Gravities, Black Holes, and Big Bangs

by Clark M. Thomas

TWENTY MAJOR TOPICS AND IDEAS HEREIN

1. Push/shadow gravity vs. GR gravity.
2. Failure of old-school push gravity, and then of GR gravity.
3. Einstein becomes the modern Claudius Ptolemy.
4. Quantum gravity field theories.
5. Unified theory above and below Planck Limit.
6. Gravity and black holes.
7. Clarified e=mc^2 formula.
8. Yin/Yang (YY) particles.
9. How gravitons work without ethers and branes.
10. Why there are no gravity wells with worm holes.
11. Composition of multiverse push particle flows.
12. Newton and Coulomb in all dimensions.
13. Stable black holes vs. unstable black holes.
14. When singularities exist, if ever.
15. Black hole event horizon “virtual mass.”
16. Why Higgs bosons were and are irrelevant.
17. Beyond the Standard Model in sub-Plank dimensions.
18. Two steps below quarks in pre-Big-Bang black holes:
19. Step one YY particle compression into unstable black holes.
20. What happens to YY particles in step two compression.

HOW MACRO GRAVITY REALLY WORKS

There has been some confusion as to how post-LeSage push/shadow gravity differs from GR membrane/brane "gravity" sheets. Of course, they are fundamentally different concepts. It's just that the mathematics of GR do an apparently good job of partially tracking the effects of push/shadow gravity on macro scales.[1] Thus the confusion.

GR gravity as a unified theory has been thoroughly discredited ON ITS OWN TERMS.[2] It is time to consider an alternative model of gravity. Consider that Isaac Newton was for a while intrigued by push gravity as first presented by his friend, Nicholas Fatio, three years after *Principia* was published. However, Fatio did not fully and properly develop his idea – and later Georges-Louis Le Sage's theory of push/shadow gravity got pushed aside when in the late 19th century it was shown that Le Sage's model of hyperluminal "ultra-mundane corpuscles" was kinetically flawed. Repudiation of early concepts of push/shadow gravity left a theoretical vacuum for the fertile vision of Einstein[3] to fill – and thus Albert Einstein in 1915 became the modern era's Claudius Ptolemy.[4]

Newton was entranced by the alchemical idea of instant force at a distance. That idea underlies his instant gravity model. Einstein in 1905 added a fourth dimension of time to Newton's 3D model. In the modern world we now also have ideas of quantum field gravity that would approximate what Newton envisioned.

In dimensions larger than the Planck scale of 10 to the minus 35th meters classical gravity finds order. Below the Planck

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[1] http://astronomy-links.net/TestingGravities.html

[2] http://astronomy-links.net/GGvsGR.html

[3] http://astronomy-links.net/einsteinmindastronomy.htm

[4] http://www2.stetson.edu/%7Eefriedma/periodictable/html/Pm.html

scale quantum effects appear to dominate. Electromagnetic forces are present within all gravitational dimensions – even though they may express themselves as macro push/shadow gravity on larger scales, which can also be partially modeled by GR math.[5]

At the very smallest dimension, around 10 to the minus 39th or 40th meters, there are fundamental energy/matter units, the *YY particles*.[6] These can express both *primary and secondary electromagnetism*, and link together to form linear and circular strings. Such strings do NOT function as in a GR brane universe. They manifest in a classical 4D energy/matter universe, which even Einstein adhered to in his 1905 Special Relativity.

The *fundamental difference between string theory gravitons, and push/shadow gravitons*, is this: In string theory, gravitons jump from brane to brane, and their bosonic force is that of an attracting tractor beam. In push/shadow gravity, gravitons are like a floating structural assembly plant, with their looped architecture offering many potential YY docking corpuscles onto which linear YY particle strings can attach. They are local mother ships. At the same time, free floating gravitons are very much part of the multiverse flow that constitutes most of the push in push gravity.[7,8]

One of the most compelling visuals associated with GR is that of gravity wells. Visual artists and movie makers love this clever mystical idea. There are no such vortex wells associated with real gravity, and thus no worm holes between multiple branes.[9]

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[5] http://astronomy-links.net/GToE.html

[6] http://astronomy-links.net/GravitonComponents.html

[7] http://astronomy-links.net/supersymmetry.htm

[8] http://astronomy-links.net/Graviton%20mass.pdf

[9] http://astronomy-links.net/RealTOE.pdf

Push/shadow gravity is the product of omnidirectional multiverse flows of individual and stringed YY particles, gravitons, and some other very tiny elements. These push flows are essentially equal from all directions (which constitutes the best indirect proof of the multiverse, and our place deep inside it)[10]. For that reason it wrongly seems that "empty" space has zero gravity. Yes, but only zero net gravity, as strong flows from opposite directions zero out each other.[11]

Where massive bodies partially block or divert the flow of elemental particles from one direction, there incorrectly appears to be an attraction (tractor-trailer effect), as the now-stronger NET forces from the opposite direction push the partially shielded objects together. Even a small mass object partially shields a much larger object, which explains Newton's odd idea that people standing on Earth are attracting Earth as much as Earth attracts them.

