Extended, and Expanded Definitions - 2006 revision
of terms used in the Comedy-Recycling (C-R) Theory

I have added hyperlinks from areas within the C-R theory, to take the reader to the extended definitions area for a more thorough discussion of a C-R theory idea.
Author's note: These extended definitions are intended for use by those readers who do not have the patience to read through the entire theory, those who have forgotten what they read, and those skimming through the theory. I left most of the jokes, puns, and word-misuses out of this section. These definitions will also be suitable for use with the Completely Recycling theory, an international friendly, joke free, contraction free version derived from the Comedy Recycling theory, intended to follow shortly.

I have tried to include enough information in each definition to explain many of the complete C-R theory ideas as a stand-alone section. I also attempted first to acknowledge the conventional theories/ prevailing attitudes then present the improved and simplified C-R theory version of ideas. I tried to show why these ideas are superior to, and more natural than the concepts from conventional theories (or the competition).

Many of the definitions have been revised for 2006 to incorporate my new thinking. In some cases, I have revised my understanding of some of the key C-R theory concepts from my original starting viewpoint in 1979. Primarily, I now believe the big bang did not occur, in part because the C-R theory would never allow the universe to have collapsed in the first place. In 1979, my thinking was that the C-R theory DID provide a very natural explanation as to the CAUSE of the big bang. A simple extension of the same phenomenon increasing in scale from a nova, supernova, (a hypernova), Seyfert galaxy, (an active galaxy), a quasar, and the gamma ray burst (GRB) would all have been lesser versions of the original big bang.

I now believe that these "lesser" phenomenon, which ARE observed on a regular, recurring basis, ARE THE CAUSE of the observed 2.7K radiation, and they are continually replenishing and adding to the background radiation. This means that 15 billion years ago, now (today), and 15 billion years in the future, the background 2.7K would have measured the same!! One other difference would be, as measured from a quasar with a 95% red-shift, the background radiation there would measure 20 times hotter, or approximately 54K. (The quasar would exist in a time-frame 20 times slower than here on earth.)

A:

(Time) Active Zone C-R: [Add a diagram, or a link to one]

The C-R theory's description of the Active Zone C-R is perhaps the easiest of all, since all non-Black-Hole C-R areas of the universe qualify as an Active Zone C-R. There are also two types of Active Zones C-R, inner [enclosed inside the Black-Hole C-R] and outer [everything outside the Black-Hole C-R]. The definition of the type of an Active Zone C-R would apply whether the Active Zone C-R was located within the inside, time active, central region of a Black-Hole C-R, or whether the Active Zone C-R included the entire time-active universe outside of any Black-Hole C-R.

The qualifications to be a (Time) Active Zone C-R merely require that matter (and energy) be able to detect the passing of time, and interact in real time.

Case 1, the inner Active Zone C-R:

For an Active Zone C-R located inside of a Black-Hole C-R, regardless of the size of the Black-Hole C-R, certain events must be recognizable:
First: The density of the inner Active Zone C-R located directly inside the Black-Hole C-R will be exactly sufficient to fully close-up, or warp spacetime. The escape velocity will always be below the speed of light. At the start of the inner IB3 Schwarzschild radius the escape velocity will satisfy the condition of exactly equaling the speed of light. (This IB3 Schwarzschild radius will be located entirely inside of a Black-Hole C-R, as per our initial conditions.) At the center of the Active Zone C-R, the net curvature from all the mass of the Black-Hole C-R is zero.[1]
There is ALWAYS this imposed reference frame, between total-complete curvature at the inside IB3 Schwarzschild radius, to zero curvature at the center. Everything in between will be roughly linear on a chart of curvature, also depending on the distribution of matter.
For very small Black-Holes C-R, the inner Active Zone C-R could be solid matter, possibly even pure neutrons. Somewhat larger Black-Holes C-R could have an Active Zone C-R composed of a liquid or gas, or a mix of both.
For the largest possible Active Zone C-R, our universe, the majority of the inner Active Zone C-R could be a vacuum, with occasional solid, liquid and gas.

Second: The total sum of the net curvature at the outermost boundary (which is the INNER IB3 Schwarzschild radius) from the entire contents of the Active Zone C-R (mass/density/volume) will be EXACTLY critical. Consider any matter which exists inside this boundary of the radius. The matter located closer to the outer boundary at the edge of the inner Schwarzschild radius will exist in a more intense, more warped gravitational curvature. Matter there will appear to be more time slowed-down, or red-shifted than the contents residing closer to the center. Because of the more intense curvature, the events in this outer region would actually be occurring at a slowed down pace, when viewed by an observer at a location closer to the center. Therefore, any objects nearer to the outer edge would not also appear to be younger, they physically would be younger. (i.e., aging at a much slower overall rate)[2]

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[1] The total curvature may still be above zero at the exact center, due to contributions added from matter existing outside the Black-Hole C-R. This would be especially true for where inside the outside "mega" universe our Black-Hole C-R universe was located. HINT: To visualize this, imagine the centers of smaller Black-Holes C-R located at various distances from the center of our universe.

[2] New for 2006. If the universe has continually existed, vs. beginning at a big bang, the age factor becomes less significant. If all matter and energy has existed forever, the relative "youth" of objects existing in slower-time, or highly red-shifted becomes much less of a factor in the overall appearance. In addition, it allows these objects to have a much more enriched spectrum with heavy elements than could possibly be expected if one considered their age by reasoning from a big bang start. This also allows all distant objects like galaxies to have a much more "evolved" structure than would be expected from objects less than a billion years from their creation out of a singularity.
I was NOT thinking along those lines when I originally wrote this section. Because most of my readers will be in a similar frame of mind considering the big bang, I have left the original section in with some new additions.

Third: This gravitationally induced red-shifting would occur even if none of the objects in this zone were moving with respect to an observer located somewhere further inside the Active Zone $^{C-R}$. This would be the case since, nearer to the center, the gravitational curvature would be less, and the region would be comparatively more real-time active.

Fourth: The objects which would exist in this more intensely curved, outer portion of the Active Zone $^{C-R}$ would already be at a lower potential energy level than the objects in the less intensely curved central regions. Therefore, the gravitational "attraction" originating from the central region by conventional theories would not be able to pull the clumps of mass back into the center, since the center would represent a higher energy environment.

Fifth: If there was any matter located outside of this inner Active Zone $^{C-R}$, in any size Neutral Zone $^{C-R}$, or in an even larger Active Zone $^{C-R}$ located outside of the outer IB^3 Schwarzschild radius; this matter would be forever undetectable from the inner Active Zone $^{C-R}$, as long as one or both of the IB^3 Schwarzschild radii exists.[1]

Sixth: NOTE: These hypothetical, C-R derived conditions described are startlingly close to the actual conditions observed in our universe today. Therefore, one might surmise that our universe represents both a practical, and likely, our only laboratory study model of an C-R type Active Zone $^{C-R}$.

Seventh: If the agreement between these hypothetical conditions and real observations of the universe do favor the C-R theory, and our universe is indeed an inner Active Zone located inside of an even larger Black-Hole^{C-R}, the rest of the events described by the C-R theory take on a greater probability, if not a near certainty.

There is nothing in the C-R theory which would prevent smaller Black-Holes $^{C-R}$ from existing inside even larger Black-Holes $^{C-R}$, possibly within even greater Black-Holes $^{C-R}$.

Actually, if both of the IB^3 Schwarzschild radii, inner and outer, were done away with, i.e., after a nova, supernova, ..., there would be no prohibition from people who had been inside communicating with people who had been outside. Once (and only if) the entire contents of a Neutral Zone $^{C-R}$ of a Black-Hole $^{C-R}$ are freed, a condition is possible to again permit communication between regions which had been time-insulated. The events in each region would be unknowable to the other region only while the Black-Hole $^{C-R}$ and it's Schwarzschild radii were in existence.

Even more unlikely as a scenario, if the total internal distribution of matter either inside of the Schwarzschild radius could be concentrated and shaped together (modulated) over time, the mass near the Schwarzschild radius could be bunched and then unbunched deliberately over time in order to change the outside curvature to communicate some intelligence.

It would probably be necessary to pre-arrange coordination of the meaning of the change in modulation before the Black-Hole $^{C-R}$ formed. Otherwise, communicating by varying the modulation would not imply that decoding or deciphering the intended meaning be possible. There would be no mutually sure way, short of pre-planning the Black-Hole $^{C-R}$ transcending modulation, to communicate what the each of the signals might mean. (But, theoretically, this VERY SLOW form of communication would be possible.)

Additionally, there is nothing in the C-R theory whatsoever to prevent many Black-Holes [C-R] from mutually residing within the same inner Active Zone [C-R] of any singular Black-Hole [C-R] without consuming each other.
The concept of the Active Zone [C-R] is fully capable of supporting multiple internal Black-Holes [C-R], while still retaining it's overall features as an Active-Zone [C-R] throughout all non Black-Hole [C-R] areas.
Note: An additional note, since matter in a Black-Hole [C-R] is ALREADY at its minimum energy, one Black-Hole [C-R] should not attract another. This should allow MANY lesser Black-Holes [C-R] to co-exist within very small regions of space.

Case 2, the outer Active Zone [C-R]:

Next, let us consider the case of an Active Zone [C-R] located totally outside the (external) IB^3 Schwarzschild radius of a Black-Hole [C-R]. The only major difference from the inside scenario would be that, as one increased distance out and away from the gravitational curvature at the IB3 Schwarzschild radius of the Black-Hole [C-R], real time would occur (or flow, be measured at, or exist) at a greater (more active, real time) rate.

From the outer Active Zone [C-R], we would have to submit to the practical realization that the events occurring within the Black-Hole's [C-R] IB^3 Schwarzschild radius are forever unknown and unknowable to us. We could determine the Black-Hole's [C-R] mass, and possibly it's average density. We could detect it's momentum. We would detect it's gravitational time-warping capability.

The outer Active Zone [C-R] would represent the time-active, real-world, everyday universe with which we were familiar. All known physical laws would be applicable in the Active Zone [C-R].

Age of the Universe:

The present estimates of the age of the universe, and also the size of the universe hinge on several assumptions.

The first assumption is that the redshifting of the light from distant objects is a direct measurement of their speed of recession.

The next assumption is that the universe is expanding in proportion to the calculated velocities determined from the measured red shift information. The next assumption is that events in the universe occur identically, at the same time-rate, in the same manner that the interactions would occur on earth[1].

The next assumption is that, if all calculated motions were reversed over the calculated distances, this will yield the time calculated from the moment of the beginning of the universe to the present.

From these assumptions, current theories assert that our universe began approximately 13-20 billion years ago.

Unfortunately for those theories, the C-R theory has a perfectly disruptive monkey

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[1] In other words, the theory of relativity says that space is isotropic, or IDENTICAL in all directions. The only problem is that we can see objects which are red-shifted and objects which are blueshifted as compared to earth.

wrench to throw in to each of the four assumptions.

As for the first assumption, the C-R theory categorically predicts that gravitational redshift will produce at least some amount of the detected redshift, and quite probably, 100% of the total. Therefore, the calculated velocity of recession is likely to be in serious error.

For the next assumption, the expanding universe, the expansion idea was based on the assumed recessional velocity. If that is in error, then the figures for the amount of expansion occurring, and the time-to-distance correlation for expansion may also be seriously flawed. By varying the starting-condition fudge-factors, the C-R theory can accommodate almost any amount of expansion. If the universe was falling in upon itself, C-R could explain it away. If the universe was mostly static, or steady state, C-R could accept that, too. If the universe was expanding some, a little or a lot, C-R could accommodate any of those assumptions. In addition, the fudge factors would allow C-R to comment upon measurements of the universe as it appears today. C-R would only face a challenge to adjust the fudge factors to account for a change in appearance over time. Either the position of the stars, relative to the background, or a change in the amount of redshift, either positive or negative could be accommodated. Additionally, C-R could accommodate a change in brightness or decrease in brightness from far-away objects with relative ease.

The third assumption, that all events occur in the same time-frame, with exactly the same measurable results as on the earth would also be challenged. If the gravitational redshift and time slowdown do exist, then events at the outer edges of our universe would occur at only 10% of our real time rate in a region with a 90% red shift as observed here on earth. Since this affects the overall brightness/energy-output/distance calculations, the distances derived from the data may again be seriously overestimated. If the real time-frames are different, then all data viewed from “far away” would need to be time-base-corrected before they could be compared, one for one, to events occurring near the earth.

As a supplement, one additional consideration for distance calculations. The original distance to brightness correlations upon which the size of the universe was measured, was based on the relationship between the variable dimming period, and the absolute brightness (luminance) in a special class of stars called Cepheid-variables.

The relative brightness of Cepheid-variable stars was compared, and assumed to be identical for stars with the same periodicity. If that was the case, then distance alone would account for the difference in the apparent relative brightness (magnitude).

However, if the actual time-bases of the Cepheid-variable stars observed were unequal, then the relationship between the periodicity, and the brightness measured, the magnitude (output) will be doubly in error. The periodicity will be slowed down, as objects further out towards the outer edge of the universe should exist in a slower timeframe, and the brightness emitted (light-output) from that periodicity will also be lower than expected. In that case, the distance to the stars would be overestimated.

New for 2006: The C-R theory now says, best guess to the universe’s age would be infinite. However, the universe is not totally static, but dynamic. Some of the contents of this universe do continually recycle. The 2.7K background radiation is NOT the doppler shifted remnant from an initial big bang, but instead represents averaged radiation from gamma ray bursts, quasars, supernova and nova, going on continually. It

is similar to the roar from a nearby waterfall. See sections __ and __ for more complete technical explanations.

B:

Big Bang:

At the present time, the big bang is the "heavyweight champion" theory of the universe. Most scientists accept it as the scientific explanation most likely to be true. Most scientists believe that this explanation has currently knocked out all of the serious contenders. They would believe that, while needing some points of clarification, the big bang theory most closely fits all of the experimental data.

The big bang theory predicts that the universe started off some 13-20 billion years ago, from either absolutely nothing, or an assumed singularity.

If the universe started off from absolutely nothing, then everything we now find in the universe was due to some properties of space and time abhorring a vacuum. Some have speculated that the "empty" quantum flux vacuum (nothingness) had so much potential energy that, after the beginning, an expansion occurred, during which, all matter and energy existing nowadays popped-up.

If, on the other hand, the universe was created from a singularity, here is one scenario. A singularity (from somewhere?) existed. This singularity consisted of a gravitationally collapsed point of some amount of matter-energy. At some instant in time, out (or up) from that location, an event called the big bang started. As a consequence of that event, from the initial starting conditions, everything arose which we find in the universe today.

The big bang theory essentially was derived by taking the present universe, with all that we observe, and time-reversing all events seen today. Since the universe gives the impression that it is expanding, the time reversed universe should be collapsing. Without some good scientific reason to believe otherwise, as we imagine that the time and the age of our universe are reversed; the matter and energy of our universe are assumed to have come together at one nearly-infinitely dense physical point at one instant in time, and for one event.

The C-R theory detects at least one key problem with this scenario: it incorporates too much wishful thinking. Reversing the events, up to a limit, is fine[1]. Once that limit is exceeded, the starting conditions and the reasons for the start-up become obscured in the standard big bang model.

The increasing red-shift in objects which appear to be further away is one of the first phenomenon encountered which appears to support the big bang theory. For this reason, most scientists unquestionably believe that the universe today appears to be expanding. A potential problem exists. The C-R theory maintains the standard gravitational

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[1]This represented my original thinking when I started the C-R theory. Starting in 2006, I now doubt that the universe could have collapsed at all. Thus, this limited collapse assumed by reversing "the observed expansion" only works if the expansion is a VALID point. If our universe is STATIC, and time-slowed-down, there is no expansion to reverse in time. Also, matter at the outer edges of the universe is ALREADY at a lower energy level than matter closer in towards the center. YOU would have to ADD energy to matter there to allow it to "collapse" inward.

time-warping could also slow down time. This would also give the farthest components near the outer edge of the universe the reddest appearance.

After George Gamow first proposed a theory of an exploding, expanding universe, he predicted that the remnant from this first, energetic spectrum might still be detected echoing around. This spectrum from the echo of the initial "bang" should be highly red-shifted.

Unknown to theoreticians at that time, two workers from Bell labs, Arno and Penzias had already measured a mysterious microwave radiation equivalent to "blackbody" radiation at 2.7K coming uniformly from every direction in the sky. This was lower than the predicted 10-15K microwave radiation the astronomical teams were searching for.

