The Flow of the Oscillating Universe

Mind, gravitation and reality, by Robert E. Haraldsen.

Concept

Time's speed is a subjective illusion created by the accumulation of individual perception onto reflections within the mind[1]. It is defined by the frequency of the interactions of thought process, where distance related to space is time's reciprocal. Consequently, "space" separated from "time" is a manifestation of *structured consciousness,* wherein experience exists as feedback of the mind projecting onto consciousness the illusion of separate entities. The direction and the speed of light[2] is constant only when not influenced by different factors, such as gravity and material density. Light is also absorbed and emitted in atoms. This fact of differentiated speed and absorption/emission is of crucial importance to the following discussion relating to the minds interpretational mechanisms.

Seen from a higher dimensional perspective there is only one spacetime field, which 'contains' the subjective artifacts known as the forces discovered and sometimes successfully defined mathematically into rules of physics. Nevertheless, it is often difficult to not confuse our theoretical models with what lies behind.

Our illusions are based on cognitive premises that interact relativistically and quantum-mechanically with the flow of the spacetime that we are part of—more profoundly than that which is only perceived through what we normally think of as sensory input. To put it simply: we are spacetime.

Moreover we are strictly accustomed to the effects of these organizing interactions of projection that keep our attention distanced from the underlying simplicity of timelessness.

Consciousness and quantum relativity

A deeper understanding of the dynamics of consciousness, not only in the trivial sense of immaterial psychological relations, but as the prerequisite of the universe itself, may lead to an understanding of gravitation. The following argument acknowledges theories of higher dimensions, such as string-M-theory as important descriptive models along with the embedded theories of quantum mechanics and an expanded relativity theory. It is also presumed that the unexploited consequence of special relativity, extreme *relativistic aberration*[3], will turn out to be one of the most important keys to a better understanding of the overall unity.

As long as consciousness itself is not explained ontologically, and certainly not physically, the problem of proof resides within any approach toward a cohesive explanation of the universe. One of the most prominent architects of string theory, Edgar Witten of Princeton, expresses doubts that humans will ever be smart enough to figure string theory out. Perhaps he is right, and a full scientific understanding will always be out of reach. But it is nevertheless

[1] http://en.wikipedia.org/wiki/Philosophy_of_space_and_time
[2] Electromagnetism
[3] http://en.wikipedia.org/wiki/Relativistic_aberration

extremely interesting that abstract reasoning has been able to repeatedly transcend the implausible—as demonstrated throughout the history of philosophy. This is a fact that nonetheless points to the extraordinary underlying powers of will.

The mathematical string theory[1] is an attractive theoretical model of abstract physics that, if devised as intended, could lead to the 'theory of everything' (if it also can be proven by some kind of experiment). As an abstract idea, it illustrates a possible vibrating flow of forces in 'spacetimes'[2] that evade and surpass our comparatively linear observation of the everyday world.

A heavy weight on our imagination is our inherited rigorous concept of the direction of time, and any other notion of absolute directionality. To rise to the abstract world, the philosopher tries to let go of such preconceived ideas, at least in the sense that they can be applied to any explanation as objective phenomenological rules of the universe. When able to reach this conceptual point we may come to understand how either relativity theory or quantum mechanics, or both, should be remodeled to encircle as one united theory; the realm of quantum relativity. Then, from that point on, the universe may be shown to be no more than a set of illusive paradoxes that are 'resolved' if we can imagine the universe as an equal amount of existence and anti-existence caused by pulsating consciousness between two 'impossible' states. This may be regarded as the 'psychological' equivalent of the matter/antimatter states[3].

While contemporary theoretical physics is struggling to ascend from the groundbreaking epoch that gave birth to relativity theory and quantum mechanics, philosophers of science are now frequently pointing toward the necessity of dissecting the very notion of time.

We intuitively and even practically experience that time is a subjective phenomenon—we might even say we already know this is true without proof. However, Einstein has formulated a mathematical description of how gravitation, matter, and spacetime are interconnected, and from this we may be able to extrapolate and recognize how matter is connected to consciousness, and even could be described in a similar way.

