absorption feature of calcium that laboratory experiments have observed to be equal to a wavelength of $3934 \AA . \Delta \boldsymbol{\lambda}$ is equal to the change between the normal and observed wavelength.

In order to condense the sum the calculation ( $\mathrm{X} \mathrm{Mpc} \mathrm{x} \mathrm{ly/s)} \mathrm{has} \mathrm{already} \mathrm{been} \mathrm{completed}$.

Except for local variances due to velocity, galactic wavelength appears to be stretched at the boundary of a distant galaxy, probably caused by the galactic gravitational 'wind' rushing in to satisfy the partial vacuum created by the interaction between mass and space. Diagram 20 contains calculations based only on the relationship of the distance in Megaparsec between galaxies, i.e. $1,2 \& 3$ from an observer who is situated in galaxy 0 , not shown.


The percentage the wavelength is stretched is dependent on the relative size of a galaxy and its measure, relative to current time. Since we have a 'base' percentage of $Z=0.0002541942$ for the amount that light is stretched for galaxies at a distance of 1 Mpc , it is just a simple process to multiply this percentage by the number of Megaparsec. This is because in relation to distance, measures were once longer i.e. $\mathrm{x} 1 \mathrm{Mpc}, \mathrm{x} 2 \mathrm{Mpc}, 3 \mathrm{Mpc}$ etc. so Z is multiplied by the number of Megaparsec to obtain the observed magnification factor.

In comparison to current time, at the moment light left a much younger galaxy it would have contained a longer wavelength, but when divided by the time the wave took to interact with an earthbound observer the wave should have cancelled to $3934 \AA$. However as the light encountered the perimeter of a distant galaxy the light was stretched and this stretch was dependent on the size of the galaxies 'measure.' In the ancient past galaxy 2 s measure was much longer than 'current time measures.' According to current time measures, light from galaxy 2 will have stretched by 2 Angstroms from 3934 to $3936 \AA$ but according to galaxy 2s measure the wavelength will only appear to have stretched by 1 Angstrom.

Indeed for an observer in galaxy 1 where $3934 \AA$ appears normal will note that the wavelength from either side of galaxy 2, i.e. galaxies 0 and 2, light will only appear to have stretched by only 1 Angstrom $=3934 \AA$ to $3935 \AA$ because the relationship between the related time and distance is not as great as the distance between galaxy 0 and galaxy 2 .

Observers measurement of neighbouring galaxies
$1 \AA=$ galaxy $1 \&$ galaxy 2
$1 \AA=$ galaxy $0 \&$ galaxy 1
$2 \AA=$ galaxy $0 \&$ galaxy 2

Light entering our own galaxy might initially be stretched by our own galactic gravity but then compressed again on entry by the gravitational wind pushing in to satisfy the lower spatial pressure within our galaxy, cancelling out any 'local change' in wavelength. In fact the gravitational wind may also be responsible for ensuring that stars on the galactic perimeter, which are subject to this high spatial pressure, remain synchronised with more centrally based stars during the rotation of our galaxy, negating the need for additional mass or the much theorised 'dark matter,' diagram 21.


A simple experiment to demonstrate this phenomenon involves a hair dryer blowing garden peas suspended in a bowl of water. Both the peas on the inner \& outer section of the bowl can be seen remaining in step with one another.

Over time and distance the wavelength of light from a distant galaxy shortens but appears to be stretched when received by an earth based observer. This is because this initial stretch was related to the size of the galaxies measure. The further back in time the larger the galaxies measure hence the longer the relative wavelength, diagram 22.


Diagram 22

## Conclusion

According to observations light is stretched at the perimeter of galaxies by an average base of $\%=0.00025419420437214$ multiplied by the number of Parsecs from our own galaxy to a distant galaxy and the result multiplied by the absorption feature of calcium that normally has a wavelength of $3934 \AA$. The final result is then added to $3934 \AA$ which provides the observed wavelength. The final result demonstrates that time and distance, represented in Megaparsecs (Mpc), is equal to the perceived wavelength in Angstroms. If the 'reddening' of wavelength is due mainly to the relative 'size' of the younger galaxies measure, then maybe the universe is not expanding and galaxies are not uniformly speeding away from our galaxy, some at a mystical rate that exceeds the speed of light.