The uniform nature of the background radiation in every direction suggested the spectrum originated from the outer reaches of the universe and the very beginning of time. Once the predicted redshifted energy was indeed discovered, it was (almost) unquestionably accepted that the expansion of the universe was true.

The C-R theory originally agreed that any expansion could account for some of the observed red-shift[1]. Another possible explanation, ignored by conventional theories, is that the universe is not (rapidly) expanding, but gravitationally time-slowed. The trouble is - the gravitational redshift could easily produce exactly the same observed effect, over a short period of time.

Both any ongoing expansion, and the normal, time-slowdown in a more intense, (more bent, more warped) gravitational curvature could, in fact, be contributing to the overall appearance of the redshift in the universe. This leaves a dilemma. Is there any way in which we can conclusively say: By how much is the universe expanding and/or to what extent is the timeframe slowed-down?

The C-R theory says no, there is no immediate way to easily tell if the universe is only expanding, and by how much[2]? Unfortunately, over the comparatively short measuring period of a few years or decades, the changes which would differentiate between the relative contributions from two causes might not show up, and if they did, the differences might be so subtle as to be masked entirely.

While the C-R theory does not absolutely forbid that the universe is rapidly expanding, its author suspects (and predicts) that almost all of the red-shift seen in the universe will be found to occur because of the gravitational red-shifting.

The conventional basis for the determination of the age of the universe has been thoroughly pummeled by the C-R theory's knockdown of at least four of the basic assumptions. Lesser assumptions were that the entire expansion has been somewhat linear from the beginning of time, and that the far-away objects measured were producing energy at nearly the same rate as similar objects in our part of our galaxy.

Since the speed of recession (or expansion) has been called into question, now C-R

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[1] I now have my doubts about any expansion occurring in this universe. This represents a change from my original thinking, newly posted in 2006. See the Extended Definitions section about Expanding Expansion for a more complete account.

[2] There is, however, a better way to determine if the universe is expanding, or if the red-shift is gravitational in nature. If only increasing red shifts are observed, the red shift is likely a Doppler shift. If BOTH redshifts and blue-shifts are observed, with the blue-shifts in one direction, THAT IS nature's way of announcing that ALMOST ALL (if not ALL) of the shifts are caused by gravitational curvature.

will throw in the additional monkey-wrench of the time slowdown. If some of the far away, red-shifted objects observed are indeed slowed down to only 10% of our real-time rate, (which we experience here, in this part of our galaxy), then the brightness and distance estimates which have been painstakingly worked out over the years are questionable, too.

The present big bang theories would predict: if the universe was still increasing in size; as the universe expanded, the outer velocities would increase with the size of the universe over time. This would be due to the Hubble constant, which demands that the farthest out galaxies expand at the fastest rate. On the other hand, if our universe is neatly closed-up, the velocities would probably be ZERO. This contrasts to the standard gravitational theory belief that the universe should be slowed in it's expansion by the imminent inward pull of gravitation.

Newer thinking, C-R theory, 2006 version.

If the matter at the outer edge portion of the universe was stationary, then the entire amount of the observed red-shift would be due to the gravitational time slowdown. Objects composing the outer matter of the universe should be relatively steady in their redshift values over time, and the rate of redshift would not change[1].

An additional consideration is: if some of the matter at the edge of the universe approaches a more intensely curved space-time, it would acquire a greater amount of red-shifting over time. This could occur if some of the matter had some outward velocity, and drifted into more intensely time-slowed down space. Ironically, since the curvature is greater THERE, objects should FALL (or be attracted by gravity) towards there.

Since the gravitational timeshift (or slowdown) would be the most intense in this outer region, one would expect objects there to be very much dimmer, and ageing much slower than would be predicted by conventional theories. Conventional theories say that the reason these objects appear to be so young is that it has taken light so long to traverse the enormous distances. We supposedly are observing objects as they existed billions of years ago, and which are likely to have long-ago either vanished or evolved into more normal, mainstream stars and galaxies.

The C-R theory says, the main reason these highly red-shifted objects (for a 90% red-shift) appear to be dim is because they ARE time-slowed down. When they produced their light which we view today, these objects were only emitting energy at 10% of the same rate as here on earth.

If gravitational time slowdown is the main cause of the observed red-shift, then the size of the universe may have been seriously overestimated. The age of the universe might have been seriously underestimated.

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[1]Some individual objects may move or age over time, but the collective-overall observed red-shifts should be the same in 1.5 billion years (10% of the conventional theory's current guess for the universe's age) as viewed now. Just take two pictures about 1.5 billion years apart, and place them side by side.

Black holes (non C-R):

This is a paraphrased definition of a conventional, non C-R theory obeying black hole, extracted and condensed down from present theories. Most of these theories predict that the force of gravity will become so intense from the immense accumulation of intensely concentrated mass, that matter will no longer be able to resist total collapse. The entire mass contained within the critically curved volume of space, now termed a black hole, will collapse into an infinitely dense point, also called a singularity.

At the outside boundary or the circumference of what now has become the black hole, the gravitational escape velocity will exactly equal the speed of light. No known particles or energy can travel above this speed. (There are postulated to be particles called tachyons, which can only travel faster than the speed of light. At the present time there is no evidence that these tachyons exist.)

Present theories predict that as the radius of the mass collapses, even after the black hole (non C-R) forms, the escape velocity must continue to increase proportionally. This presents theorists with a difficult dilemma. What happens when the escape velocity exceeds the fastest possible permitted speed? (How) Can matter trapped in a black hole ever manage to see the light of day again?

In addition, the present day "conventional" theories concerning black holes proclaim that: black holes can store no electrical charge. Additionally, any rotation of the mass inside the black hole will be "leaked (or coupled)" away. (Either by tunnelling of hypothetical gravitational particles called gravitons, or by the influence of frame-dragging.

Some present-day theories about black holes allow the mass swallowed by some smaller type black holes to be "radiated" away slowly. This is accomplished by a combination of the Second Law of Thermodynamics and the quantum mechanical phenomenon called tunnelling. The process of radiating away the mass of the black hole is defined as Hawking radiation, in honor of it's theoretical discoverer, Steven Hawking.

Some theories also propose to allow the mass swallowed by the black hole to find a shortcut. This path would consist of a wormhole or tunnel through the fabric of the heavens. By traversing this route, matter could escape to reappear somewhere else, or at some other time, in some other part of this universe, or in some other universe.[1] (Take your pick of one and or all of them. See Chapter 13, also)

Black-Holes C-R (C-R theory obeying type):

(Authors Note: Throughout this paper, the C-R theory will use this double capitalized and hyphenated term for any Black-Hole C-R which obeys the Comedy-Recycling (C-R) theory. The C-R theory predicts that ALL Black-Holes C-R will obey the rules and assumptions. There are no proposed classes or exclusions to the Black-Holes C-R.)

(By the C-R theory, the only black holes than won't totally obey the C-R theory conditions are those hypothesized, theorized, or imagined by other conventional theories. The C-R theory will only mention these conventional black holes to ridicule, disprove, or refute their existence.)

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[1] Of course, this simply moves the problem of recovering the matter and energy of a black hole to somewhere or somewhen else. This approach rarely works here on earth.

Some C-R theory conditions imposed on all Black-Holes [C-R]:

The C-R theory predicts that the gravitational field-strength outside of the newly-formed Black-Hole [C-R], measured immediately after the gravitational collapse must be totally unchanged from the gravitational-field strength of the same mass, before the collapse.

The C-R theory predicts that the mass inside a Black-Hole [C-R] cannot collapse into a singularity. This is due to the nature of gravity, which C-R predicts is an effect, not a force. The effect of gravity is literally caused by the squeezing of real-time activity from any mass.

Here is why a total collapse cannot occur: As any (time-active) mass proceeds into greater gravitational curvature, it becomes less time-active. This matter gains (by exchange) an equivalent amount of kinetic energy in the process. At the IB^3 Schwarzschild radius, all of the available potential energy from, or out-of matter measured by real time activity is already de-activated. When this happens, the effect of the "force" of gravity is gone. There is no longer any source of additional kinetic energy (speed) to be gained.

No further collapse beyond the IB^3 Schwarzschild radius is possible. The matter inside this Neutral Zone [C-R] would need to collapse. Inside every Black-Hole [C-R], there exists a volume of space containing exactly enough matter to curve the escape velocity to the speed of light. Everything inside this boundary is not critically curved, and which is still real-time active. For totally curved (de-activated) matter to proceed further inward, it must acquire additional energy. Since this matter has no practical source of available energy, any further inward collapse into a singularity is now impossible.

C-R calls this critically curved, fully de-activated portion of the Black-Hole [C-R] the Neutral Zone [C-R]. The Neutral Zone [C-R] is defined as the entire volume of the Black-Hole [C-R] where the escape velocity is greater than or equal to "c", the speed of light.

During the gravitational collapse forming the initial Black-Hole [C-R] any excess mass will be trapped in the Neutral Zone [C-R.] Any mass and energy trapped there must behave as if it were time inactivated; essentially - “neutral in every possible interaction”. This is why C-R chose to call this volume or region the Neutral Zone [C-R]. It is located between the outside of the Black-Hole [C-R], and the beginning of the inside Active Zone [C-R].

Since the time-active matter nearer the center of the Black-Hole [C-R] is left alone and unaffected by the collapse; this volume of space is still time active. This Active Zone [C-R] must contain EXACTLY enough mass at a sufficient density to curve up spacetime at it's outer border. If there is too much mass, the Neutral Zone [C-R] simply increases in size. If there isn't enough mass, then the Active Zone [C-R] expands outward, and re-activates some of the mass of the Neutral Zone [C-R]. Therefore, there must always be an ***exactly*** critical Active Zone [C-R] at the center of each and every Black-Hole [C-R]. The matter-energy in this volume of space remains fully, “real-time-active”, and therefore more energetic. The Active Zone [C-R], for all intents and purposes behaves similarly to any portion of the universe located outside of the Black-Hole [C-R].

Ironically, the C-R theory predicts that the net curvature at the exact center of an Active Zone[C-R] at the inner volume of any Black-Hole [C-R] must always be MINIMUM or

zero. This is exactly the opposite of the prediction from any standard theory suggesting a singularity.

The C-R theory predicts that the Black-Hole [C-R] will preferentially sort and swallow the massive particles composing the nucleus of atoms by mass. The total exchange of all real-time active energy into gravitationally released kinetic energy, will effectively and temporarily de-activate positive charges like protons, and the neutral, equally massive neutrons. The Black-Hole [C-R] will also encourage electrons to tunnel from any portion of the nucleus of an atom remaining time active. Since the electrons should each have more than 1800 times the kinetic energy to mass ratio as compared to the more massive hadrons (the proton and neutron), this will aid at least some of the electrons in their escape from the gravitational trap.[1]

The C-R theory predicts that any rotation of the mass inside the Neutral Zone [C-R] of the Black-Hole will have no net effect on the external curvature (gravitational field strength). To visualize why this may be so, let us imagine a grid of squares, drawn on the surface of a balloon. When the balloon was inflated, press down with a dull pencil. The slight geometric stretching would simulate the energy-path change caused by gravitational curvature at some spot in the universe. If we were to sharply press down on the surface of the balloon with a suitably dulled pencil to keep the balloon's surface from popping or bursting, we could simulate or imagine the distorted curvature near the outside of a Black-Hole [C-R]. If we would steadily rotate the pencil, or even rotate the balloon, the shape of the outside curvature at our location would not continually change. Because of this very simple thought experiment, C-R points out that even if the mass inside the Black-Hole [C-R] rotates, this rotation will not be effectively coupled through from the Black-Hole [C-R] by the geometric curvature. (Essentially, curvature does not support frame dragging.)

The C-R theory predicts that while the Black-Hole [C-R] is active, that is, consuming (and concentrating) both matter and energy, it cannot obey the second law of thermodynamics. This is because the Black-Hole [C-R] can only acquire energy at this time. Any energy seen as coming from the vicinity of the Black-Hole [C-R] is there only because the Black-Hole [C-R] is swallowing matter and energy, and the collisions of this combination release copious

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[1] Another way to visualize the likelihood of the electrons to escape would be to view the total probability of the electron's position, or the total area over which the electron's wavelength will spread out. Compared to the more concentrated masses of the nucleus, the location of the electron can actually be described something like an energy-cloud.

As the electron is about to be swallowed by a Black-Hole [C-R], it changes it's instantaneous position. There is a greater probability that the electron will prefer to inhabit a time-active portion of it's permitted area of existence. The electron attempts to "average itself" while it crosses over the exact active/inactive border of the outer Schwarzschild radius. After the proton and neutron are engulfed into the Neutral Zone [C-R], the electron suddenly realizes it never wanted to enter the Black-Hole [C-R]. This allowable indistinctness, and the ability of the electron to exhibit both some of the properties of a singular particle, and some of the properties of an indistinct, resonating, energy-wave allows many electrons to escape. This mass-sieve effect is a true use of the tunnelling phenomenon at the atomic level.

amounts of energy[1].

The mass-energy contents stored inside of the Neutral Zone C-R in the Black-Hole C-R can only increase in quantity, and increase in the degree of organization[2].

If the C-R theory is correct, the second law of thermodynamics does not, and cannot ever apply to the contents of the Neutral Zone C-R of any Black-Hole C-R. This prohibition is only in effect while the Black-Hole C-R is active, or consuming energy. If the Neutral Zone's C-R contents of a Black-Hole C-R ever become re-activated, the entire content released must again start to obey the second law of thermodynamics.

New idea for 2006: It may be much more difficult to create or destroy an existing Black-Hole C-R, but it may also be unnecessary. As long as the Active-Zone C-R inside the Black-Hole C-R is untouched, the Black-Hole C-R will continue in existence.

Note: Because the matter-energy within the Black-Hole C-R is already at the minimum possible energy configuration, the "effect" of gravity from one Black-Hole C-R cannot attract and consume another Black-Hole C-R. It is very unlikely that any lesser phenomenon could cause enough of a disturbance for a Black-Hole C-R to break it apart, or cause it to cease existing.

C:

Cepheid variables:

Cepheid variables are a class of stars which periodically vary in their observed putput of energy. They have been "assumed" to be a standard candle, meaning that for the same periodicity and the same spectrum their output is the same, wherever in the universe they are observed.

Exactly "why" the stars vary so extensively has been the subject of many theories. For this definition, the C-R theory will not cover the leading ideas at this time. By the C-R theory, if the timeframe changes with POSITION by gravitational curvature in the universe, as has been OBSERVED, then Cepheid variables further away may be indeed "slower" than calculated AFTER correcting for their "assumed" Doppler-shift correction. This means that the observed Cepheid variables may be somewhat closer, and less energetic per unit of time than has been assumed. The amount of overcorrection by current theories should at least account for the expanding expansion of the universe, and the "expansion" too.

The C-R theory would state that our universe is somewhat static (not expanding), but dynamically interacting, always the same size (non-collapsing). The uncorrected Cepheid

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[1]Technically, the infall into a Black-Hole C-R will supposedly release many times more energy from the mass than the "small" portion of energy released by the fusion reaction. Fusion from hydrogen into helium will release 0.7% of the equivalent rest mass/energy, whereas the gravitational infall releases from 25% to 50%.

[2]The mass in the Neutral Zone C-R will increase as long as the Black-Hole C-R consumes matter. This will remain true until or unless some event stops the Black-Hole C-R activity. As the mass inside the Neutral Zone C-R increases, so will the net entropy (disorganization or disarray) inside of the Black-Hole C-R decrease.

There is no regular provision for the Neutral Zone C-R to emit either energy or matter on a continuous basis. Only during an anti-Black-Hole C-R event can the Neutral Zone C-R release energy or matter.

variable data should be compatible with this hypothesis.
NOTE: Due to extreme distances involved in the universe, the observation of quasars and novae, and especially classes of supernovae, took over as measures of standard illumination or intrinsic brightness. The same cautions against Doppler-correcting the observed data also apply in this case.

Closed Universe:

When scientists talk of a closed universe, they refer to a universe which possesses enough matter at a sufficient density to close-up, or warp spacetime to the amount of complete curvature. It means that the escape velocity at the outermost boundary would equal "c", or the speed of light.