Consciousness has been adding inertia to its own manifestation for billions of years. This is a 'magnitude of time' extremely important to regard as a heavy weight on habitual thinking obscuring the peaks of imagination (in addition to the awareness problem mentioned above). In spite of this, we are at a modern scientific and philosophic level acknowledging the uncertainty of measurements and subjectivity.

Related to this psychological difficulty is, for instance, the special limit of knowledge at the borderline between personal strong experiences of consciousness and the empirically observed emphatic dysfunction of humankind. The word 'human' regularly used as a positive quality—while easily forgetting our attitude toward other living beings (that we commonly do not grant consciousness at all). And even if we sometimes feel generous enough to

[1] http://en.wikipedia.org/wiki/String_theory
[2] http://en.wikipedia.org/wiki/Spacetime
[3] http://en.wikipedia.org/wiki/Antimatter

endow 'them' with some kind of similar existential qualities as 'our own', we usually tend to categorize 'them' as of less significant value. Yet, as an example at the other extreme: being part of a large crowd of fellow beings can give us a sensation of being a united consciousness—perhaps an indication that there is some primeval force striving for a level of unity.

One would perhaps think it absolutely preposterous that an immaterial entity could shape even the smallest grain of sand—but remembering that only a hundred years ago it was unimaginable that any grain of matter could contain even the slightest amount of its enormous atomic energy, we should think this over.

If we let our attention sink into the infinitesimal levels of energy and matter, we can think of the force of consciousness as having a similar (physical) bond to the subatomic levels of inner space, and equally to the rest of the universe, as does the gravitational force.

Here, this has brought us to the heart of matter. At the microcosmic level, we have reached the borderline of time as normally conceived. Experiments seem to indicate that below the Planck-level[1], about 10^{-35} meters, the laws of physics 'break down'—at least when referring to the laws of physics as we know them. After all, science is only built on measurements related to definitions, so 'breaking down' evidently refers to the incompleteness of measurement.

Below the Planck-level, there is no 'time' that can be thought of as moving in any particular direction, simply speaking. For a deeper understanding of quantum phenomena, we have to accept that one consequence of 'breakdown' is that relativity theory must be revised. Even if it is true to a highly accurate degree, it still is misguiding in its postulate that nothing can travel faster than the speed of light[2]. This is because the very notion of speed is related to the construct of an observers time-organizing mind. As stated, time and space seen as separate entities is relationally quantized to the 'mind's frequency', and should be seen as the result of interference (a 'stroboscopic' effect if you like)[3]. The observer's own inherent spacetime velocity, in relation to the observed, changes any dimensional scale towards what is measured. For this reason even 'separation' becomes a subjective phenomenon.

Theory of black hole dynamics

More or less complicated theories have been presented in attempts to explain gravitation ever since Einstein in 1915 gave a better description than Newton's attracting forces instead should be described as being the curvature of spacetime. Now we have the hopeful approach of string theory, and just recently, an attempt by Lee Smolin describing binding 'braids' within the theory of Quantum Loop Gravity[4]. However, none of the new theories has been proven, and consequently the door is still open for other brave ideas.

So let us take a closer look at the curvature of spacetime according to Einstein's accepted general theory of relativity[5]. The problem is not whether he

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[1] http://en.wikipedia.org/wiki/Planck_scale
[2] in vacuum exactly 299 792 458 m/s
[3] http://en.wikipedia.org/wiki/Stroboscopic_effect
[4] http://en.wikipedia.org/wiki/Quantum_loop_gravity
[5] http://en.wikipedia.org/wiki/General_relativity

was right or not—on the contrary we know that like Newton's description it works very well[1]. However, we still do not know *why* matter distorts spacetime.

Stephen Hawking has showed that a black hole emits thermal energy[2], and that this should cause it to 'evaporate'. While this is calculated to take about 10^{67} years for a black hole with the mass of the Sun, one with a horizon at the Planck-scale would evaporate in less than 10^{-26} seconds. In either case, a black hole can be described as a horizon related to spacetime flow.