## Sun v Nucleus gravity

A Normal time (N.t.) observer travelling close to the speed of light will notice that compared to a relatively stationary 'Quantum time' (Q.t.) observer their measure has doubled in length and time has slowed down by a half meaning that one 'Normal time second' (N.t/s) is now equivalent to two 'Quantum time seconds' (Q.t/s).

The sun's surface gravitational acceleration of 274 Normal time metres per Normal time second (N.t.m per N.t/s) is currently equal to 548 Quantum time metres per Normal time second (Q.t.m. per N.t/s) $=(274$ Q.t.m x 2 Q.t/s $)$ because there are currently two Quantum time seconds in 1 Normal time second. But this is double the sun's known gravity of 274 Q.t.m per Q.t/s. This is because the observer's measure has doubled in length and so is only detecting this apparent 'stronger force' as a measure of Quantum metres per Normal time second. Converted to N.t. metres per N.t second the sun's gravity is still equal to a Normal time gravity of 274 Normal time metres per Normal time second $=(548$ Q.t.m. per N.t/s. $/ 2$ Q.t.m.) because there are currently 2 Q.t. metres in 1 N.t. metre.

At double the sun's Q.t. radius the Normal time observer will detect a gravitational value of 137 Q.t.m $/$ N.t. $/ \mathrm{s}=(548$ Q.t.m per Q.t/s $) / 2^{\wedge} 2$. But again this is because there are currently two quantum metres in one Normal time metre therefore must be divided by two to provide the value in Normal time metres per Normal time second, equal to $68.5 \mathrm{~N} . \mathrm{t} . \mathrm{m}$ per N.t/s. $=(137$ Q.t.m per N.t./s) / 2Q.t.m, diagram 23.


Diagram 23

Relative to both the Q.t. and N.t. measure and timeframe the gravitational force for both remain the same. The 'Quantum time observers' world however appears half the size of the 'Normal time observers' world. The closer the Normal time observer accelerates to the speed of light, the smaller the Quantum world appears.

When the N.t. observer is travelling at almost the speed of light, the Sun might appear to the N.t. observer to have contracted down to the size of an atomic nucleus and Q.t time will appear to be running infinitely fast. One Q.t. metre might have shortened to $1.37 \times 10-21$ of one Nt metre. The sun will still have a gravity of 274 Q.t.m per Q.t/s which fortunately cancels out to 274 N.t.m per N.t/s. This means that very close to an extremely small mass gravity, measured in quantum metres per N.t second is relatively strong, but because the mass radius is extremely short the strength of this Q.t. gravity weakens very quickly from its source.

A very strong surface gravity for such a small mass that weakens significantly at approximately 2,023,000 nucleus radii close to the atoms 'measurable' perimeter. Equivalent to 'big' G or about $6.70 \times 10-11=\left(274 \mathrm{~m} / \mathrm{s} 2 / 2,023,000^{\wedge} 2\right)$. According to the high velocity observer the Quantum time Sun has become an atomic nucleus surrounded not by planets but electrons, held in orbit by quantum gravity.

Science has usually dismissed the idea of atoms as mini solar systems. Indeed the gravity surrounding a single atomic nucleus is thought to be almost non-existent. But given sufficient velocity an observer might consider the Sun and planets to be an atomic nucleus surrounded by about eight orbiting electrons similar to an oxygen atom but operating on a faster timescale.

For such a small mass, nucleus gravity may be as strong as the Sun's gravity operating over a quantum distance. And because gravity is cumulative, by adding additional atoms to extend the mass radius, equal to that of the Sun's radius, should extend this 'short range Q.t. gravity' a distance of many millions of N.t. metres, equal to the reach of the Sun's gravity. So it would appear that the atomic force holding atoms together is Quantum gravity separated by time.

Given sufficient mass and time Quantum gravity extends as far as 'Normal' gravity within 'Normal' time.

Newton’s equation $G \times M / r^{\wedge} 2$ multiplies big ' $G$ ' by the Mass which is the same as saying take the value of Quantum gravity sampled at the atoms perimeter and multiply this figure by the amount of mass within a particular volume of space, equal to Gx M divided by the mass radius squared $(\mathrm{GM}) / \mathrm{r} \wedge 2$ The result being equal to X Normal time metres per Normal time second. Note that experiments to determine big ' $G$ ' considered 'weak' only examined the force surrounding a mass or an area close to the atoms perimeter but not the nucleus surface gravity which is probably, considering its mass, relatively strong.