Strictly speaking, a closed universe invokes the geometry of spacetime. The closed universe exists entirely inside the surface area where the outer radius equals the escape velocity of the speed of light. Nothing from the inside of this universe can possibly escape. This geometric curvature completely traps and confines all of the matter and energy contents of the entire universe.

By the C-R theory, if the entire contents of the universe are contained inside the Active Zone C-R portion inside a giant Black-Hole C-R, then the total mass + energy content of the universe can not decrease over time. This confinement would seem to supersede the overall increase in entropy with time called-for by the second law of thermodynamics, as well.

The C-R theory maintains that it is not just a lucky coincidence that the universe appears to be almost closed. The C-R theory claims that our universe is indeed an Active Zone C-R, entirely contained within a universe sized Black-Hole C-R. If any type of a Neutral Zone C-R still exists outside of the Active Zone C-R (our universe, too), then the Active Zone C-R will always contain the proper amount of mass at the required density to remain exactly critical. That implies that our universe has always been closed, and will always contain exactly the right mix of mass at the density combination to perfectly close up the universe.

Most theories are embarrassed that the universe appears to be tantalizingly too close to call between an open, unbounded universe, and a closed, self-contained universe. P.A.M. Dirac even predicted that the gravitational constant, g, might decrease with the number of particles and the size of the universe. This is one way to explain the apparent coincidence that there appears to be almost enough matter (within a magnitude of a power of ten) to be sufficient to close the universe.

The C-R theory maintains that this complete and exact closure is natural, normal, and continuous. There is no embarrassing mix of coincidences needed, merely the normal, self closing action of a standard C-R theory Active Zone C-R. Any and every Active Zone C-R inside of every Black-Hole C-R will also always appear to be totally, and exactly closed. If any excess mass to density ratio exists over and above the amount required to perfectly close off (or warp shut) the Active Zone C-R, then the Active Zone C-R simply shrinks. It's radius decreases somewhat, and the excess amount of mass and/or energy is safely and carefully deposited into the ever-waiting Neutral Zone C-R.

Another assumption popular in theories today is that, if the universe is closed, it will inevitably and eventually totally collapse back into a singularity. The C-R theory shows that this assumption may not be fully justified. You, (the reader), should note that at the outer edges of the closed universe, the greater gravitational curvature has slowed-down

time. The loss of gravitational energy is real, and the potential energy of matter near the outer edge is LESS than the potential energy of matter closer to the center of the universe.

Before the matter at the outer edges of the universe could collapse inward, the matter would need to feel the gravitational attraction. To be drawn inward, the matter would necessarily be pulled into a *higher* energy region. The energy equivalent of this matter "falling" inward is that objects on the surface of the earth would "fall" upwards, towards the sky. Since we know that on our earth objects don't voluntarily fall from a lower energy region into a higher region (at least on their own accord), so C-R also predicts that this "lower energy" matter near the outer edge of the universe can't simply fall inward.

The C-R theory imparts both a new and *FIXED* stability and rationale to a closed universe. The C-R theory does allow some eventual mixing of the contents of the Neutral Zone $^{C\text{-}R}$ and an outer Active Zone $^{C\text{-}R}$. In this way, changes could occur in the net size and mass of the Neutral Zone $^{C\text{-}R}$ portion of our universe over time, without the necessity of sacrificing the closed nature of the inside portion of our universe[1].

Complex time:

(This analogy is comparable to the existing difference in the relationship between real numbers, and complex numbers in mathematics. In electronics, tracking the voltage and current across a resistor would be "real" as compared to the "imaginary" (or complex, as in the square root of -1) voltage and current across either a capacitor or an inductor.) IDEA: In the C-R theory, time in this universe might have a real and an imaginary (or right-angle) component. At the center (ironically named "The Great Attractor"), time would be the fastest, or 0% imaginary. Anywhere at the outer IB^3 Schwarzschild radius, or 100% curvature, time would be 100% imaginary. No real-time interactions could take place there, and no speed-of-light communication, or knowledge, could occur.

New for 2006: The percentage of real time vs. complex time would represent a way to measure the time-slowdown or red-shift. If one went closer to the "Great Attractor", there would be a blue-shift as measured from earth. However, from "the Great Attractor" the earth would appear red-shifted.

This term would represent the total time that a particle or wave would take to either sit in it's own orbit, travel a distance, or undergo a reaction, as measured by an external observer. Complex time = total time.

Notice that in totally uncurved spacetime (the center of the universe), complex time = real time. As well, in the Neutral-Zone $^{C\text{-}R}$ of a Black-Hole $^{C\text{-}R}$, then:

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[1]Very rarely, it may be possible for the contents inside the IB^3 Schwarzschild radius to mix, freeing the Neutral Zone $^{C\text{-}R}$ contents into the inner Active Zone $^{C\text{-}R}$. (I believe that scenario may be extremely unlikely, unless humans intentionally interfere.) There could be a huge risk to the Active Zone $^{C\text{-}R}$ if even a small amount of the highly charged and "trapped-energy" contents from the Neutral Zone $^{C\text{-}R}$ could be freed inward. It could cavalcade into a complete freeing of all of the Neutral Zone's $^{C\text{-}R}$ contents inward. This could release an incredibly energetic, (and highly toxic to life-forms), concentration of energetic positive charges, and burst of trapped energy. Over time, with only one known (observable) example of an inner Active Zone $^{C\text{-}R}$, I cannot totally exclude the possibility. (Especially if humans deliberately attempted to "break-out" of our inner Active Zone $^{C\text{-}R}$.)

complex time = 100% imaginary time = 0 real time

Curvature: [Re-word Explanation]

The C-R theory considers curvature to be the true "cause" of the gravitational influence over matter, rather than gravitons. In the new[1] C-R theory concept, C-R uses geometric curvature to accomplish (or process) the effect on matter that plays the only role to create the "force" of gravity. No gravitons (with their implied "speed-of-light" limitations) will be used.

In his Theory of Relativity, Einstein proposed that gravity was the result from the four dimensional interaction of a warped geometry and it's effect on real matter. He seemed to spend a large amount of time trying to relate that geometric concept to the other basic forces of nature, without success[2].

The C-R theory has pursued this geometric concept exclusively. Briefly, the key to the C-R theory idea is that gravity is more-like an effect caused by process (or action) of curvature upon matter, not technically a force. The cause of gravity is the curvature, i.e., bending, twisting, or warping of space. Think simplicity.

As an analogy: Imagine an orange, and an orange juicer, to squeeze it. The effect of gravity on matter is roughly analogous to the effect of the juicer on the orange! In a like manner, curvature (producing the "effect" we know as gravity) warps, or squeezes out some of the energy-content from matter. NOTE: In the C-R theory, the SOURCE of the kinetic energy "liberated" from matter comes from the MATTER itself!! This means, in a C-R reference frame, matter in a more curved reference frame is no longer energy equal to the exact same amount of matter in a less-curved reference frame.
CONSIDER: A 1 kg pizza (pepperoni, mushroom, green olive, double cheese)[3].

If we place the pizza on a table, then lift it by 1 meter, the pizza itself has gained 1 kg/meter of energy (1 newton). We now drop the pizza, allowing it to SLAM back onto the table.

In conventional theories, and conventional thinking, the gravitons of gravity must somehow produce the difference in energy, and account for the difference when matter changes it's location.

In the C-R mode of thinking, the energy difference comes about straight out of the pizza itself. The lifted-up pizza (in less curved space-time) experienced more real-time energy, equal EXACTLY to the same amount of energy expended by whoever lifted-up the pizza.

When the pizza was dropped, that extra, stored-up (extra real-time) energy was freed-

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[1]Actually, the concept of curvature as the cause of gravity isn't entirely new. However, the unique C-R theory conclusions about the "implications" from curvature, and the extent that it radically changes one's understanding of "How gravity works" in a very surprisingly practical manner is new.

[2]One reason for the lack of success was his "too Newtonian" thinking. By not "Believing" or realizing (accepting) the effect of curvature upon matter, the theory of relativity imagined space as ISOTROPIC, or the same in all locations. In reality, by not expecting or accepting the full affect of curvature upon matter, Einstein missed the possibility that there is a preferred reference frame imposed upon our entire universe, by the overall curvature.

[3]This combination is the author's favorite. Additionally, pizza is a very good "tool" to attract and hold the attention of a high-school or college student, the C-R theory's intended target audience.

up from the pizza, and converted into kinetic energy (speed). Upon hitting the table, the kinetic energy was converted into noise and heat and vibration.

Now, take the same pizza, and take it to "The Great Attractor". Afterwards, take the same pizza now to an area of 95% red-shift. The energy difference at these two locations is "stored-in" the pizza itself!! In essence, if we could convert its total mass into pure energy, we would find the energy released at the "Great Attractor" would be EXACTLY more than the energy released at the 95% red-shift location, by the EXACT amount of energy difference expended to transport the pizza between those two locations!!

This is not only a radically NEW idea, but a huge simplification, WHICH HAS BEEN MISSED by conventional theories (in competition to C-R). The theory of relativity says, space is isotropic, or identical in every direction. In simple terms: "there" is the same as "here", and so is everywhere else, too. In that case, it is up to local field-of gravity to somehow produce, and account for the energy differences.

Now... back to the real world.

This curvature partially de-activates, or slows down the real time experienced by matter. The greater the curvature, technically speaking, warps more of the resonant energy package (matter) into a less energetic state. The potential energy "lost" by matter is converted into kinetic energy, either speed or heat. The reader (you) could say: The resident energy packet now travels through a longer, (i.e., more distorted, more confined, less real-time-quickness), situation.[1] In an exact exchange for this loss of activity, measured in real-time, the particle gains kinetic energy, or speed.

D:

Dark Matter: (Maybe a Fudge Factor?)

Conventional theories worry whether our universe is open or closed, and bounded or unbounded. The key to answer this question centers on the debate about the amount of undetected dark matter. Dark matter is the presently undetected, "hidden" matter which would be required to produce the red shifts, interpreted as the gravitational accelerations present in the universe today. Most theories predict that the amount of known matter, detectable and available in the universe, is only about 1/10 to 1/100 of the amount

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[1] In simpler words, red-shifted matter has less energy because it takes its original energy, and travels a longer path (at resonance) to travel the "same distance". Thus it appears red-shifted, or time-slowed down. This path would probably reside in a hidden-dimension, rolled-up, well below the size our technology could detect.

In simple thinking, imagine a 10 cm distance, represented by a single straight strand of spaghetti (representing the "path" light or energy takes). In slightly more curved space, stretch the spaghetti (or add more to compensate) by wrapping it around a pencil to add "distance" (representing some extra, hidden [rolled-up] dimensions). To travel the same 10 cm path, light now "snakes" around through a slightly longer path to travel the same distance.

To represent a 95% red-shift, wrap enough extra spaghetti around a sausage or a balloon to add 20 times the original "straight" path distance, to "dilute" the same energy take 20 times as long to travel the same original path. These extra dimensions are of course "invisible, or too small to actually see. Matter there (at a 95% red-shift) will detect nothing amiss, but will see everything "closer to the center, inside the universe" as blue-shifted. Only the matter further out would appear red-shifted.

NOTE: This is exactly the same result if the LOCAL speed of light "c" varied by location. One could consider light-speed as the same, with the effective path increasing, or consider light-speed itself as varying from maximum at the center of the universe, to minimum at the outer edges.

needed to close the universe. (That is, to achieve the density able to close-up the universe by maintaining the gravitational curvature [escape velocity equaling "c" the speed of light] at the outer boundary.)

For the universe to be closed, most present theories must agonize over the expected abundance or lack of dark matter (i.e., in less scientific terms, dark matter provides the legendary, theoretical, variable fudge factor). This dark matter is matter which is too cold to produce enough electromagnetic radiation to give itself away. Thus, it is not energetic enough to be detectable on it's own.

Using the C-R theory, one should have little trouble speculating that the universe gives the impression that it is completely closed. We have already seen that there exists at least a 95% time slowdown ratio (red-shift) by measuring the spectral lines from observable objects located near the outer edges of the universe. Extending this measurement slightly farther, it would not take a wild imagination to suppose that the universe possesses EXACTLY enough mass to achieve the additional and final 5% time slowdown (red shift).

Indeed, the C-R theory only needs to add 5% or less of an additional slowdown (red shift) and then the universe becomes totally closed. If this were the case, then there is no coincidence that the universe always appears to be tottering on the edge between exactly closed or slightly open[1].

The C-R theory would also have no foreseeable trouble in allowing at least some of the extra "dark matter" required to accomplish this universe-closing, to exist in one or many Black-Holes [C-R]. This dark matter could also take a variety of sources. While not required by the C-R theory, it could accommodate massive amounts of near massless neutrinos, magnetic monopoles, interstellar dust, or even the totally hypothetical tachyons. Any of these suggested options could be called upon to provide the seemingly-ubiquitous and ever-handy fudge factor.

One of the more interesting C-R inspired possibilities is that the universe is considerably smaller than present theories calculate. This could follow from the interpretation that the outer regions of the universe may not necessarily have to be racing away from us at 95% or more of the speed of light. The redshifting effect may be caused entirely, (or only partially), by the gravitational time slowdown of events at the outer edges of the universe. Of course, since the events occurring there would be time-slowed down, the brightness per time and distance figures used as THE reference standard for comparison purposes would also be totally unreliable. Since the age of, and distance to these objects would also be thrown for a loop, the carefully calculated timetable, listing events from the beginning of creation could need considerable revision.

The expansion of the universe, as derived from the Hubble constant, would no longer be a valid unit of measurement. Neither could the Hubble constant be relied upon as the only valid principle upon which to base multiple assumptions.

Regrettably, the C-R theory cannot just come out and say: "AHA, here is the dark matter everyone has been looking for, just under this constellation or near this galaxy". What the C-R theory can claim, based on general observations and simple principles: It is not too farfetched to suspect that the universe has exactly enough matter at the right density to totally close the universe. In other words, we are existing inside one exactly

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[1] New for 2006, see the extended definition on the C-R “spin” on the expanding expansion.

critical (C-R theory, only, type-of) Active Zone $^{C-R}$, inside of a Black-Hole $^{C-R}$ [1]. That this discovery or speculation should not be overly remarkable or surprising, is perhaps one of the C-R theory's greatest contributions.

In one sense, if we wish to know: is the universe closed; it is irrelevant to need to know how old the universe is, how dense it is, how far away the outer edges are, how long the universe and it's matter have been here in it's present condition, or where it is ultimately headed. The universe has exactly the right amount of matter to close the universe because we are existing inside a typical, C-R theory obeying, Active Zone $^{C-R}$ inside a Black-Hole $^{C-R}$. By the C-R theory, being exactly critical is the only condition which defines an Active Zone $^{C-R}$. Therefore the existence of exactly the right mix of regular and dark matter to, in sum, close-up the universe is not, in any way, particularly co-incidental.

With whatever system of measurements we use, and however we gage both our distances and our eons of time, the universe will always present the same approximate appearance it has right now, of containing precisely enough matter to warp it shut. By the C-R theory, the universe appears “almost that way” because it is exactly that way. NOTE: In the big bang theory, it is enormously suspicious that the universe should appear so close to closure after 15 billion years of expansion. In the C-R theory, there is no coincidence required. Our universe looks this way because it is exactly closed, and has always been that way.

De-Activated:

The C-R theory refers to any matter as partially de-activated if it has been slowed-down from its original timeframe[2]. The amount of time de-activation is proportional directly to the curvature, warping or bending of spacetime. This would occur on a scale somewhere between no curvature and no de-activation at the center of our universe, a.k.a. “The Great Attractor”, and total curvature with total de-activation at the IB^3 Schwarzschild radius.

Total de-activation occurs when and where the curvature is at or above the speed-of-light. The only places where this is possible is in the Neutral-Zone $^{C-R}$, located just inside a Black-Hole $^{C-R}$, or in the Neutral Zone $^{C-R}$ just outside of the IB^3 Schwarzschild radius

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[1] This appearance is not just a happy coincidence. Every inside area, or Active Zone $^{C-R}$, of a Black-Hole $^{C-R}$ will have this same appearance. The C-R theory defines the Active Zone $^{C-R}$ as the EXACTLY critical central region of real time activity inside every Black-Hole $^{C-R}$. Every Black-Hole $^{C-R}$ must have at least one. (For convenience, you may also refer to the area outside the Black-Hole $^{C-R}$ as an Active Zone $^{C-R}$, too.