The *future* for an observer inside the Schwarzschild radius[3] points towards the center of the black hole. (Notice that time in this sense has a physical direction.) For an observer orbiting the black hole it seems obvious where the black hole's physical center is located—while *inside* the Schwarzschild radius it is not that simple to know where the middle is, because relativistic effects severely warp the observer's spacetime in such a way that the black hole's central direction is 'spread out'. (This will be explained in more detail in part 2.) The observer may fall freely toward the center without noticing anything spectacular—and will *not* be crushed to death by 'enormous gravitational effects' as sometimes popularly proclaimed—because time is directly related to gravity slowing subjectively experienced time (mind processes) as gravity increases. (The misguiding 'crushing' perspective resembles the antiquated scenario of falling off the edge of the earth.)

Here, the radical perspective is that the center of the black hole is actually located in any direction defined by the flow of warped spacetime! For the observer this is experienced as if mass causes gravitation. However, one should rather realize that mass is an effect of organized chaos[4], which actually stops the observer from moving freely along the spacetime flow.

What is experienced inside a black hole is warped in such a way that it only represents a 'local reality'. The 'inside' spacetime looks principally no different than the good old universe we are used to, while the 'outside' view is that of an infinitely long one-dimensional *string* in vibration spiraling towards the center. (Figuratively speaking the universe is like a multidimensional spinning DVD, and experience is the movie coming out of it.)

Consequences of relativity

Understanding and describing the extreme consequences of relativity could clarify some of the mechanism of the extraordinary warping. Approaching the speed of light (according to this consequence of relativity), all cosmologically distant objects proportionally shift position towards the forward direction of movement, and ultimately become a concentrated area of energy, while in the opposite direction a similar area becomes a new surrounding hemisphere. Thus, all former dimensions are compressed in the forward direction, and oppositely in the other direction. A consequence of this warping is that gravitation shifts, leading to a spacetime 'pendulum-effect' in a way that is directly related to photon-anti-photon behavior. This may be confusing and seem to contradict the statement that gravity is a consequence of spacetime flow, but we must realize that thought experiment is not the same as an actual possibility for entities with

[1] http://en.wikipedia.org/wiki/Newton%27s_law_of_universal_gravitation
[2] http://en.wikipedia.org/wiki/Hawking_radiation
[3] http://en.wikipedia.org/wiki/Schwarzschild_radius
[4] http://en.wikipedia.org/wiki/Chaos_theory

rest mass[1]. While nothing with rest mass can reach the speed of light, energies without rest mass can. The obvious massless entity is the photon and the radical one suggested here is, of course, the quantum individual of consciousness. If consciousness appears as a fluctuation in its associated field, it experiences the same kind of aberrational effects as light. On the other hand, there is no need to regard the consciousness field as separate from the electromagnetic field[2], as they may be manifestations of the same field.

So, spacetime stretched inside a black hole means stretched compared to something outside the local spacetime zone. Obviously, Hawking's evaporation time of 10^{67} years *outside* the Schwarzschild limit could then be clocked to inversed time seen from the almost infinitely 'time-stretched' observer near the center—all in accordance with relativity theory[3].

The force of gravity, in the orthodox sense reaches out boundlessly decreased proportionally to the square of the distance from its associated mass, and oppositely, it is extremely weak at the atomic level of the same mass. (Our meso/macroscopic world[4] of atoms represents the 'whirlpools' of the spacetime flow.

The universe is not expanding, but rotating through multidimensional loopholes as illustrated by the Calabi-Yau space[5] in string-theory. However, this is what creates the impression of expansion.

Even if general relativity treats gravity as just the consequence of the curvature of space, as stated above, it does not explain *why* matter creates a spacetime curvature. (Interestingly enough Einstein's equations of general relativity showed the way to the theory of black holes, though Einstein himself at first thought of the universe as fairly static on the overall scale. Later the Hubble redshift[6] was discovered, which in turn lead to the idea of the dynamically expanding universe and subsequently to the big bang hypothesis. Therefore, black holes in a way appear as a notion somewhere in a mind-set between the idea of a static universe with a curvature and the proposal that the universe expanded from an infinitely condensed point of energy—a spacetime singularity.[7]

There are theories put forth about gravity as being a direct or indirect consequence of material expansion. 'Directly' then would mean that the pressure felt beneath our feet is simply due to the expansion of the earth, or whatever planet we are on. On second thought, it is obviously difficult to then explain why different sized planets would not have the same gravitational influences—unless the expansion is different on and around different planets, combined with some kind of complicated visual illusion to compensate to accommodate the fact that the planetary relations look quite unchanged.