Different nuclei possess different mass, each element with a quantum gravity smaller or in excess of 28 Q.t.g. $=(274 \mathrm{~m} / \mathrm{s} / 9.81 \mathrm{~m} / \mathrm{s})$ earth being 1 g , allowing the distance from the nucleus to the atomic perimeter to vary. Heavier elements contain more electron shells therefore the distance to their atomic perimeter will be greater than lighter nuclei with fewer shells which should allow the average value of ' $G$ ' to remain consistent close to an atomic perimeter.

The Sun consists of approximately $1 \times 1057$ hydrogen atoms and produces a surface gravity of about 28 g accelerating mass at about 274 metres per second per second. The Sun's gravity also extends many light minutes before weakening significantly. This is because gravity is cumulative and the Sun's gravitational 'range' is determined by its mass radius therefore since the Sun's radius is relatively large, quantum gravity has the ability to extend a long way maintaining the earth and planets in their orbits, so the sun might be just an atomic nucleus within a higher dimension.

## Atomic gravity

The following hypothesis suggests that the universal constant big ' $G$ ' is the average value of nucleus gravity detectable at the atomic perimeter providing the illusion that nucleus gravity is very weak. Therefore the surface gravity of an atom's nucleus may be as strong as our sun's gravity that weakens very quickly to the value of big ' $G$ ' near the atom's perimeter. Indeed unleashing the potential of an atom's nucleus led to the creation of the atom bomb.

Newton's formula to determine N.t. gravity is the product of $G$ times the mass, divided by the mass radius squared, or $\mathrm{g}=(\mathrm{GxM}) / \mathrm{r} 2$. Where g is gravity, G the universal constant, equal to $(6.674 \times 10-11), M$ the mass of the sun and $r$ the radius of the sun in metres. With the numbers inserted the sun's gravity is equal to $+-274 \mathrm{~m} / \mathrm{s}=(6.673 \times 10-11 \times 1.989 \times 1030) /$ $695,700,000^{\wedge}$.

Teslawaves formula to determine Nucleus gravity is $g_{(Q . t)}=\left(\mathrm{m} / \mathrm{r}^{\wedge}\right)$, where g is gravity, m nucleus mass and r the radius of the nucleus. Note the actual radius is presumed but not known.

The following example will assume that the solar system is similar to an Oxygen atom with 8 protons and 8 neutrons surrounded by a sea of 8 electrons. In order to calculate nucleus gravity the formula $\left.g_{(Q . t)}=\left(\mathrm{m} / \mathrm{r}^{\wedge}\right)_{2}\right)=\mathrm{M}$ (protons+neutrons) $/ \mathrm{r}^{\wedge} 2$ is used. Where, $\mathrm{g}_{(Q . t)}$ is quantum gravity and ' M ' equal to the total mass of protons \& neutrons within the nucleus and (r) is the radius of the nucleus. When calculating nucleus gravity $\mathrm{Big}^{\prime} \mathrm{G}$ ' is not required because ' $G$ ' is equal to an atom's perimeter gravity.

The total mass of eight protons plus eight neutrons multiplied by the mass of a proton is equal to about $2.68 \times 10-26 \mathrm{Kg}=(1.672 \times 10-27 \mathrm{Kg} \times 16)$. The 'proposed' radius (r) of the Oxygen nucleus is about $9.889 \times 10-15 \mathrm{~m}$. Note that in order to simplify the calculation, neutrons which are marginally more massive than protons have been assigned the same mass as a proton. Electron mass is ignored. With the numbers inserted nuclei surface acceleration is equal to 274 Q.t.m per Q.t/s $=(2.68 \times 10-26 \mathrm{Kg}) /(9.889 \times 10-15 \mathrm{~m})^{\wedge} 2$. And also equal to $274 \mathrm{~N} . \mathrm{t}$.m per N.t/s. But the range of this 'strong Q.t. force' is relatively short, weakening to $G$ at the atoms perimeter because one nuclei Q.t. metre is assumed to be in the range of about $1.37 \times 10-21$ of one Normal time metre $=(9.89 \times 10-15) \times(1.39 \times 10-07)$. This is equal to the diameter of the nucleus multiplied by the diameter of the sun in metres. The negative exponent is used to represent the assumed number of metres across the radius of the nucleus.