Both Active Zones $^{C-R}$ are very similar, and the rules governing them are nearly identical. The difference is that the outside Active Zone $^{C-R}$ becomes less active on it's inside, near the IB^3 Schwarzschild radius, whereas the inside Active Zone $^{C-R}$ becomes less active as we approach it's outer edge.

[2] The most-active timeframe is also the energy level possessed by matter at “The Great Attractor”. New for 2006, if our universe is part of a larger external universe, the timeframe of the external universe could be added to the minimum at our universe’s center. This would not be detectable with our present technology, but it cannot be ruled-out.

from an inside Active Zone [C-R].

Matter or energy which is time frozen will not experience any real time interactions. The matter and energy will maintain an existence, and will continue to produce (cause) the spacetime warping which causes gravity.

As to the nature of matter existing while time is de-activated, one cannot say for sure how any encounters would be handled. C-R speculates that either the materials would likely behave as totally resilient billiard balls, impervious to any penetration or intermixing, or the particles would act ghostly, and pass right through one another without respect for mass, electrical charge, momentum or position. Either way, one could never measure the interactions from the inside of the Neutral Zone [C-R] to see if any occurred.

E:

Ejecta (ionized):

The ejected material, increasing in scale, from novae, supernovae, quasars, and the like. By the C-R theory, if one of "our" Black-Holes [C-R] is involved, the ejecta should be fully ionized, released protons. These concentrated, self-repelling, positive charges should exit at very high velocity, and continue expanding at a rate exceeding the rate of expansion predicted by neutral contents released at high temperature created from the energy released by a strictly-fusion-based process.

Recent observations suggest that some nova and supernova remnants are fully (or at least, highly) ionized. The real question which needs to be answered now is: Are all such ejecta ionized? Or was this one case special or unique?

Since conventional theories do not predict this high level of ionization, they have been surprised by the "staying-power" of the expanding fireball. The ionization is evidence for the C-R theory type processes occurring.

Electrons:

Electrons are the premier, and predominant negatively charged subatomic particle of the universe. The number of electrons is thought to exist in roughly (if not exactly) the same parity with the number of protons.

It is the dual, particle-wave nature of the electron, and it's tendency to favor certain resonant modes (or harmonic vibrations, like notes from a piano string), which gives matter its characteristic chemical properties. The individual electron in an atom can only gain or lose energy in a fixed increment, called a quanta. The difference in the energy level of the many possible different resonances accounts for the specific frequencies of light or of electromagnetic energy released or absorbed when an electron changes it's orbital, and therefore it's level of energy.

The C-R theory predicts that an active Black-Hole [C-R], which is consuming, swallowing or trapping matter will preferentially swallow the more massive protons and neutrons, and will generally leave all of the electrons outside the Black-Hole [C-R]. In effect, the Black-Hole [C-R] will swallow the more massive protons and neutrons (and various and sundry other things like photons of energy, and neutrinos). Due to the greater energy to charge vs. mass ratio experienced by the lighter, more kinetic electrons, the Black-Hole [C-R] should effectively sort, deflect (i.e., spit-out), or reject many electrons. One could also

envision this case as an example of the electron tunnelling away from the nucleus of the atom which is undergoing de-activation. In short; to sort, the Black-Hole [C-R] will act as a mass-sieve body.

If the above scenario is (sort {of}) the case, one would expect to find a huge excess of electrons produced near every active matter-consuming Black-Hole [C-R]. The C-R theory explains that a mandatory characteristic of a Black-Hole [C-R] is creating a localized excess sea of negative charges in the vicinity of matter consumption. A secondary benefit to these self-repelling electrons is that they provide an automatic throttle-back to prevent a runaway collapse of matter rushing into the Black-Hole [C-R]. This method would give very quick response feedback, and allow the Black-Hole [C-R] to take a leisurely lunch; to constantly "sip" at a slow stream of matter rather than to ingest a large lump of matter at one sitting. This prevents each Black-Hole [C-R] from greedily gulping an entire mound of bulk down it's rapacious, insatiable maw.

(***Label this part below as speculation, or speculation with good, new evidence?***)
Newly uncovered by the author in 2006 (although I don't know the year this phenomenon was actually discovered):

If there is a Black-Hole [C-R] at the center of our sun, look for any solar-based phenomenon involving EXCESS electrons[1].

In the first attempt to find a practical use for an C-R Black-Hole [C-R], C-R would propose a case for a hypothetical Black-Hole [C-R] at the center of our sun. The actual useful work would be performed at the outer IB^3 Schwarzschild radius. The C-R Black-Hole [C-R] would be incessantly brunching on an infalling cloud or gas-bag composed of hydrogen and helium. The atoms would accelerate inward, and gain energy. They would collide with other atoms. These heavier nucleii of these elements would be rushing ahead... salmon-style, against an outflow of liberated electrons. At the IB^3 Schwarzschild radius, the masses of the nucleii would be parted from their electrons, and in their view, depart for all eternity. The protons and neutrons would energetically jump into the Neutral Zone [C-R] at the IB^3 Schwarzschild radius, into a complete and restful neutrality. At the same IB^3 Schwarzschild radius, the electrons would now find themselves lingering and loitering about, as unwelcome leftovers from the main meal.

In the aftermath from each atom, only the energy released, and the electrons would survive the incredible journey from that twisted region. There would be immense streams of electrons released. These electrons, flowing in a self-inductive magnetic stream of current, could possibly be confined magnetically, bunched or driven together. If this scenario existed, one should expect to find billions of amps of extra electrons flowing

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[1] I have posted a link below for Microsoft Encarta Encyclopedia, featuring the portion of an article about the photosphere of OUR SUN, casually stating that virtually 100% of the hydrogen atoms there are DOUBLE NEGATIVELY IONIZED!!

http://encarta.msn.com/encyclopedia_761562112_5/Sun.html#p89

This result is so far opposite to what "conventional theory" does predict about fusion, it should have been red-flagged as an OUTRAGEOUS ANOMALY!!!! Instead, it was just noticed, and conveniently swept under the carpet as an annoying-unwanted inconvenience, to be explained away some later day.

Technically, when I first came-up with the C-R theory (it had a longer name back then) in 1979, I "predicted" that there should be evidence of a excess of electrons coming from our sun IF our sun was powered, at least in part, by a Black-Hole [C-R] at it's center. I have not yet found out the actual date or year that this double-negative ionization was first noticed. I just found that the phenomenon HAD BEEN NOTICED, in actual plain English, earlier in 2006.

outward from the surface of the sun.

Even more incredibly, one would expect that the sun's inner core-gas cloud existing outside the Black-Hole [C-R] would be subjected to the possible directional modulation by the regular cycles of gravitational influence from the planets. Imagine if this gas cloud could be cyclically sloshed around the Black-Hole [C-R] by normal tidal drag. Some regions, symmetrically above and below the equator of the rotation could experience increased local densities of bunched electron flow. This provides a basis to allow a slight gravitational modulation of the direction and numbers of the resulting electron stream. One would expect to find a directional and a multi-year planetary modulation pattern in the solar sunspot activity[1]. Remarkably, this exact effect was predicted by the book, The Jupiter Effect. Regrettably, the authors later repudiated their own idea - for lack of a causative mechanism, since "everyone knows" the fusion power of the sun should not possibly be influenced by the meager gravitational pull of the planets.

The C-R theory definitely predicts that electrons will have an important and different use in this "Brave New Universe". The lowly electron will add it's all-important contribution, a significant benefit to the overall fate of the universe. The C-R theory elevates the importance of electrons to the overall recycling of the universe, much more so than would be the case with conventional theories. In fact, the C-R theory would vehemently oppose any theory of the universe which suggested, or allowed the basic mixes and properties of subatomic particles like the electron to change arbitrarily at (each?) the big bang.

Entropy:

Entropy refers to the amount of disorder in the universe. As disorder increases, so does entropy. The second law of thermodynamics states that in every system, energy content goes downhill, from increased order to disorder. The concentration of high energy will flow or spread out into a more uniform, even distribution of dissipated or spent energy.

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[1]Although not specifically intended to be covered here, there remains a slight probability that the collective predictions of astrologers could have a slim amount of factual basis. If the sunspot stream was indeed modulated by the sum of the gravitational drag from the planets, then the likelihood or probability of solar flares directed towards the earth's orbit could collectively vary with the positions of the planets. Absolutely nothing in the C-R theory would suggest, however, that each planet would individually have any independent effect on either the sun or the earth.

For a more generalized coverage of the effect of sunspot activity on the earth itself, see the 1974 book, The Jupiter Effect by John Gribbin and Steven Plagemann

A brief summation of their hypothesis is that increased sun-spots increase the solar radiation directed towards earth. This modulated radiation would then increase the rotational drag on the earth. This not only slightly changes the length of the day, but places enormous strains on portions of the earth's crust. [Hint: try holding onto 6 quintillion tons of mass and change the rate of spin. The potential energy difference is awesome.] These strains, then combined with additional tidal influences from the moon, could cause a triggering release of pent-up strain along the earth's seismic faults. Hence, indirectly to blame, the planets influence the sun, the sun influences the earth, and the earth is then susceptible to a higher probability of devastating earthquakes.

The C-R theory agrees with all of those conclusions, with only one "minor(?)" exception. The C-R theory concluded that an active Black-Hole C-R must be consuming and concentrating energy into it's Neutral Zone C-R. The Neutral Zone C-R of a Black-Hole C-R must, therefore, violate the increase in entropy.

The only question which needs to be answered is, is the increase in entropy mandatory in all systems, everywhere? Certainly, in the closed system "once-heated" water tank experiments performed in the last century, the energy content always went from high energy to lukewarm energy over time. However, is our universe doomed to follow the results of this one experiment in spite of the remarkable physical conditions which may exist inside a Black-Hole C-R?

A non-scientific observation may suggest an answer. Assume that our universe is infinitely old. Look around. Is energy anywhere at a minimum? Are there signs everywhere of uniformity, constant temperature, and maximum dispersion of all matter and energy? If not, then, in this case, entropy cannot be supreme.

While contentedly chortling, and thinking, AHA, but if the universe isn't infinitely old, that argument collapses; C-R would maintain that this universe started off too energetic for entropy to allow if starting from nothing.

See the C-R theory second opinion on the Second Law, Chapter ** and page ***.

Event Horizon:

The C-R theory has specifically avoided the use of the term event horizon. The reason is: in conventional theories the event horizon is the part of the conventional black hole where real knowledge of events is lost forever. The conventional explanation is that our external knowledge of events simply slows down to imperceptability, but never literally goes fully into the black hole. The concept of the event horizon is kind-of like the magicians cute female assistant, a distraction from what you should really pay attention to.

In practicality, the specific information provided by a C-R view of matter being swallowed by the Black-Hole C-R will be limited. The enormous amounts of energy and freed-electrons should be released. Instead of fading-out to infinitely-dim, an active, matter consuming Black-Hole C-R will instead be releasing huge quantities of electrons, in proportion to the protons and proton-neutron combinations the Black-Hole C-R eats.

An important note: A difference from the C-R theory is that any quantum information about particles and their properties which enter into the Neutral Zone C-R is never lost. The information may be "stored" for a long time. While stored, the information about the contents will be infinitely isolated and infinitely insulated from any knowledge by the outside world. Eventually, 100% of the contents of the inside of a Black-Hole C-R can be released. This information will never be permanently lost for all time as was proposed as a result from a conventional black hole.

This extended definition is (at this writing) the only intentional mention of the event horizon in the C-R theory. I have deliberately chosen to avoid using this term.

Expanding Expansion (of the universe): An exclusive C-R theory spin:

Very recent observations have been interpreted as demonstrating that our universe is

not only expanding, but that the expansion is accelerating. The C-R theory has a VERY IMPORTANT alternative spin to put upon these results.

A brief explanation of the experiments would be: Closer-in and very distant galaxies had their Cepheid-variable stars measured, for absolute brightness, luminosity, and the period-rate of blinking. The more distant Cepheid variables were dimmer than expected, and were blinking slower than would be expected, based on the near-earth measurements. The conclusion drawn was: The more distant stars were dimmer and slower because they were accelerating away at a faster rate. (Therefore): Not only is our universe expanding, but the rate of expansion is accelerating.

The C-R "spin" is this: The conclusion from the experiments has one glaring error. The assumption, from the theory of relativity, is that time everywhere else in the universe is just like here. The small problem is that: all of the visual evidence shows exactly the opposite. As far as one can see, in almost any direction, more-distant objects and events are more red-shifted, and by enormous amounts.

While the C-R theory would not disagree with: If everything is expanding away from us at nearly the speed of light, everything out there should be enormously (Doppler) red-shifted, the C-R theory also suggests (-and actually, concludes) that almost all of the red-shift is caused almost exclusively by the strength and amount of gravitational curvature.

What this means is that our earth-based timeframe (bias) has been superimposed over distant events. In the simplest terms, our time-rate here (on earth) IS NOT EQUAL to the time experienced in distant regions. Rather, events out-there are actually occurring at the OBSERVED rate, and SHOULD-NOT-HAVE-BEEN adjusted for Doppler-shift time-correction.

Expanding Universe:

Conventional theories of the universe point to the red-shift of distant objects as the total proof of the expansion of the universe. The universe is surmised to be expanding uniformly everywhere - in line with the Hubble constant, which states that, as the distance from the earth is doubled, the rate-of expansion is doubled also.

The outer edges of the universe, with their enormous red-shifts, are thought to be receding from the earth at speeds up to 95% (or even more) of the speed of light. Unfortunately, the common theories have no explanation for the cause of the expansion. (An enormous amount of energy is needed to "pay for" this expansion.) Even more so, they now have the idea that the expansion will not only continue, but accelerate even more (not just slow-down, or stop and reverse).

The C-R theory does not contend with the hypothesis: if the velocities of these objects are truly speeding away at these enormous speeds, that the red-shifts would be correct. What the C-R theory contends with is, there may be another, simpler, better explanation. This explanation may single-handedly account for all of the red-shifts, or it may allow some portion of recession generated red-shifts to add-on in combination[1].

The C-R theory suggests that gravitational curvature, and the resulting slow-down,

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[1]By the C-R theory, further expansion outward is very unlikely. The size of the universe is already fixed, and constant. Unless the density of matter inside the universe (the inside Active Zone $^{C\text{-}R}$ at the center of this universe) increases or decreases, the size should be constant. Individual objects may dynamically move around and interact, and those would be allowed to contribute some Doppler-shifts, higher or lower with respect to us here on earth.

may account for most, if not all of the red-shifts encountered. As the curvature becomes more total, and more complete, the matter and energy are progressively time-inactivated. The gravity works essentially by bending the matter into a less-active state[1].

The time slowdown produced by gravity is an already known, although seldom appreciated phenomenon. On earth, the slowdown from earths gravity is exceedingly small. An atomic clock will detect the differences. For an atomic clock flown at an average of 30,000 feet above the surface of the earth for about 6 hours, the net gain in time was about 53 billionths of a second. (The time difference due to the speed of the airplane had been removed from that figure.)

At the outer edge of the universe, the curvature would be 100% complete if this universe was the inside of a giant Active Zone C-R. While this is not necessarily the case, the coincidence that almost exactly this curvature is observed (within 5% of total de-activation.) should be taken to be significant.

The C-R theory thus predicts that (almost) all of the observed red-shift is due to the natural conditions at the edge of the universe, and not necessarily at all due to the rapid recession of the contents of the universe. One of the most unexpected events, if this is true, is what happens to the likelihood for a collapse.

If the matter at the outer edge of the universe is much-more time-de-activated, it follows that it is already at a lower energy level than matter residing closer to the center of the universe. It follows that, the matter at the outer edge will not only resist collapse into the center, but will actually need an additional energy input in order to approach the center of the universe. In brief, the gravitational field would tend to attract matter outward, and make it fall "up", in order to bring matter to a lower energy level.

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Notice: When conventional theories describe the outer universe, all kinds of weird explanations, with no accounting for the extra energies needed must be invoked to explain why the red-shifts appear to be so huge. In contrast, the C-R theory explanation for the appearance is a natural occurrence resulting from only one requirement. The C-R theory suggests that our universe is (NOW!!) the active portion inside a universe-sized (C-R type) Black-Hole C-R.

F:

Falling, a new gravitational definition?

An all conventional (Newtonian) gravitational theories, matter will fall towards the center of a mass. When one considers curvature as the cause of gravity, the results may not always be the same. Curvature would be different. The C-R theory states that objects should only “fall” towards the region with the greatest curvature, then stop there.