Then, there is the possibility that there is a higher dimensional order of spacetime rotation that could explain gravitation as a fictitious force—in the

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[1] Invariant mass
[2] http://en.wikipedia.org/wiki/Electromagnetic_field
[3] http://en.wikipedia.org/wiki/Dilation_of_time
[4] http://en.wikipedia.org/wiki/Mesoscopic_scale
[5] http://en.wikipedia.org/wiki/Calabi–Yau_manifold
[6] http://en.wikipedia.org/wiki/Hubble_redshift
[7] http://en.wikipedia.org/wiki/Gravitational_singularity

same way as the Coriolis force[1] is the result of a rotating sphere or disc. However, the Coriolis force needs some additional velocity along the rotating surface to come into action, and as long as we do not know what that particular velocity could be related to, we let the proposition rest.

Other propositions are of the LeSage-category, which propose some sort of corpuscular fluid acting in 'sinks' pulling objects together[2]. There are arguments that seem to disprove gravity being an effect of such flow. *However, that was before we became aware of black holes and Hawking radiation.*

This new situation thus gives us the opportunity to propose that gravity actually is related to the *flow of spacetime* through the center of all black holes. The universe as we perceive it is subject to these effects, because our universe is a black hole seen from inside.

Contained within each nucleus of every atom in 'any' universe—including our own bodies, the individual and separated black holes can be regarded as part of the same 'universal' black hole. Similarly, stars are representatives of the same 'universal white hole', their individuality just being the result of wavelike disturbances in the overall spacetime structure. Adding to the description above, separation is an illusion similar to that of the reflected Sun on a wavy water surface, as it becomes an almost infinite amount of representations of its own united image.

As we have been an intimate part of the spacetime flow from the very beginning (if there was) of existence, our future can only be in its direction. The turbulence that interferes and breaks the stream and the free flow (free fall) are the loops of energy we consist of as an effect of the higher dimensional vibrating strings.

It seems obvious that we need to reformulate the theory of relativity. The idea that nothing can travel faster than light is a merely 'geometric truth'. As formulated, its consequence is that anything travelling at the speed of light (as measured relative to an inertial observer) will see spacetime warped in a way that excludes the possibility of measuring a higher speed (with the usual references). However, this is solely a measurement problem due to the dynamic warping of the relations between time, length, and mass. In other words: the paradoxical fact (of relativity) that the speed of light will always be the same, no matter the velocity and the direction of light propagation of the emitting frame (related to another frame in rest), is a clear indication that something is missing in the description. This problem is also related to the 'uncertainty principle' of Werner Heisenberg, which can be inverted to the cosmological scale and vice versa. This 'inversion principle' ties the innermost and the outermost of the universe together. It is the subjective imaginary point where the Möbius strip[3] connects to its other side, if you like—and obviously, it is an illusion construed within the limits of our minds.

Still there is nothing in *principle* that prohibits us from accelerating as long as we please. From the viewpoint of an accelerating spaceship the warping of space is so enormous, that the linear direction one started out with gets

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[1] http://en.wikipedia.org/wiki/Coriolis_force
[2] http://en.wikipedia.org/wiki/LeSage_(gravity)
[3] http://en.wikipedia.org/wiki/Möbius_strip

unrecognizably curled, and the result is that the direction one started up with loses its referential meaning. The situation will be that, relative to the rest frame (the starting point), the spaceship is somehow 'everywhere'—while the crew charts a completely 'new' surrounding but still face a similarly looking space.

From the practical point this extreme type of space-travel is only possible for photons that have no rest mass, and thus need no force of acceleration (other than the force of disturbance on the electromagnetic field). We may then accept that photons are everywhere 'instantaneously'. This is the realm of 'timeless space', and it is the 'fuzzy' realm partly described by the uncertainty principle as not measurable. Still we need to remember that we are talking about a 'horizon' defined by the relativistic position of quantized consciousness; the individual observer.

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(Continued…)

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