Based on teslawaves theory the N.t observer is able to detect atomic gravity at a distance of approximately 2,012,000 nucleus radii, equal to almost big 'G' equal to $6.77 \times 10-11 \mathrm{~m} / \mathrm{s} / \mathrm{s}=$ $274 \mathrm{~m} / \mathrm{s} /(2,012,000)^{\wedge} 2$. The gravitational value of G is also detected at a distance from our sun at $2,012,000$ sun radii or about 9,360 astronomical units, 1,303 light hours or 0.15 of a light year. This distance is expected to be in the region of space called the Ort cloud that
contains icy planetesimals left over from the creation of the solar system. Is this the Q.t. area a higher dimensional being will detect big G .

Gravity is therefore a very strong force within the atom but extremely weak at the atoms perimeter. However because gravity is cumulative the range of this 'strong' nucleus gravity can be extended into the N.t. dimension by adding more mass. So when calculating nucleus gravity the formula $\mathrm{g}=\mathrm{M}$ (protons + neutrons) / $\mathrm{r}{ }^{\wedge} 2$ is used. But when calculating 'Normal mass time' gravity, Newton's formula of $\mathrm{g}=(\mathrm{GxM}) / \mathrm{r}_{2}$ is used.

Gravity at the Quantum scale is extremely strong but weakens very quickly. Quantum time gravity per Quantum time metre is the same strength as Normal time gravity per Normal time metre, but its 'reach' is very short. However sufficient mass will lengthen the total mass radius extending the strength of gravity's reach. Gravity can be both attractive, and in the form of angular momentum also repulsive by creating a gravitational slingshot.

Quantum forces may all just be manifestations of gravity, the same force which is multidimensional separated only by time and distance, diagram 24.


Diagram 24

## Double slit experiment \& Quantum gravity

Richard Feynman of the institute of technology in volume one of his three volume Feynman lectures on physics published in the early 1960's commented that. "This is a phenomenon which is impossible, absolutely impossible to explain in any classical way and which is at the heart of quantum mechanics. In reality it contains the only mystery.... the basic peculiarities of all quantum mechanics."

In its basic form the double slit experiment involves shining a beam of polarised monochrome light through two closely separated slits onto a screen which results with an interference pattern consisting of a central bright spot located between the slits with several evenly spaced light and dark areas either side. However when one of the slits is covered the interference pattern ceases. Instead a central spot of bright light with a fainter dark and light band either side of that bright spot becomes visible.

Science has produced much mystique regarding the strange properties of light, likening the wave-like properties of light to water waves producing peaks and troughs of light energy. The so-called 'interference pattern'.

Indeed scientists have used both waves and particles in their experiments leading to much confusion. Is light a particle a wave or both? Because if light is a particle then it can only go through one hole at a time. But if this is the case how can it interfere with itself producing the well known 'interference pattern'. There have been many theories that include a pilot wave that goes through the other slit to produce some sort of mysterious form of communication. But surely if light is always creating interference our visual world should be full of distortions. In fact a fine weaved net curtain can produce an interference pattern because the purpose of such a curtain is to distort light preventing the neighbours from having a clear view inside a house.

Teslawaves proposes that the so-called interference pattern is just a magnified image of the light producing atomic lattice interacting with the screen. In the double slit experiment this magnified image is created by light bending around the central post and has nothing to do with a photon making a decision of which hole to go through. As atoms vibrate they are
moving position very slightly and when they become excited emit a photon from that particular location. When the post interacts with this light, quantum gravity bends the light exposing on the screen the spaces between atoms. The process occurs very quickly and appears on the screen as broken areas of light, diagram 25.

Photo 1 demonstrates green laser light bending around a single human hair, used as the central post. Close examination of each image shows subtle changes to the distortion of the beam suggesting that each atom is vibrating within a predefined area of the atomic lattice.

The red laser projection, diagram 26 demonstrates a typical diffraction pattern. A single slit still has the ability to create a central spot of light with a faint area of darkened bands either side. This pattern is due to the bending of light at the edges of the single slit.