On earth, a big difference between the C-R theory and the conventional theories would manifest itself in how a ball would fall down a hypothetical shaft-hole drilled through the center of the earth. Conventional theories state that the ball would always fall to the center of the mass (although it may oscillate past the point, then return again, if the ball

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[1] One could also say, at higher curvature, hidden dimensions would add an increased path-length for light to travel. For a 95% red-shift, curvature essentially forces light to travel 20 times further than here on earth.

possesses excess kinetic energy).

In the C-R theory, the conventional resting point, the center of the earth, is actually a "higher energy" location. In fact, the center of the earth is a HIGHER ENERGY location (or less curved) than even the surface of the earth!!

(Although this is NOT the case): if earth had UNIFORM density throughout, the C-R theory would predict that nothing could ever fall down into a well-shaft or a mine. Those areas below the surface would have lesser curvature, and therefore would actually be at a higher energy level than on the surface.

However, the C-R theory states that the situation IS very different than conventional "Newtonian" theories suppose. Interestingly, on earth, maximum curvature is NOT at the surface of the earth. Because earth's density increases substantially, and more than quadruples with depth towards the center, the gravitational curvature increases down to 2886 km below the surface!! Once at the mantle/core boundary, the curvature should then decrease to zero at the center of the earth.

Hypothetically, a ball dropped down a hollow shaft, drilled-through the center of the earth, would fall, then come to rest *at the mantle/core boundary*. This is where curvature is MAXIMUM.

Next, consider if our universe is the inside a universe-sized Black-Hole[C-R]. Surprisingly, the curvature at the outer edge is much greater than here on earth. The curvature is the minimum at the center of the universe, also known (ironically!!) as the "Great Attractor".

Technically, this means that matter at the outer edges of our universe is ALREADY at a lower potential energy than matter here on earth! This means that matter there would have to gain energy to fall inward!. (See the next definition about gravitational collapse, for a more complete description.)

G:

Gravitational Collapse:

There are two cases of gravitational collapse where the C-R theory predicts something radically different than conventional theories. One is the collapse of matter into a (conventional) black hole, and the second is the potential collapse of the universe.

In conventional theories, the gravitational collapse occurs when the force of gravity overwhelms a very dense lump of matter. Space-time folds, rolls, or knots matter into an infinitely dense, and theoretically unknowable (and un-imaginable) state. This infinitesimally small point is termed a singularity. The singularity is produced as the entire mass is collapsed into a (conventional) black hole.

Conventional theories ability to describe the conditions encountered fall short after the speed of light escape velocity is reached, then exceeded(?). The fate of the mass trapped in the singularity, and the fate of the singularity itself are left strictly up to the imagination. For a more rational, and possibly less bizarre speculation, see the C-R theory description below.

By the C-R theory, a gravitational collapse is a limited event. While the C-R theory does allow gravity to collapse matter into a Black-Hole[C-R], once that event occurs, gravity cannot collapse matter any further. This is postulated to occur in a manner roughly

parallel to the impossibility of the collapse of the electron into the nucleus at absolute zero.

Historical note: This description of the electron orbiting the hydrogen atom is for comparison purposes only[1]. This discovery of a quantum-restricted orbit for an electron dethroned determinant (classical) physics, and enthroned relativistic, indeterminate, quantum mechanics as the preferred description for all sub-atomic events.

At absolute zero (temperature), the lowest energy - temperature-wise, in the case of the orbiting electron, the quantum mechanical theory prohibited that total collapse of the electron into the nucleus. This was because the electron energy can only be at a minimum in the lowest energy orbital. (This orbital is defined as the only orbital occupied by 100% of all hydrogen atoms at absolute zero.) If the size of the electron orbit was either increased or decreased, the system of the hydrogen atom acquired more energy.

In a like manner, the C-R theory predicts that the gravitational collapse of matter will similarly cease to occur once gravity[2] has removed all real-time energy from the mass-energy system involved.

The concept of another minimum, the minimum amount of real-time energy when time equals zero is a unique prediction of the C-R theory. Starting at the boundary where matter is collapsed into the IB[3] Schwarzschild radius of the Black-Hole[C-R], time would have no value, or no real amount[3]. The C-R theory predicts that the mass and energy will still exist, but they will essentially exist but they are “turned-off”, interaction wise. Effectively, these particles are stored totally decoupled from reality, or unable to

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[1]For these purposes, one can view the electron from a variety of equivalent ways. One could consider the electron as a cotton-like, or mist-like cloud, vaguely located, but localized to a preferred zone, a shell, or a lobe. One could also view an individual electron as a solid, small sphere, carrying electrical charge in an orbit around an atom.

These descriptions are not meant as much to define or restrict the atom, as to give us poor, beleaguered humans some graspable notions with which to evaluate and understand the electron. This understanding is the key to speculating on this new C-R theory behavior for an electron.

[2]In this case, gravity as in: energy released due to the slow-down of time. What C-R terms the force of gravity is actually an observed after-effect.

[3]Some imagination may be needed here. Imagine time as a clutch-plate in an automatic transmission. Imagine a plate of matter, warped 90^0 with respect to the same clutch plate. In this case, the matter would be disconnected, oblivious to any influence from the real-time (clutch).

Another possible analogy is to imagine matter trapped in a packet-sized pocket of spacetime. The matter still possesses it's residual energy, it still keeps in touch with it's own internal clock. While confined in this trap, the matter remains unable, unwilling, and forbidden to interact with any other matter or any energy.

For almost all practical, real-world purposes, matter trapped in the Black-Hole [C-R] might as well be ghost particles. Even though these particles exist, we can't communicate with them. They can't be seen. These particles might even have the ability to pass right through each other without interacting. [Gravity, i.e., curvature of spacetime, continues as if nothing happened to the matter.]

Strictly speaking, this matter is infinitely insulated and isolated electromagnetically from all other matter. This includes other particles trapped in the Neutral Zone [C-R]. (Author's Guess: Since no real time passes in this zone, no real laws of physics, or the theory of relativity are violated.)

overcome their "barrier". Any matter and energy in this state will be oblivious to all electromagnetic interactions. A possible analogy is to imagine the particles, warped into a state where "their back is turned" to all interactions. The particles are "bound" to shun electromagnetic (speed-of-light) interchanges.

Inside the Neutral Zone [C-R], the turning-off (totally saturated geometric warping) of all interaction(s) is still in effect. The matter and energy trapped within the Neutral Zone [C-R] will still accomplish their regular quota of gravitational interaction by geometrically warping space and time. This will occur in spite of the fact that the matter and energy within this zone must behave electromagnetically as if they were totally neutral. "Events" or "Interactions" in the Neutral Zone [C-R] simply do not occur. All other interactions with anything located within as well as external to the Neutral Zone [C-R] are forbidden .

Any electrical charges trapped in this zone will be forbidden from communicating or interacting with any matter anywhere. Even the photons of energy itself will be trapped within this zone. A photon will have energy and frequency and momentum, but will be similarly real-time frozen[1], and incapable of expressing itself.

Gravitational Constant, "g":

Conventional theories would define the gravitational constant as determining the amount of gravity produced between two masses a given distance apart. The greater the gravitational constant, the greater the gravitational pull.

Some theories of the universe, starting with a theory proposed by P.A.M. Dirac, have speculated that the gravitational constant would decrease (change) proportional to the size and age and expansion of the universe. Present day experiments seem to put a very small limit on the amount of change which could occur in the gravitational constant before we could measure the result.

New for 2006: The C-R theory now proposes that, instead of a gravitational "constant", "g" is actually earth's local value for a relation between matter and the de-

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[1]The C-R theory now maintains that the time-frozen photon must conserve it's energy, which means it's frequency as measured by an external standard must survive intact. The effect would be similar to a lone photon, trapped in a very small, totally reflective, mirrored room. Since interactions are forbidden, the photon must be perfectly and totally reflected, and can not ever be absorbed, while in this state. To the photon itself, no time will seem to pass during the entire confinement.

Imagine the time-trapped photon resonating in a folded-up or rolled-up dimension curved back into itself (knotted or twisted into a loop) somewhere inside the space of a hydrogen atom's electron orbit diameter (width). The lightbeam/photon trapped or imprisoned inside this one-dimensional thickness would be chasing it's tail at "c", the speed of light.

In this way, the theory of relativity is satisfied, lightspeed is travelled, the electromagnetic lightbeam is confined, and the frequency of the confined photon is maintained, allowing conservation of energy to hold true. Even that old spoilsport principle of causality is satisfied.

The C-R theory speculates this is how to maintain a constant [frequency-based] energy in a "timeless" photon which can only exist when travelling-at or resonating at lightspeed. Literally, this brings the time-deprived (but time-derived) photon back into the fold, by folding-over the photon into a hidden, rolled-up dimension. This allows conservation of energy to be true while still keeping the photon timeless (no real-time enabled). Technically, if we measured or detected time by the distance travelled at the speed-of-light, you (the "observer") could not get from "there" to "anywhere else".

coupling effect. The amount of gravitational curvature accomplishes some de-activation of real time. That “change in time” is what actually creates the pull of gravity. I have revised my thinking to a fantastic claim. The gravitational constant is not-exactly constant, but will vary in value with location inside our universe. This may explain why, whenever the “constant” is measured on earth, it’s precision “varies” beyond all the expected error bounds. I will predict that the value will be slightly different if an experiment can be designed to check the “value” of “g” measured on the moon, Venus or Mars. The value should change much more substantially when measured far away from the earth’s gravity field.

A mass transported to the center of this universe (ironically known as “The Great Attractor”) will be more “time” active and more energetic, or worth more energy, than exactly the same mass here on earth. If that same mass is then transported to the outer edges of the universe, it is worth less total energy there. This is a consequence of a reference frame imposed on our universe. (See diagram___) At the outermost edge, the full amount of real time has been inactivated for any matter beyond the inside IB^3 - Schwarzschild radius, also called the Neutral Zone $^{C\text{-}R}$. Inside this Neutral Zone $^{C\text{-}R}$, real time could not be measured. Since it’s value would already be absolute zero on the time scale, no further gravitational influence can be felt by that matter. The matter itself still produces curvature of space-time as it's contribution to the total gravitational field. Notice: no energy, no electromagnetic influence is expended to maintain the “field”.

Gravitons:

Conventional theories say gravitons are particles which are thought to exist which would represent the answer to the ultimate cause (or source) of gravity. The graviton would be to gravity as the photon would be to light (or any electromagnetic radiation, at any frequency).

By conventional theories, the graviton would be the carrier of the gravitational force. When masses interchanged gravitons, in something like a mad baseball game of catch and relay, the gravitational force would appear as a result.

The interactions would take place in somewhat the same manner as interactions take place for the other forces of nature. For electromagnetic interactions, the photon is used. For the strong and weak forces, the vector boson is used as the carrier particle.

Gravity (conventional, Newtonian):

The first modern, scientifically successful explanation of gravity was proposed by Sir Isaac Newton. By the conventional (Newtonian) theory, gravity is a somewhat understood force, which is demonstrated when large, massive objects attract each other. The greater the mass, the greater the attraction.

Conventional theories of gravity sum-up the total behavior of gravity as if it emanated from a single point at the center of a mass. For an example, at the surface of the earth, these theories say that gravity behaves as if the entire interaction originated at the center of our earth. All other gravitational interactions in the universe are assumed to agree with the Newtonian standard of reference.

By conventional theory, the "force" of gravity is proportional to the mass of the two (or more) objects in consideration. If either mass is doubled, then the force increases by a double amount. If the distance between the masses is doubled, the attractive force of

gravity is one fourth of the previous amount.

In Newton's theory, at a distance, the force of gravity is supposed to behave as if the entire gravitational force emanated from a point at the exact center of each mass under consideration. The force could be calculated from the size of the two masses, and the distance between their centers. In addition, the strength of the force of gravity is defined by a gravitational constant, “g”, which would be multiplied by the two masses, and divided by the distance squared, to obtain the value of gravity in some standard, measurable units.

Gravity (from curvature) :

In his Theory of Relativity, Einstein concluded that gravity was due to the apparent curvature of spacetime. Large masses warped, curved, or bent spacetime near themselves. The warped geometry of spacetime would cause matter in motion to alter it's course.[1] This curved geometry caused the shortest, most direct, and least energetic (most preferred) path for matter in motion to be modified by the bending.

Einstein, in his theory of relativity, predicted that the strength of the gravitational field would be proportional to the sum total of the bending of spacetime by each of the (two) masses.

Einstein spent the later years of his life attempting to combine the description of gravity contained within the Special Theory of Relativity with what was known about the other basic forces in the universe, to attempt to come up with a Unified Field Theory. The Unified Field Theory would explain all forces of nature in the simplest possible terms, with all forces derived from the same basic concept. He was never successful in achieving a theory which would unify the four basic forces.

Gravity (The C-R theory view):

The C-R theory basically agreed with Einstein's original thoughts on gravity. Where it differs is that it did not attempt to reconcile gravity to other forces, using hypothetical particles called gravitons.

C-R could state that gravity is what appears to be the "force" attracting larger massive objects together. The C-R theory predicts that gravity is actually a side-effect, caused by the deactivation of real-time.

By the C-R theory, gravity results from the squeezing, bending, or warping of the real-time activity of any packet, or quanta of matter-energy, causing the energy expressed as real-time activity to decrease. All objects will seek their minimum energy level. In the case of masses, their absolute minimum energy level could only occur at a NO REAL TIME situation. This situation can only occur inside the IB^3 Schwarzschild radius in the Neutral Zone[C-R] of a Black-Hole[C-R]. (The IB^3 Schwarzschild radius starts where the escape velocity reaches the speed of light. Anything trapped between the inner and outer Schwarzschild radii, {in the Neutral Zone[C-R]}, is suspected to be impervious, and unaffected by any and all time.)

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[1]The standard quote from Einstein has been translated something like: "Matter tells spacetime how to warp (or bend), and warped spacetime tells matter how to move."

The appearance of the "force" of gravity occurs whenever any mass successfully bends, warps or pushes another mass into or towards a less time active state. In a direct exchange for the energy loss expressed in active time, the mass gains an exactly equivalent amount of kinetic energy (speed). The kinetic energy can be exchanged for heat or light energy by friction or intra-molecular collisions.

The speed of light, squared, times the mass, times the change in real-time[1] (as measured by a distant observer) will yield the portion of the total energy released.

Since the energy is released in proportion to whatever the mass of the object times the $E=mc^2$ times the proportional time loss, one can see that the amount of kinetic energy gained is not dependent on the mass. The amount of curvature, or bending of time (which can be figured by the amount of time lost per unit of time) will be the only influence on the rate of acceleration, and on the kinetic energy which the mass can acquire.

One of the biggest differences between this description of gravity, and the conventional description of gravity is that the C-R theory clearly does away with the possibility of the collapse of any mass into a singularity. Since the mass can only continue to be subject to the gravitational curvature or gravitational collapse while some real-time exists to de-activate; once the real time has decreased to zero, no further acceleration, or collapse (compaction) is possible.

This simple explanation for the elimination of the gravitational "singularity" represents a possible triumph for the C-R theory, hopefully equaling the triumph of the quantum mechanical theory over classical physics.

The quantum theory proposed that there was a minimum energy orbital for an electron. Once in that orbit, the electron could not radiate away or surrender any further amount of energy. The problem encountered by the classical theory was that Maxwell's equations were derived from real world behavior of larger objects. Applying the equations to the electron's charge orbiting a hydrogen atom yielded a false assumption which

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[1]This change in real time would be unitless. It could be expressed as either a loss or a gain of an amount of real-time activity. For a redshift of 90%, the total kinetic energy gained would be +90% of the starting {$E= mc^2$} rest-mass energy.

For a more mundane, subtle, everyday effect, the loss or gain would be much smaller. In an experiment, an atomic clock was flown in a jet for about 6 hours at an average height of 30,000 feet. After correcting the figures for the speed of the aircraft, a net gain of 53 billionths of a second was realized.

Dividing 53 billionths of a second by 6 hours worth of seconds, one can see that the atomic clock gained about 2.5 trillionths of a second each second from the less intense gravitational curvature 30,000 feet up. Not exactly the obviously apparent real-time gain one would hope for.