Le Sage envisioned these pushing corpuscular steams as being hyperluminal. Henri Poincare in the late 19th century properly pointed out that such a stream of solid particles would explode the Earth in seconds. Let us modify Le Sage's fatal error to constitute a mix of variably shaped corpuscles, none traveling faster than the speed of light in a vacuum, with a substantial portion of said objects traveling at much slower, sub-luminal speeds.

Many of these impacts are glancing, or from "soft" objects such as strings, linear and circular. Also, some of each impact energy transfers to the impactors, and some of the glancing impactors join the gravity field of nearby dark matter clouds. A mixed-speed stream helps explain the Allais gravitational effect, as well as the phenomenon of gravitational lenses.

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[10] http://astronomy-links.net/Universe.universes.pdf

[11] http://astronomy-links.net/RealTOE.pdf

GRAVITY AND BLACK HOLES

It is well known that atoms are nearly all space in their volume. A hydrogen atom magnified to the size of a football stadium would have a proton nucleus (where most of the mass is located) the size of a marble.

Far more dramatic is the size difference between YY particles and their strings vs. the size of one hydrogen atom. If we were to enlarge just that one hydrogen atom to the size of our visible universe, an individual YY particle within that atom would be about the size of a marble in our hand; and its strings would be about the length of a tree. This is a dimensional relationship that only an expanded mind can embrace.[12] Yes, even where space is "not space," it still is mostly space.

Real space allows for a myriad of sub-Planck particles to fly along their individual linear paths, and from great distances. Newtonian laws of motion explain how they move over distance and time. None of these particles launches any faster than lone YY particles do – or a string of YY particles making a photon – when they escape (accelerate from) their graviton dock, which is all that the inertial speed limit of "c" really measures.

For that reason, e=mc^2 is properly written as e=mc^2/t. The "t" is the time (given the value of 1 for photons) it takes for an at-rest photon to accelerate to "c" within a frame. Other known particles reach a lower terminal speed, which reflects their greater inertial mass. Acceleration of mass is an inertial measure, and it explains why energy and matter are related, as expressed by Newton's famous F=ma.[13]

On a macroscopic scale the end core of very massive stars going supernova can produce a stellar black hole. There are at

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[12] http://astronomy-links.net/SeeingUnseeable.html

[13] http://astronomy-links.net/timearrow.html

the center of most galaxies supermassive black holes with the mass of millions of stars. Either type mass lurks at the gravitational center of the black hole's event horizon. A stable central mass has been thought of as having no dimension other than that of a point (a singularity), which is an error. It is very small for stellar mass black holes, smaller than neutron stars which almost collapse into black holes. Approaching a true singularity only happens for an infinitesimal time when new big bang explosions occur.

Black holes as we know them do not become big bangs. They don't have enough mass and density, even known supermassive cores with several billion solar masses. Quantum push-back from the remaining order within the central mass ensures stability and prevents collapse. However, accumulating sufficient energy/matter could eventually produce a black hole mass that will instantaneously collapse and approach the zero dimension – which would release incredible energy as another big bang.

I will explain when and how a universe-creating explosion occurs in the next section herein.

General Relativity theory has a cute way of describing massive dimples in hypothesized branes. We have seen artistic illustrations of tornado-looking funnels that lead down to the occult black object. That's where dwells the romantic idea of worm holes leading toward adjacent universes beyond the black "singularity." This sloping tube is the nether highway where orderly mathematics slips into science fiction and science fantasy. Welcome to the modern version of Claudius Ptolemy's universe.

Black holes influence gravity not with wormy gravity tubes between branes. It is with push/pull gravity, as with other massive objects, and with something new to this discussion:

Both Newton's law of gravity and Coulomb's electromagnetic law work with the inverse square of distance in the same way.[14] This law is not by accident. Gravity is an elegant expression of the relationship of matter and energy. So too is electricity. Neither operates in a pure vacuum, and neither is an ether. Both are related to *YY particles, which are Yin/Yang entities* that display both energy and mass in various ways.

Both matter/energy expressions can be described as kinetic energy associated with a moving mass in a field. Or they can be electrical energy associated with much smaller YY particles in combination, employing both primary and secondary electromagnetism.

In a universe devoid of imaginary ethers and membranes we start with Newton. Add in early Einstein, and you have enough math to describe what appears to be local gravity. Add in the push theorists, starting with Newton's friend Nicholas Fatio, and you have most of what is needed to properly describe gravity. I have added the final elements for a complete picture.