## Manipulation of gravity

According to Teslawaves theory, gravity is the product of the combination of mass interacting with the nothingness we refer to as space. Mass needs space in order to collapse through time from the past into the future and so blocking this interaction will stop this process. Preventing mass interacting with space will cause time to move forward without the mass. According to a contracting Quantum time observer 'mass time' will appear to stop.

If a spatial shield preventing mass interacting with space could be created mass would no longer experience time or produce gravity. If a hole is then punctured through this spatial shield and 'space' allowed to interact within a specific area on the mass, this interaction should then create a point of gravity on the mass that will pull the mass in that direction of travel. Indeed there may be advanced civilizations within the universe that have already mastered the manipulation of gravity.

Unidentified Flying Objects (U.F.O's) or Unidentified Aerial Phenomena (U.A.P) capable of controlling gravity have been seen in our skies for millenia. The subject of UFO's has usually been ridiculed but more recently has been taken seriously by governments. Especially since these unidentified objects have been recorded on military sensors and reported by pilots from around the world. Indeed Unidentified Submerged Objects (U.S.O) have also been seen.

In April 2020 despite years of denial the U.S. Navy officially published video, Photos $1 \& 2$, proving Unidentified Flying Objects (UFO's) also referred to as Unidentified Aerial Phenomena (UAP) do in fact exist .


Photo 1 BLK mode


Photo 2 WWHT mode

## Evidence

Photos taken from video of at least one Gimbal UAP encounter Photo 1. The infrared heat signature (BLK) is set to Black mode showing black as indicating a higher temperature than the relatively cooler lighter areas. The heat signature is inverted in white (WHT) mode displaying white as hot, Tick Tack, photo 2.

Photo 1 IR BLK signature taken just as the UFO stops moving from right to left across the screen and is beginning to move to the right. The photo appears to show that the object is enveloped in a disturbance that is cooler than both the object and atmosphere. At the moment the object began to slow down and change direction a protruding dark warmer section momentarily appeared to extend outward from the object pointing in the new direction of travel. Teslawaves suggests that the craft may be surrounded by a field that blocks the interaction between 'space' and mass. The protrusion probably punctured a hole in this field allowing earth's gravity to interact with the mass of this object, causing it to be attracted in the desired direction of travel, Photo 3.

Taken from the video, photo 3 is a magnified image of photo 1 and appears to show the point when the UFO changed direction of travel. The darkened area suggests that a spatial hole


Photo 3 UFO slowing down turning \& changing direction
may have been created in the anti gravitational field surrounding the UFO. Artists impression photos $4 \& 5$.


Photo 4 \& 5 Artists impression

In WHT mode the object was pictured moving from right to left across the screen. This image shows a cooler depression pointing in the direction of travel suggesting that this area of space was exposed to the mass of this object.


Tick Tack WHT mode

## Photo 6

Diagram 27 is based on the gimbal craft and the device Bob Lazar said he helped to back engineer and shows the spatial shield generator that prevents space interacting with the craft. The field prevents the wavelength of space from collapsing the craft through time and space so the craft becomes immune to earth's gravity. However when the field cancellation projectors puncture a hole in this shield the interaction between space and mass creates gravity allowing the craft to be displaced through space in the required direction of travel. But in reality it is a particular section of the universe that contracts to meet the craft. For instance pointing the field cancellation projectors at the moon while the spatial shield generator is operating will collapse the space between the craft and the moon causing the craft to be displaced through space very quickly.


Teslawaves contraction theory is inspired by a 1979 U.F.O. encounter over the town of Scarborough UK, information \& contact details available at; Teslawaves.com

References.

Information and inspiration by;

The Magic Furnace (ISBN 0-099-57801-8) by Marcus Chown 1999
'Schrodinger's Kittens and the search for reality (ISBN 185799402 7) by John Gribbin. 1995

In search of Schrodinger's Cat. Quantum physics and reality (ISBN 0-552-12555-5) by John Gribbin 1991.

Gottfried Leibniz, Emilie Du Châtelet and Willem Gravesande. A Nova production for Channel 4, 2005.

George Knapp, American television investigative journalist, news anchor, and talk radio host.

Luis Elizondo, a former director of the Advanced Aerospace Threat Identification Program. A program associated with the Pentagon UFO videos.

Existing fact based data, Internet based including Wikipedia

Other details @ Teslawaves.com
c Teslawaves