Carrying out the calculation to a more human level, lets use a long staircase, 30 feet high. Climbing to the top of the staircase to escape the greater gravitational curvature would yield a net gain of 2.5 quadrillionths of a second per second as the reward for our efforts. Needless to say (which is why I'm saying it needlessly) on our human scale of time measurement, gravitational time gain is unapparent and invisible to our senses.

postulated that the constantly moving electron would continually lose or radiate away[1] all of it's energy until the electron collapsed entirely into the proton.

In a similar manner, the C-R theory forecasts that the minimum gravitational energy for any particle (or mass) must occur when no active real-time remains. Note from the quantum based analogy that the hydrogen atom still possessed energy at the temperature of absolute zero. The hydrogen atom was forbidden from radiating that remaining energy away since either expanding or collapsing the electron's orbital added energy to the atom.

At absolute zero real-time the de-activated particle (hydrogen will do nicely), will still possess some energy. This atom will be totally uncoupled from the external world, and totally unresponsive to any outside stimulus as long as it remains in a zero-real-time condition. From any interactive standpoint, other than still contributing geometrically to the total gravitational curvature, the particle behaves as if it were neutral. This is why the C-R theory calls the zone in which this occurs the Neutral Zone $^{C\text{-}R}$.

Another big difference in the C-R theory vs the classical gravitational theory is in the predicted behavior of a mass in a non-increasing gravitational curvature. One possible example: Consider a well shaft that would be drilled clear through the entire diameter of some asteroid or moon.

Try releasing a ball at the top of this well-shaft. As long as the density of the materials forming the asteroid or moon was fairly constant with depth, the C-R theory would predict that the ball would not fall down into the shaft. The C-R theory predicts that the ball would eventually come to rest wherever the gravitational curvature was the greatest. By the pre-conditions, this could only be at the top of the shaft, at the surface.

Conventional gravitational theory[2] would predict that a ball dropped into such a shaft would eventually come to rest only at the center of the object. At that location, the net gravitational curvature would be zero. However, the active time-domain energy at this center-point would be greater than at the well-top on the surface, where the gravitational curvature would be the greatest.

Note: Above the surface of any object, both gravitational theories would make

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[1]The classical theory used the large scale (macroscopic) observation that moving electrical charges radiate away some of their energy, and continued using that same assumption clear down to microscopic levels. The forecast of the ultraviolet catastrophe predicted that every moving electron should radiate away it's energy continuously until it collapsed into the protons and neutrons of the nucleus. The predicted speed of the collapse would have required all matter in the universe to collapse within about one fifth of a second. Fortunately for our way of life, that calculation was found to be in error.

[2]Most scientists and individuals would predict this too. Such is the power of our earthly experience. Note: the density of the earth increases substantially with depth, more than quadruple the surface density. This non-linear density is why the C-R theory would explain that a penny tossed into a hollow well on earth can fall kerplunk, into the water down below. Otherwise, the penny should remain at the top of the well, trapped at the surface.

So powerful is the direction down - falling link that this may be the most difficult forecast of the C-R theory for the layman or the scientist to accept-- at least until an experiment can be performed or improvised to prove or disprove the hypothesis.

essentially the same predictions, unless the gravitational field strength approached or exceeded the amount needed to form a Black-Hole [C-R].

Gravitons:

Gravitons are supposedly massless particles, which would travel only at the speed of light. When these particles were intercepted, and re-exchanged, gravity would be the intended result.

Somewhat similar to the way that our eyes would detect the presence of light by observing photons (which are the carrier packets of light), the gravitational attraction between masses would be the result of the emission of gravitons. The more massive the object, the more gravitons which it would emit, and the more gravity which would be detected between masses.

Due to the massless nature of gravitons, the force of gravity could extend it's influence to infinite range. The electrical force would also be infinite in range, due to the masslessness of photons. In contrast, using very large massive particles (compared to the distances involved), the nuclear forces of the weak force and the strong force would have very short, limited ranges. Once outside of the region near the nucleus, the strong and weak forces could just about be disregarded.

What the C-R theory says about gravitons:

The C-R theory predicts that gravitons cannot exist, for a variety of reasons. Most of the reasons involve probable conflicts with the Law of Conservation of Energy. The C-R theory predicts that, if gravitons exist, violations of the Law of Conservation of Energy will almost certainly occur. Please see Chapter 1, and the thought experiment file in the appendix, point #1, for the best and most complete explanation of why C-R rejects gravitons. Appendix, __,___

Briefly, a condensed version of the objections come from some thought experiments. For gravity to exist outside of a conventional black hole, there are only a few likely possibilities. Three of them involve the use of gravitons. One is that gravitons are immune to gravity. If the gravitons “red-shifted” before they exited from a black hole, there should be no electromagnetic energy left when the escape velocity is equal to or greater than "c", the speed of light.

A second possibility is that gravitons actually travel faster than the speed of light. This would free the gravitons to escape easily even with the escape velocity equal to "c", the speed of light. For a sufficient density of mass to raise the escape velocity much higher than "c", there is the chance that gravitons could still be trapped inside the black hole, and that the gravitational influence outside of the conventional black hole will decrease. This complication also arises: how could gravitons still practically interact with ordinary matter if they traveled faster than the speed of light?

Another possible solution is that the gravitons use a method of tunnelling from the conventional black hole. The problem which exists here is that random tunnelling is highly unlikely to maintain 100% of the external gravitational field. Even if gravitons were permitted to tunnel from random distances inside the Schwarzschild radius [or if they tunnelled only from the exact center, at a singularity], the gravitons would have a random spread of energies. Some percentage of gravitons would not succeed in tunnelling. (It

would seem unlikely that 5 times as many gravitons {500% of the full-gravity amount} would be banging their heads against the seemingly impenetrable Schwarzschild radius to exactly equalize the number emitted for a hypothetical 20% success rate. If the gravitational field falls short by any amount, conservation of energy would surely be violated.

The C-R theory has an easy-to-use, easy to account-for, alternative strategy.

The C-R theory says that gravitons do not exist. The "force" of gravity is entirely the result of the curvature of spacetime, and the effect of the time-inactivation releasing some of the real-time potential energy which matter possesses. Since this curvature is geometric in nature, and exists because of the presence of the mass, there is no need for any hypothetical gravitons to violate conservation of energy. The gravitational field outside the Black-Hole [C-R] will remain at exactly the same strength as the pre-collapse gravitational field. Even with the matter-energy turned-off, de-activated, or sleeping soundly in the Neutral Zone [C-R], the property of matter to generate the curvature geometrically remains the same. By this method, conservation of energy is allowed to reign supreme.

After all, it would seem to be a shame to link many of the basic conclusions about the laws of physics solely upon conservation of energy, and then throw away those laws at every encounter with every conventional black hole. Of course, the C-R theory conclusions will differ somewhat from other theories which demand some other laws to remain true (entropy, for example), and sacrifice conservation of energy.

H:

Hawking radiation: (The C-R theory does not allow Hawking radiation.)

Under an idea accepted by most conventional theories, a conventional black hole can slowly radiate itself away into nothingness over a staggering amount of time, by releasing Hawking radiation. This radiation is released when the enormous energy of a black hole creates a zone encouraging the production of pairs of virtual particles slightly outside the Schwarzschild radius. These virtual particles are supposedly allowed to be created out-of nothingness, by the quantum (Heisenberg) uncertainty principle. As long as the energy/time product does not exceed the allowable uncertainty, "it is supposed to be allright." (By conventional theories)

After the virtual particles have been created, the (conventional) black hole selects (attracts) the proper anti-particle to consume, allowing the particle of the pair to escape freely. This effectively "liberates" the mass out-of the black hole, slowly but surely.

While the C-R theory's author does agree that this is a brilliant solution to the problem, it also MUST be wrong!! Simple conservation of energy should suffice to show where the errors occur.

First: Allowing virtual particles to be created from nothingness would seem to exceed the original intent of the Heisenberg uncertainty principle. The principle states that, due to the waviness, or imprecision, in both a target particle, and the launched particle, once we changed the energy and momentum of both particles by collision, we had limited knowledge, by Planck's constant over 2 pi. Although we could say where the particle was, at one time, we destroyed that combination of energy and momentum the particle possessed, and changed it.

Over time, the new physics postulated that not only was the knowledge about the particle limited, but the particle itself possessed this characteristic of uncertainty. The C-R theory maintains that this may be the start of the misunderstanding.

Next, notice that the scenario to work, the virtual particles must necessarily be created at some small, random distance outside the Schwarzschild radius, outside of the black hole. Notice: Both the particle and it's anti-particle would have gained the same random amount of excess gravitational energy. (From the distance above the Schwarzschild radius)

The next step requires the conventional black hole to select from the two "virtual" particles only the anti-particle. (Otherwise, the black hole would be worse-off, or more massive at the end, than it had started-out.) Just to be difficult, let us speculate the choice is between a neutron and an anti-neutron[1]. The black hole must choose between these two, select only the anti-particle which will "decrease" its mass and energy, and allow the other "virtual" particle to be freed.

Now, one can easily see that, if the virtual particle is freed, it has gained some random amount of gravitational potential energy. So also, has this extra-energy been gained by the anti-particle. This double-gain is over and above the amount its "ghost-twin" particle (the one to be annihilated inside the black hole) had already gained. HOWEVER: You should note that the anti-particle targeted for annihilation has also gained this same amount of random energy, too. Additionally, as this "victim" is attracted into the black hole, it re-gains this extra-gravitational energy, YET AGAIN!! After the particle is swallowed, then presumably annihilated, within the energy/time requirements of the Heisenberg uncertainty principle, it has a DOUBLED-random amount of excess gravitational energy which it has gained. The C-R theory would claim that this means that the above scenario MUST be forbidden if the law of Conservation of Energy is still true!!! (A suitable analogy might be: eating ones-self to "gain weight" and not accounting for the loss of the mass consumed.)

This is why the C-R theory maintains that any energy observed as coming from a Black-Hole $^{C\text{-}R}$ is NOT due to Hawking radiation. Brilliant as it is, Hawking radiation does not exist.

Hubble Expansion Constant:

The Hubble expansion constant was proposed by the Astronomer Edwin P. Hubble, based on his meticulous observations of red-shifts in the universe. Hubble noted that as the relative distance from earth increased, the red-shifts apparently increased in proportion. The Hubble constant supposed that as the distance from earth increased, the velocity of outward expansion increased in the same proportion.

No coupling or causative mechanism was ever discovered, but the Hubble constant is generally accepted as true by the majority of scientists and theories. The C-R theory proposes a totally different explanation for the Hubble constant: Co-incidental illusion.

The C-R theory maintains that the appearance of red-shifts increasing with the

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[1]By the C-R theory, the difficulty would be for the conventional black hole to communicate with the outside world, at all. Conventional theories mostly allow the total electrical charge trapped inside a black hole to be sensed outside. This would make it "easy" for a conventional black hole to choose between a (positive) proton and a (negative) anti-proton. This is one of the reasons why the C-R theory uses only a "brand-name" Black-Hole $^{C\text{-}R}$, with it's "different" properties carefully emphasized.

distance from earth has nothing to do with the outward velocity of expansion. The C-R theory suggests that the red-shifts appear because, as one approaches the outer edges of the universe, real-time actually slows-down.

Since the time would slow down evenly for all objects inside a circular/spherical shell at the same distance from the center of the universe, all objects in this shell should have the same measure of red-shift. This would be so, since the rate of real-time would be the same for every object within this shell.

Towards the outermost edges of the universe, the objects would appear dimmer. Eventually, past the 99% red-shift level, the objects grow so dim and so red-shifted that we can't observe signals from there that weak and that low in frequency, we would expect to cease observing or detecting anything at all.

The real physical nature of the universe would be the actual explanation for the appearance of the Hubble constant. The Hubble constant would simply appear to relate the position, size, and distance-from-the-center of the universe for all of objects we could see.

The implications for the C-R type universe are enormous, and substantive in nature. For a Hubble-constant defined universe, that universe is expanding rapidly everywhere, not just at the outer edge, with no apparent lack of impetus to affect a slowdown. Such a universe would likely continue to expand forever, and the contents will never again be this energetic or concentrated again, decreasing with size and distance, clear into infinity.

In the C-R universe, however, distant objects appear to be more red-shifted as an actual indication of their real-time slowdown. This property is created by the gravitational curvature in the universe. The objects at the outer edges would appear to be dimmer, and slower in time, because they really were dimmer and slower in time. The measurement of the time-frame becomes dependent on the both the location of the observer in the universe, and the object observed.

Other than the mind-boggler question, how did everything in the universe get here in the first place, the C-R universe appears to be much more humanly understandable, and user friendly/protective. There is no mysterious cause of expansion to require an explanation of events and requiring a source of energy. Also, no strange new basic-repulsive forces of the universe are required, either. Indeed, the C-R universe could almost be called a W.Y.S.I.W.Y.G. (What You See Is What You Get) Universe.

I:

IB^3 = (Insulation Boundary, Isolation Boundary, Information Boundary)

Starting in 2006, the author of the C-R theory has decided to add IB^3 as a shortened version of Insulation Boundary, Isolation Boundary, and Information Boundary. This new acronym will appear before almost every occurrence of the term Schwarzschild radius. The term IB^3 is both easier to pronounce and remember, and less intimidating than Schwarzschild[1]. The additional reason is that Schwarzschild radius is an existing, commonly used term, but the C-R theory adds some important new featured conditions in addition to the older original idea: the location where the escape velocity is equal to the

[1] If or when the term ever catches on, I will propose using this term exclusively, instead of Schwarzschild radius.

speed-of-light. Therefore, I have elected to start adding this new term IB^3 this year.

Imaginary time:

Imaginary time could be viewed as a strictly bookkeeping notion, introduced by the C-R theory, to explain the slowdown in time. The slowdown in time, gravitationally, would be similar to the Fitzgerald-Lorentz contraction for travelling at near-light-speeds. The slowdown could also be compared to the notion (and notation, too) of an imaginary voltage or current flowing in a totally reactive electrical circuit.

When spacetime was warped, bent, stretched, twisted, etc., the effective path length which a lightbeam (or energy, or matter at resonance) takes would be increased. To an external observer this would appear as a slowdown in time. To the particle or observer participating in the slowdown, events "there" would seem to occur normally, in their own localized timeframe. Events would locally seem normal, but to other observers in less-slowed-down timeframes would appear red-shifted.

The extra time taken to complete the journey, as noticed by an outside observer, would be termed imaginary time. This imaginary time would figure in the calculations as the extra amount of time involved in the slowdown, but would not directly be measurable by the person experiencing the curvature (unless that observer could detect a multi-dimensional timewarp).

The situation with time would be similar to the situation faced in real electronic circuits, where the imaginary factor, i^1, was used to keep track of the phase relationships between voltage and current flows in an impedance-resistance circuit.

In a multi-dimensional sense, the extra path-length created by the more convoluted geometry will cause real-time interactions to become slowed down. In the event that the geometry becomes so convoluted that the path curves back on itself, the time will be 100% imaginary. This will always be the case immediately inside the Black-Hole $^{C\text{-}R}$, in the Neutral Zone $^{C\text{-}R}$. This increased path-length will be the preferred position by both matter and energy. The gravitational analogue would be, more intense gravity, and more intense curvature.

The addition of imaginary time will not be locally noticeable by an observer or a particle. An external observer who is not capable of viewing the situation four (or more) dimensionally, will only detect an apparent time slowdown on the part of the particle or observer proceeding into a more intense curvature.

The particle undergoing a gravitational time slowdown should notice all other events

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[1] [i] in this case is equal to the square root of -1. As previously defined mathematically in two and three dimensions, in a four or more dimensional universe, the time vector would be at a right angle to each of the three normal dimensions. The figure i would let us keep track of the phases (angles) of a rotating object. [Sometimes, in complex geometry, j is used as well as i.]

Imagine a ball rolling around the inside radius of a circle. Move the circle in a straight line. The path that the ball would take would be similar to the shape of a stretched-out Slinky, laid out on the ground. One could (but I won't) use mathematics involving [i] to describe the path travelled by the ball. If the speed of the ball is constant, but the radius of the circle increases, the "time" it takes the ball to finish each rotation will increase.

Now imagine this circle as a "hidden" dimension, well below a size we can physically detect. As the gravitational curvature increases, so also the path-length increases. This is simply," How the time-slow-down" occurs.

occurring with an unexpected blue-shift. At a total real-time slowdown, time will be 100% imaginary. A local particle or observer will detect no occurrences, and will undergo no interactions while the total-imaginary-time restriction is in effect. There can be no continuing chemical bonds, no continuing positional relationships (such as above a carbon atom, or below a magnesium atom), and no knowledge of any neighboring matter or energy. The particle will be essentially, asleep and oblivious to any events nearby.