Just as the Earth partially shields us from flows coming from the direction of its mass, much more massive objects, such as neutron stars, would do the same. It is hard to imagine just how strong are those streams of YY particles, gravitons and other very tiny particles that mostly flow unnoticed through us, because we only experience the net effect, not the gross effects from all directions.

Consider a fish swimming at the bottom of the ocean. The fish is squeezed with massive compressive forces from water molecules, but it has an equally massive internal expansive force pushing back. The net effect, for the fish, is to float in what seems like a pressure-free element.

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[14] http://www.scienceiscool.org/coulomb/CoulombsLawApplicationToChemistry.htm

A better analogy would be floating in "empty" space, where we feel free from gravity, but are only free from net differential flows. Whereas a deep sea fish has internal pressures pushing out equal to the external water pressures – an object (more void than solid) seemingly floating in open space is being penetrated equally from all directions by corpuscles vastly smaller than water molecules.

A person standing on the surface of Earth is only slightly shielded (shadowed) by the Earth's rocky mass, as nearly all push corpuscles come through. Our personal weight increases dramatically on much more massive surfaces with Earth-sized diameters, since the greater mass does a better job of blocking flows from that direction – making the NET flow from the other direction greater, pushing us more to the surface, and thereby increasing our weight (even while our mass has not changed). An example is a stellar-mass white dwarf; so "standing on its surface" would obviously be a pure thought experiment.

Increased mass by itself is not enough to increase attraction, if accompanied by a proportionately larger diameter. *The key to the gravity formula is usually the distance between two centers of mass.* If, for example, we could stand on the gassy "surface" of giant Saturn, we would weigh almost what we weigh standing on rocky Earth. Greater diameter in this example offsets greater mass; in Saturn's case yielding Earth-like weight. Here is another thought experiment.

Even a neutron star shrunken to the diameter of Brooklyn in NYC does not stop all multiverse particles from its direction. It does not produce an event horizon beyond its surface, and the net force opposing escape velocities for photons is only 1/3 to 1/2 of what we would see inside an event horizon.

Consider the very small and very massive core at the center of a black hole: The "black hole" is the size of the event horizon

surrounding the core mass, not the size of the central mass.[15] For purposes of push gravity, *the sphere of darkness surrounding a super mass is a VIRTUAL MASS. It reflects the power of an event horizon to either block or deflect incoming multiverse particle flows: blocking inside, and diverting outside the boundary.*

More so than even neutron stars, *the entire mass and virtual mass black hole functions as a TOTAL BLOCK of multiverse corpuscular streams from that direction* – and thus we observe the orbiting phenomena outside and surrounding black holes that GR mistakenly celebrates.

Deflection occurs across a wide range of masses. We see this effect with so-called gravity lenses on a large range of scales. It also is seen with the *Allais effect*[16] associated with total solar eclipses on Earth. Again, the multiversal corpuscular flow is not monolithic. It contains some particles at light speed that directly shoot through a Sun or Moon, but can also be deflected; and some that are bent by the calculus of differential net gravity as these tiny objects pass at different distances near a large mass. All of these corpuscles can participate in diversion, be it around an event horizon, or around a cluster of galaxies and associated dark matter.

BLACK HOLES and BIG BANGS

Just what separates a stable supermassive black hole from a supermassive black hole that eventually "goes critical" and converts its potential energy into kinetic energy?

The ratio of all black holes, and even just the supermassive black holes, to eventual big-bang-producing black holes is very large. It is uncommon for a bubble sub-universe to be born

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[15] http://en.wikipedia.org/wiki/Schwarzschild_metric

[16] http://astronomy-links.net/Allais.html

within an adjacent multiverse. *Even when one singularity does convert to pure energy, its expanding bubble encounters many pre-existing stable black holes and dark matter structures within its blast radius.*

These more ancient black holes, and pre-existing clouds of dark matter, are all that are needed to help catalyze the new waves of Yang kinetic energy into Yin/Yang wave-particles of matter/energy.[17] *No fancy Higgs bosons are needed to kick off this process. (From where and what causal chain did the primordial Higgs bosonic waves get their initial mass?)*

The standard model of particle physics can help describe how a big bang starts, but not fully. Likewise, the Penrose-Hawking[18] initial idea of math leading to a singularity is facile and incomplete. General Relativity does not characterize sub-Planck dimensions, and we are left with non-GR quantum effects. The model of YY particles can help us make the leap to what actually happens in that shortest of moments. It is possible to think of YY particles as quantum units, but not exactly.

The closest thing to a black hole, but not yet one, is thought to be a large neutron star. Sometimes supernovae collapse into neutron stars (including variants such as pulsars and magnetars), and sometimes into stellar black holes. Black holes can accrete mass in multiple ways, including merger with other black holes.