From a quantum mechanical standpoint, at total gravitational curvature (and 0 time, too), the probability of any interaction equals exactly zero. All of the matter and energy in this Neutral Zone$^{C\text{-}R}$ will be in their lowest possible (time-wise) energy state. From a four dimensional viewpoint, the matter-energy resonance packet, (comprising one possible interpretation of the state of matter-energy in a time-less state) would appear to be folded flat, probably to a dimension of one Planck constant in width. The resonance-energy would be completely contained within this dimension, with no possibility of leakage of this resonance-energy by radiation. This would be the case since, with no existing real-time, no excess energy can occur. Hint: Think of a packet (of energy-mass) in a pocket, insulated and isolated from all speed-of-light interactions.

Isotropic Space:

The theory of relativity has proposed that space is without a preferred reference frame, or isotropic. This means that space has identical properties in every direction.

The C-R theory has proposed that this idea is CLEARLY and VISIBLY false!! As far as one can see, in every direction, objects are red-shifted more the further they are from earth. Additionally, in one direction, objects are blue-shifted with respect to us, up to a maximum at a location dubbed “The Great Attractor”. Supposedly, our local group of galaxies is being “attracted” towards this region at up to 600 km/second. An enormous mass, for which there is little evidence, would be required to create this “pull”.

As an alternative, the C-R theory proposes that “The Great Attractor” is actually the CENTER of our universe. As the center of all the mass within this CLOSED universe, the Great Attractor is actually the least-curved, least-gravitationally slowed-down spot in our universe. As such, the clocks “there” run faster than here, on earth, and indeed, faster than anywhere else within the universe.

Proceeding outward, in any direction, one ultimately encounters the outer edges, a Schwarzschild radius, where the curvature (or the escape velocity) equals the speed-of-light. With varying concentrations of matter, the result would be a nearly linear progression of red-shift steadily increasing from the center. (Remember, earth is slowed-down compared to the center, so to us, the center appears blue-shifted.) Well-intentioned scientists in the 1920's and 1930's interpreted the red-shifts as Doppler shifts attributable to rapid recession. There was never any serious consideration that some other mechanism might possibly be the cause!

With the discovery of the black body 2.7 K microwave radiation in the 1960's, predicted to be the highly-diluted remnant from the original big bang, the big bang theory virtually knocked-out the only-other serious competition, the steady state theory, from further consideration. While the C-R theory does acknowledge that we-all are all still looking at the same universe, the C-R theory re-interprets the meaning of the data in a new and exciting way.

The C-R theory proposes that our universe DOES INDEED have a preferred reference frame. The Great Attractor is actually the center of our universe, but rather than attracting anything, it is instead more-time-active (or less-slowed-down) than anywhere else in the universe!!! From there, if we proceed to earth, we are more slowed-down than the Great Attractor, but we ARE faster than EVERYTHING which appears red-shifted to us. As one approaches the outer edges of this universe, the increasing red-shifts are (almost exclusively) caused by the increasing Gravitational Curvature, and not by Doppler-shifted EXPANSION.

J:

K:

2.7K background radiation:

From the time it was discovered in the mid '60's, the detection of the 2.7K background radiation, virtually identical from all directions, has been acknowledged as the proof of the big bang. It was predicted to exist beforehand (although theoreticians were looking in the 7-15K range) as the highly diluted, red-shifted remnant from the original big bang. The other leading contender at the time, the steady state theory, could not provide a good explanation for the 2.7K radiation, and didn't need it or want it.

Although the C-R theory doesn't particularly NEED to detect the 2.7K radiation, as the big bang does, I believe C-R can provide a reasonable explanation, an alternative to proof of the big bang.

To be totally honest, I (the author) originally was in the camp of the big bang believers, and I thought the C-R theory would easily explain the source, or root cause for the start of the big bang. I thought the initial size for the start would be much smaller than the universe now, but vastly larger than any singularity. I would agree that the C-R theory could easily provide the impetus. A concentrated region of time-frozen matter (protons and neutrons) and energy WOULD easily explain the starting conditions. The driving principle would be the release of this enriched-confined mix, the energy and matter so energetically enhanced. This mix also had a natural, self-repulsive property, to allow it to be explosively released. The only SMALL problem to this scenario was one conventional gravitational theories never had trouble with, that is getting the contents of the universe to collapse in the first place.

The C-R theory maintains that matter at the outer edges of this universe is already at a lower energy position NOW than matter closer to the center, such as matter here on earth. That means that matter there would have to GAIN energy in order to collapse inward!! Among the anti-Black-Hole [C-R] phenomenon from the C-R theory, the nova, the supernova, quasars, and gamma ray bursts represent very energetic releases of the contents trapped in the Neutral Zones [C-R] of the above events. Since many more of these occur near the outer edges, it would not be too surprising if these events "averaged-out" over time. The 2.7K temperature represents the sum from ALL individual ex-Black-Hole [C-R] events, averaged out over a long, long time, and smoothed-out until the 2.7K radiation from the sky is nearly uniform everywhere. Rather than one big bang, there is some continuous activity almost always going on.

New for 2006: The C-R theory now maintains that the 2.7K radiation is the continuous

average from ALL nova's, supernova's, quasars, and gamma ray bursts. It is very similar to the roar of a large waterfall, always continuous, and NEVER CHANGING with time. In 15 billion years, the 2.7K radiation will STILL MEASURE 2.7K. HINT: IT also measured 2.7K 15 billion years AGO!!!

L:

Light, speed of:

New for 2006, the C-R theory has added the likelihood that the speed-of-light changes with location, specifically the distance from the center of the universe (the "Great Attractor"). This also represents a measure of the relative energy content of matter, with matter at the "Great Attractor" worth more energy than matter here on earth, and with matter worth even less energy as one gets closer to the outer edges of our universe.

In short, our universe has a preferred reference frame imposed upon it. This means that, contrary to the theory of relativity, space is no longer isotropic, or the same in all directions.

Claim: If we took 1 Kg. of lead, and could convert it entirely into energy, at the center of the universe (the "Great Attractor"), it would be worth more energy there than anywhere else in the universe. At that location, the speed-of-light would possibly measure higher than here on earth.

When we moved that same 1 Kg. mass to earth, we would notice that it was worth less energy. However, the amount of difference in energy would be exactly less by the amount of kinetic energy "freed-up" from transporting that same mass! Note: this means that GRAVITY is no longer responsible for creating the difference in energy in a mass. Rather, the mass takes it's energy with it, something like you taking your car with a tank somewhere between full or empty.

By the time we take the same mass out to a 90% red-shift area (as compared to earth), it would be worth even less energy. Again, the difference would be directly different by the amount of kinetic energy freed when moving the mass. The C-R theory predicts that, either the real speed of light will be less here, or the "distance" travelled will increase by the time slow-down amount.

M:

Mass:

Conventional (Newtonian) theories would define rest-mass as a fixed property of matter. In a gravitational field, a larger mass would have a larger weight, and a tendency to accelerate if dropped. There would also be inertia, a tendency to remain at rest if already at rest, and to remain in motion if in motion (offset by friction and drag here on earth).

New for 2006, the C-R theory now proposes that mass, as a measure of potential energy content, will vary with position. In simple words, a 1 kg mass here on earth would have more potential energy than the same mass moved near the outer edges of our universe. The difference would be exactly equal to the amount of energy used to move the mass (or freed-up from moving the mass) into a different strength gravitational field. This would also mean that a 1 kg pizza on a table here on earth would be worth less

potential energy than that same pizza, lifted-up 1 meter above the table. Significantly, the difference would be exactly the amount of energy needed to lift-up the pizza, 1 kg/meter or 1 newton. (The difference is way too subtle to measure, so it would never show-up in an experiment to measure the mass. The error bounds of the experiment would vastly exceed the difference.)

Technically speaking, this might also be interpreted as the same pizza-mass existing in more real-time, by $E=mc^2$ by the difference in energy gained by the mass from the difference in real-time at the two locations. Although this difference would not show up easily here on earth, by the time one reaches the outer edges of the universe, the time difference amount IS SIGNIFICANT. Note: conventional theories maintain that this red-shift, or time slowdown, comes from ACCELERATION AWAY from earth (and everywhere else, too), with NO KNOWN cause, and no known source of energy to drive the acceleration.

HINT: If the time-slowdown at the outer edges is caused by gravitational means, we here on earth should also be somewhat slowed-down unless we are at the exact center of the universe. This means that anything closer to the center of the universe than earth SHOULD BE blue-shifted with respect to us. We are not ACCELERATING towards it, and it is NOT PULLING us towards it.

VERIFICATION: Although verification is relatively easy, it would not be quick, and it is not something that could be done within the foreseeable future. To verify the C-R theory claims, just travel to any area which appears red-shifted to us. Look at earth. If earth is also red-shifted by the same amount, the C-R theory is wrong - period. If earth appears blue-shifted, by the same amount that area appeared red-shifted when viewed from earth, the C-R theory view is correct.

The perceptive reader may notice, yes the test is simple to do, but unfortunately, it would not be quick, and just the expense and logistics of the travel required, plus the slow-speed “sub-light-speed” travel times would be prohibitively long for thousands of human lifetimes to make a round trip. I cannot rule out some future technical breakthroughs, or contact with other beings who have wider knowledge of conditions encountered. Within our lifetimes, the test seems impossible to accomplish.

N:

(Time) Neutral Zone $^{C\text{-}R}$:

This hitherto unexpected zone, or shell-boundary, or volume consists of the total volume contained between the shell inside of the outermost IB^3 Schwarzschild radius, and continuing inward towards the inner IB^3 Schwarzschild radius, (if any)[1].

This Neutral Zone $^{C\text{-}R}$ would be a newly predicted phenomenon, exclusively from the C-R theory. If the Neutral Zone $^{C\text{-}R}$ exists, then all matter and energy swallowed or

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[1] A newly formed Black-Hole $^{C\text{-}R}$ may only have an exactly critical Active Zone $^{C\text{-}R}$. In this limited case, there will be no neutral zone. As soon as the Black-Hole $^{C\text{-}R}$ consumes some matter, this matter will entirely be concentrated inside the Neutral Zone $^{C\text{-}R}$. In theory, nothing requires each Black-Hole $^{C\text{-}R}$ to have a Neutral Zone $^{C\text{-}R}$, but in practice, it would be very rare, and highly coincidental, to find a Black-Hole $^{C\text{-}R}$ without some extra mass trapped in a Neutral Zone $^{C\text{-}R}$.

trapped by a Black-Hole [C-R] will accumulate within this zone. Real time will not “occur” for the entire contents anywhere in the volume of this zone. All of the contents of this zone will be totally inert (neutral) to all electromagnetic interactions. Every property of matter-energy, except momentum and mass, will appear to be "sleeping". This is especially true for electrical charge repulsions and attractions.

Everything in this zone will appear to be electrically neutral, both to anything else trapped inside the Neutral Zone [C-R], and to anything located both inside and outside of the Neutral Zone [C-R]. This interactive ban will be valid as long as the particles are time-inactivated.[1]

The Neutral Zone [C-R] will still produce and maintain it's contribution to the geometric equivalent of the pre-collapse intensity of the gravitational curvature. This curvature produced directly from inactivated masses will not decrease (or change) at all from the geometric warping of an equivalent amount of time active mass. This demonstrates that gravitational radiation, and the predicted subatomic particles called gravitons, do not need to exist.

One other advantage of the Neutral Zone [C-R] is that a singularity can no longer be expected (or demanded) to form at the center of a Black-Hole [C-R]. 100% of the surrenderable real-time energy will have been lost (i.e., traded for kinetic energy and collisions, or surrendered to the Neutral Zone [C-R]) by matter upon it's entry into the Black-Hole [C-R]. The effect resulting from the de-activation of matter, which we term gravity, will no longer have the power or the ability to collapse matter any further. This neat little principle will easily prevent a singularity, with all of it's hyper-relativistic contradictions, from appearing.

Since the C-R theory has had to adopt some different assumptions from standard

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[1] As pure speculation only, here are a few possibilities. One: All of the matter and energy in this zone would behave ethereally, or ghostly. The matter-energy would pass right through everything else without interacting and without caring. If this indeed is the case, then there would be no hope of exact restoration for some brave soul daring to enter a Black-Hole [C-R], to see what's on the other side. All chemical bonding information, and positional memory would be forever scrambled, and inalterably non-recoverable.

Another possibility is that the matter-energy behaves somewhat like perfect, hard billiard balls. Nothing interacts with anything, and nothing tolerates more than a surface contact with anything else. Positionally, if we considered a literal description of "no-real-time", all matter and energy would be so frozen that no mixing or shuffling could occur.

If absolute, total freezing of the contents does occur, this would suggest a very remote chance that some information, such as chemical composition, undestroyed chemical bonding energies, and the spatial integrity of all mass in proximity could be recovered from an individual person stupid enough or unlucky enough to encounter or enter an active Black-Hole [C-R].

An additional possibility would be to consider multi-dimensional loops or knots. These "knits" in the fabric of time could remain connected, string-like, during their confinement. It would be more likely that these individual loops practiced an extreme version of existentialism; existing by themselves, with themselves, and never knowing about or connecting to anyone or anything else.

While each of these possibilities seems to leave some logistical and logical questions, none of them are intellectually more satisfying, or so clearly superior to the others that it must be the only correct choice. Nevertheless, the beneficial properties acquired from the use of a Neutral Zone [C-R] seem to outweigh the difficulties in selecting from the choices. If any inside information is maintained, or if it is irrevocably lost, the Black-Hole [C-R] does seem to demand a Neutral Zone [C-R].

theories, the possible burden of proof may be on the C-R theory. If these simple, C-R inspired assumptions are true, and Black-Holes [C-R] do behave as the C-R theory predicts; many difficult to account for phenomenon would have a relatively simple, straightforward explanation. The appearance of the universe today would flow easily out of the pathways provided by the C-R theory.

Note: By re-establishing an ABSOLUTE quantity, as in absolutely NO real-time, the Neutral Zone [C-R] can ultimately recycle matter and energy with (near?) 100% efficiency. It is important to note that in this respect, the absolutes from classical mechanics were certain, but the "iffiness" of uncertainty haunts the precision of results that can be achieved from quantum mechanics.

There is no uncertainty about the "OFF state" and the neutrality of ALL electromagnetic interactions inside the Neutral Zone [C-R]. It is ABSOLUTE!!

Neutrinos:

Neutrinos are very small and non-interactive, electrically neutral particles of matter. Neutrinos were first predicted, then discovered slightly after the first fusion reaction was created, on earth. The neutrino particle was called upon to account for all of the missing mass, energy, and atomic spin which was detected from the aftermath of the fusion reaction. The neutrino has either a very small mass, or no mass (no mass has yet been reliably-assigned to the neutrino, but current experiments predict that if the neutrino has mass-energy, it will be below 12 e.v.). The neutrino also has a property called atomic spin.

The neutrino is very non-reactive. If a beam of neutrinos passed through a mass consisting of a sheet of lead one light-year in thickness, it has been predicted that at least 50% of the neutrinos would remain. Since capturing any specific neutrino is so difficult, scientists have not been able to conclusively demonstrate whether the neutrino has any mass. Originally, theories predicted that the neutrinos could travel only at the speed of light, and to do this they had to remain totally massless. Recent theories have predicted that neutrinos may indeed have some mass. The upper limit has been established at an energy equivalent 12 e.v., or electron volts. (This would be the equivalent energy an electron would acquire if it passed through an electrical field with a potential of 12 volts.)

(Lack of) Neutrinos:

Since the energy output of the sun is known rather precisely, scientists have predicted the rate at which neutrinos should be created as the byproduct from the ongoing fusion reaction. At most, the amount of neutrinos which have been detected as coming from the sun can be no more than 1/3 of the predicted level.

One recent explanation (read: invented excuse) is that the fusion reaction inside the sun occurs intermittently, with on and off cycles as the density changes. To explain this would require that ongoing measurements were just coincidentally and currently going through a null point in the fusion cycles. The resulting lack of neutrinos would be ascribed to this inconsistency in the fusion rate.