We could think there is a linear progression from increased mass accumulation inside the growing diameter of an event horizon, to another big-bang moment. Reality is more complex: a change in quantity must yield a change in quality, which is dialectical change, within each black hole system.

When neutron stars form, the central mass (that would otherwise be a white dwarf) loses its electrons and protons as

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[17] http://astronomy-links.net/BlackDark.html

[18] http://astronomy-links.net/hawkingerrors.html

they further compress and merge, and are electrically neutralized. The net result is a *neutron star of compressed neutrons*.

Even neutrons have quarks, which are often thought of as the quanta. *Further compression of neutrons can yield the dialectical separation and compression of quarks. This is the genesis of a black hole. Greater compressive force shrinks the diameter of the neutron star's central mass, increasing adjacent electromagnetic gravity (following the inverse square law) to the point where there is a spherical VIRTUAL SURFACE above the apparent surface of the central mass. That virtual surface is the gravity event horizon. There does not need to be an increase in mass, just a decrease in the diameter of the mass for the collapse of a neutron star into a black hole.*

There is a formula describing the diameter of any black hole's event horizon, and it is directly related to its mass. Once the black hole forms, it is a simple matter for more mass to accumulate in any opportunistic way to increase the diameter of its virtual-mass black hole. Again, no big bang yet.

For a big bang to occur, <u>two more collapses need to take place</u>:

It <u>first starts</u> with the breaking apart of quarks and other quanta into their YY components. Below YY component mass there is only energy. So, *the key to starting any big bang is converting an otherwise stable black hole central quark mass into a highly unstable mass ready for explosion*.

Inasmuch as YY particles are always adhering to each other, and separating from their graviton assembly points, *there needs to be more than a linear accumulation of mass*. It could happen this way, and may in fact be, as big bang explosions are very few and far between. At the level of density we are discussing now, there is no separation from a graviton, and in fact *the gravitons*

are themselves crushed as the entire mass cascades into a central density of spherical YY particles.

The particles will convert to pure energy at the final collapse, and that energy instantly transfers to outer regions of the central core, and beyond:

<u>The final collapse</u>: The moment of conversion from energy/ mass into what appears to be pure energy occurs as follows...

YY particles are by their nature spherical. Spheres by their nature are the perfect form both for the smallest and largest objects and systems. Very small objects follow that design not so much from push gravity as from primary electromagnetism. Objects the size of Ceres and larger tend to form spheres from push gravity.

YY particles express on their scale both primary and secondary electromagnetism. Within each spherical particle there is no pole of north and south. It is only when they line up to form a string that secondary magnetic flows occur.

When strings (linear and circular) are broken by increased pressure, spherical YY particles stack up in a solid mass, much as do the quarks in ordinary black holes. If the YY particles were to line up on their own, there would be a grid with spaces among the spheres.

As gravity/electromagnetic pressure increases, the deformable, <u>spherical</u> YY particles are compressed into <u>cubic</u> YY particles, and the space among all these particles vanishes. The key to this change is the decreased radial distance between and among adjacent centers of the YY particles in this solid core. That seemingly minor decrease in distance can be enough to dialectically ignite the burst of kinetic energy.

Another factor that adds to the pressure to flip is the changing flow of energy within each compressed YY particle. This

change occurs when spheres are squeezed into cubes. In a sphere circular flows are smooth. When these flows are forced to confront the right angles of a cube they are stirred. Agitated flow yields an increase in heat energy, which helps propel the final flip into dominant Yang.

Bottom line: Stable black holes have stable quark masses. In contrast, rare black holes in the process of rapid transition from stability to explosion experience (1) the breakdown of quarks into spherical YY particles; and (2) the compression of spherical YY particles into cubic form, further increasing electromagnetic gravity compression. That's when the energy flip occurs.

The Yin of mass temporarily vanishes, and the Yang of kinetic energy temporarily takes over. Only later in the evolution of the next/new universe will Yin and Yang reunite as new YY particles – thanks to dark matter remnants of previous universes encountered in the blast radius space.

The violent birth of any new universe is worthy of the word awesome. The critical dialectic starts out far too small for experimental measurement or replication in any university lab; or in any super-duper LHC.[19] Great telescopes can see gross events back in time, but only to millions of years after the event.

A universe's birth is more elegant than any mathematical flavor currently in favor. Understanding its birth only yields to beautiful scientific logic, where the idea of Yin/Yang, mass/energy particles unifies all. Embracing this process helps us humans fully appreciate astronomy less as mystery, and more as beauty.[20] There is now a coherent and complete theory of everything.

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[19] http://astronomy-links.net/RealGodParticle.html

[20] http://astronomy-links.net/Adventures.pdf