Another recently proposed conventional explanation for the paucity of neutrinos is contingent on the fact that neutrinos are composed of a combination of theoretical particles called quarks. Because there could be ongoing oscillations in the resultant character of the neutrinos due to the shifting nature of two of the component quarks. If

the neutrino was the detectable type only 1/3 of the time, this would prevent 2/3 of the predicted stream of neutrinos from being detected. This reduction in the neutrino flow would proceed from the presumption that the character of the quarks would be continually shifting with time, and the only easily detectable phase (or most interactive phase) of the neutrino would occur only 1/3 of the total time.

What the C-R theory predicts:

The C-R theory would account for this lack of observed solar neutrinos by predicting that a Black-Hole [C-R] at the center of the sun creates most of the observed radiant energy. Only a smaller fraction of the radiated energy, (as yet undetermined, but 1/3 sounds like it would be as convenient a fudge factor as any) would be available to create neutrinos by fusion. Fewer neutrinos would imply that fewer opportunities for fusion occurred due to local conditions not favoring fusion.

In an offshoot rhetorical question, comparable to Oblers' Paradox, the C-R theory would also ask: why is the sky not full of neutrinos[1]? If every suspected visible and hidden star thought to exist in the universe has been creating neutrinos by fusion for all of their multi-billion year old lifespans; there should be an incredible number of neutrinos traversing through space from every conceivable direction. Even when the expansion of the universe is taken into account, there should be many more neutrinos detectable than present experiments indicate.

The C-R theory could conceivably allow some neutrinos to be created as unintended byproducts created by ongoing amounts of solar fusion. Some neutrinos could also be leftovers spilled out at the lesser events, kind-of small scale big bangs.

The C-R theory does predict that some of these free-flying neutrinos could be stored up inside a Black-Hole [C-R] for eventual release[2]. This slow entrapment, then rapid release would account for a large burst of neutrinos detected from a nova in the Milky Way. Within a fraction of a second, a burst of neutrinos was detected from a direction near the center of our galaxy. Shortly thereafter, within a few hours of the burst, the apparent increase in magnitude of a hitherto unremarkable star was noticed. From the moment when the burst of neutrinos was recorded, it took the light several hours to increase sufficiently in magnitude to the point where it was noticed. Within a few more hours, the difference in the brightness from the star was easily detectable.

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[1]This would be especially true if the universe is static and not expanding, yet is filled with ongoing matter, some of which is undergoing fusion. The proportion of energy in the universe provided by fusion may be vastly overestimated, especially if most stars energy outputs occur due to gravitational energy surrendered to a Black-Hole [C-R] at their center. Note: the energy output from gravitational infall into a Black-Hole [C-R] is much more efficient than the “meager” 0.7% of rest mass liberated by fusion from hydrogen into helium.

Even if this is not the case, with many Black-Holes [C-R] in the universe, each one is capable of capturing then confining any neutrinos attempting to pass through any Neutral Zone [C-R].

[2]Actually, since neutrinos are possibly massless, there is no good reason why they shouldn't be allowed to tunnel away from the clutches of a Black-Hole [C-R] at the center of the sun. This equivalent to reflection or re-emission of neutrinos from the sun could explain why there are so many MORE neutrinos detected emerging from the direction of the sun than the C-R theory could need. (This provides another possible source for a good, probable fudge factor.)

The reduced neutrino emission scenario above could be produced by strictly invoking the scientifically accepted stellar reaction, powered only by fusion, and occurring during the nova phase. However, the C-R theory seems to provide an equally viable alternative explanation for this event.

Neutrons:

Neutrons comprise at least one half of the critical components of an average atom's nucleus. The neutrons help by providing the binding force "glue", which causes the mutually repulsive protons to stick or bind together, rather than attempting to break apart the nucleus.

Other than the fact that the neutrons are also massive and will be readily consumed by an active Black-Hole [C-R], there is no new or radically different behavior exclusively for the neutron which the C-R theory would predict. The C-R theory view of gravity, and it's root cause will describe the collective behavior of a large conglomeration of neutrons to be different.

In a conventional theory of gravity, the tremendous mass of a compacted neutron star might allow the density of the mass to increase to the point where the neutrons are no longer capable of resisting gravitational collapse. If this is the case, the already-compacted, crushingly dense neutrons will either collapse into an 'order-of-magnitude' denser "quark soup", or else, totally collapse into a singularity.

The C-R theory has no objection to neutrons collapsing into denser blobs, up to but not more massive than pure quark-soup. Whether this collapse event is needed or is even possible remains for future theorists to model (muddle) over.

The C-R theory will predict that all matter, however densely compacted, will fully resist collapse into a singularity. Please see Gravity: see Singularity: or see Collapse: for expanded C-R theory ideas .

Nova:

The term, nova, which is Latin for new, originally was coined to describe what was thought to be a new star in the heavens. Nowadays, it is recognized that the star which undergoes the nova is not new. Photographic records always seem to show that the star in question has existed for some time. It is simply that during the nova, the star becomes momentarily brighter than thousands, maybe millions or billions of normal stars.

The present day theories account for this temporary brightness increase with the explanation that the star has undergone the last fusion of it's hydrogen to helium. In some cases, the star will even have finished its conversion of helium into heavier elements. Present-day theories explain that this is the cause of the nova: As the star nears the end of its useful life, the supply of lighter elements still available for fusion decreases. The temperature at the core decreases from the less plentiful fusion reactions. The hot ball of gaseous elements starts to collapse as it "cools-off", as the result of the inexorable pull of gravity. This collapse rapidly creates a thermal shock wave at a lower layer, and this locally increases the density and temperature around that layer of the star. Therefore this compression greatly multiplies the fusion reaction rate, and this compressed, ignited layer virtually explodes.

Spending it's last available amounts of fusion fuel, this surging thermonuclear reaction scatters the concentrated mass from the star. Along with the brilliance created from this

last catastrophic process, in the violence of the nova, the star undergoes it's final death throes.

If enough unfused matter still remains, the reaction may yet continue. The star may undergo the nova stage more than once if conditions are favorable.

This last dying act of the star will leave a luminous shell or ring of material scurrying away from the vicinity. At the center, where the star used to exist, there will be a rapidly spinning, incredibly dense remnant of concentrated neutrons.

This collapsed neutron remnant is named a pulsar. The name, pulsar originated due to the almost perfectly timed pulses it emits[1]. Scientists now know that the pulses from the pulsar will slow down over time. Ultimately, a nearly dead, very low energy blob of neutrons will be left. This collection of low-energy, densely concentrated matter could be termed a brown dwarf.

If the pre-nova star started off with more than (the best current guess is) 2.5 times the mass of our sun, then an even more violent, and spectacular event, called the supernova, can occur.

The C-R theory predicts a possibly more straightforward account of a star undergoing a nova[2]. By the C-R theory: If any star has a Black-Hole [C-R] at it's center, it would be this, not fusion, powering the star. After an extended lifetime, the massive accumulation of positive charges and neutrons in the Neutral Zone [C-R] allows some external event to trigger the anti-Black-Hole [C-R] phenomenon. Whatever allows the contents from this Neutral Zone [C-R] to escape, only this can provide the source of the incredible energy output available to cause the nova of each star.[3] Naturally, the output of both the nova and the supernova would be highly ionized, and this provides the source of the energy

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[1]The pulses from the pulsars were so regular, scientists at first thought that they were astronomical beacons, used as reference markers by extraterrestrial civilizations. With the passing of time, the slowdown in the pulses became apparent, and the natural origin of the pulses was proposed somewhat later.

[2]Most, if not all of the stars observed to undergo a nova appear to have a companion star. While nothing in the above scenario would prevent this, nothing in the above scenario would remark on the possibility of coincidences. Is it only a coincidence that stars with companions have been observed to go nova?

Let us see what the C-R theory has to say for itself.

[3]From a theoretical standpoint, the overall proof of the C-R theory would be greatly aided if every star had a Black-Hole [C-R] as the source of it's power. The C-R theory could still hold true and accomplish the total recycling of the universe even if most (or all) stars did not derive their energy from a Black-Hole [C-R] at the center.

The C-R theory could still succeed if only the centers of galaxies and remnants of supernovas incorporated Black-Holes[C-R]. Concocting or explaining the availability of materials ready to undergo the recycling process would be more challenging.

On the other hand, if any one instance of Black-Hole [C-R] energy and charge storage should be true, all levels of Black-Hole [C-R] recycling become much more probable. Nature seems to enjoy multiple re-use of any cyclical energy recovery schemes, especially on grander scales of magnitude.

and the rapid and accelerating outrush (glowing ionized ring or shell).

Any star-centered Black-Hole C-R eventually accumulates a great imbalance of positive charges. Continuously swallowing protons and neutrons, while releasing many, if not all electrons increases the severity of the magnitude of the release. The vicinity all around the star will abound with excess electrons, and we should detect and expect a negatively charged solar wind.

The trapped positive charges and their neutron pals are totally time-inactivated. These particles, and anything else stored in the Black-Hole C-R (Neutral Zone C-R) are prohibited from undergoing any interactions including mutual repulsion, while the time-inactivation remains valid.

To spring the trap, the C-R theory would require the presence of some time-active, external or internal trigger. Potential candidates could include:

1. Tidal drag, or gravitational timewarp boundary shifting, which might occur from an orbiting companion star.
2. Tidal drag caused by a relatively large, nearby planetary mass.
3. A gravitational disturbance by a comet or an asteroid.

Upon the action of one or more of these sources, some of the time inactivated positive charges might be allowed the opportunity to re-enter active time. The energy to mutually repel the positive charges will be provided from some of the energy stored up due to the gravitational collapse. As soon as any real-time activity is restored, the positive charges will again detect their fellow protons, and these ex-jailbirds will mutually repel each other.

This trapped particle parole program creates a local decrease in the density of the matter-energy trapped in the Neutral Zone C-R. Suppose that there is a sufficient amount of a disturbance, which releases a large quantity of pent-up positive particles. This allows a reduced curvature ripple effect to spread through some or all of the time inactivated matter. If this occurs, some or all of the matter and energy trapped inside the Neutral Zone C-R in this Black-Hole C-R could become freed from their prison. This matter and energy released will need to expend some stored-up energy to overcome the effect of the total time-slowdown of the Neutral Zone C-R.

Notice that the re-activation of some matter from the contents of the Neutral Zone C-R in the Black-Hole C-R does not necessarily imply that all of the matter trapped within will have the opportunity or the ability to re-activate itself. Notice also that, however much of the trapped matter-energy is released from the Neutral Zone C-R; there may not be enough of a release to affect in any way the contents of the inside Active Zone C-R of the Black-Hole C-R. This inside Active Zone C-R will still possess enough mass compacted to a density sufficient to allow the total curvature of spacetime to zero-real-time at it's Schwarzschild radius boundary.

The release of all of the matter and energy trapped inside the Neutral Zone C-R could not affect the inside Active Zone C-R, unless there also was some tidal shifting of spacetime in that vicinity. This tidal shift would allow: either a realignment of the Schwarzschild radius; or some of the activated matter-energy contents to leak into the formerly closed inside Active Zone C-R.

Some of the novas which occur may not have sufficient energy or sufficient total-gravitational collapse interruption to allow the liberation and re-activation of the entire

contents of the Neutral Zone [C-R] on the first try. In this way, more than one nova is possible from any given star.

Since the nova frees large quantities of very energetic and densely concentrated atomic nuclear material, it would not be surprising if heavier elements were created from, and detectable in the aftermath of the nova. After releasing many of the accumulated positive charges, it is also possible that some very dense structures composed primarily of compacted neutrons were left behind.

O:

Oblers' Paradox:

In the 1800's, the German astronomer Wilhelm Oblers posed this classic question: If there are infinitely many stars, in every direction you look, you would see a star. If so, the sky should be as bright at night as it is in the day. Then why is the sky dark at night?

Oblers realized that only a few logical answers were possible.

One answer was that the number of stars was not infinite. The amount of stars in the universe, though large, was not unlimited.

Another possibility was that the universe was expanding. This was rejected as absurd, because any 19th century astronomer could see and feel that the earth, and the stars around us, were not rushing anywhere.

The final possibility considered interstellar dust was present, which would block and absorb the starlight.

(There is the unstated possibility that events elsewhere in the universe are simply not identical to events near the earth. This was not even thought-of, much less, considered.)

Oblers chose the final explanation, and concluded that too much dust existed in the universe. This dust prevented some of the light from far-away stars from reaching us.

Modern astronomers have rejected Oblers' conclusion. The second law of thermodynamics[1] states: If the interstellar dust absorbs all of the excess starlight, it will get hot, and radiate. Even if a huge amount of dust existed, that dust would eventually become warm, if not hot, and would itself become a luminous source of measurable radiation.

Modern astronomers have chosen the second option, the expansion of the universe, as the answer to Oblers' paradox. From the available red-shift information, they have concluded that the outer portion of the visible universe is receding by at least 90% of the velocity of light. This rapid recession is supposedly the reason that the sky remains dark outside whenever we turn out the lights at night.

We here at the C-R theory have no quarrel with the assumption that: if the universe is expanding, this expansion would account for the darkness at night. What we may pick to quarrel with are two parts to the assumption the universe is expanding.

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[1] No complaints with the second law here, folks. This energy absorption/re-radiation situation is what the second law was intended to cover. See extended definitions on the Second Law of Thermodynamics for some potential problem areas.

First, if the universe was contained inside the Active Zone [C-R] of a large Black-Hole [C-R], we would expect that the timeframe of reference nearer the outer edge of the universe will be slowed down. Therefore, events occurring nearer to the outer edge will be, by the nature of spacetime itself, slowed-down. This real-time slowdown will produce identical appearances, most of the time, to the receding universe option.

Secondly, the C-R theory predicts: Some Black-Holes [C-R] may indeed absorb excess starlight. By the C-R theory, active Black-Holes [C-R] must only consume, or store up energy. These (C-R brand) Black-Holes [C-R] naturally accumulate energy without incurring the same warmup in their "measurable" surface temperature which would be suffered by second-law-bound bits of dust. Black-Holes [C-R] are forbidden from re-radiating any of their energy diet[1].

Open Universe:

The term open universe refers to a universe which has no physical or practical barriers to it's continued expansion. If the universe is indeed open, then the universe can continue expanding forever unless something can slow-down, then halt, and maybe even reverse the expansion. If the universe cannot expand forever, then some barrier must exist to prevent the expansion.

Normally, conventional theories would declare that the opposite to an open universe would be a closed universe. The closed universe would have a sufficient mass so that the contents of this universe would eventually collapse upon itself after some given period of time.

The C-R theory would propose a third alternative. An exactly balanced critical-mass universe. Such a universe could appear to be on the threshold of expansion forever, but would be closed at some boundary. (An outer IB^3 Schwarzschild radius.)

The C-R theory does not allow the observable universe to be open. Since we all observe the red-shift at the outer edges of the universe; the C-R theory explains that the cause of that red-shift is the gravitational time-slowdown.

Because the C-R theory requires an imposed reference-frame over the entire universe, the C-R theory should easily be able to explain why there is more curvature at the edges of the universe. This higher curvature causes the increased red-shift. Most of the curvature-producing mass in this universe resides further inward from this boundary. If we can allow the universe, by definition, to have exactly enough mass to close off (or

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[1] Conventional black holes are not so lucky. Conventional black holes are forced to theoretically obey the second law of thermodynamics. Stephen Hawking proposed that a black hole will favorably consume the proper anti-particles which it would need to dissipate itself out of existence. Please see the C-R theory rebuttal of Hawking radiation, or see the extended definition on the Second Law of Thermodynamics.

curve to the maximum) spacetime[1]: then this universe is inside a very large Black-Hole [C-R]. Therefore, the universe is prevented from expanding at all. Also, matter near the outer edges of the universe is already at a LOWER energy state than matter further inward. This means that matter near the outer edges would have to GAIN energy to collapse further inward.

See also the Extended Definition for Closed Universe.

P:

Protons:

Protons are the positively charged subatomic particles generally residing in the nucleus of all atoms. The number of protons determines the atomic number of an atom for each element.

The proton is almost identical in mass to the mass of the neutron. Protons are also the main component of the most energetic cosmic rays, sometimes called alpha particles. Protons by themselves could be considered as the nucleus of a singular hydrogen atom. The protons in any heavier nucleus are bound together by the strong atomic force, together with an equal or greater number of neutrons.

In conventional theories of the universe, the proton provides much of the energy which we can detect. To surrender it's energy, the proton can be brought together and combined with other protons and electrons to be fused into heavier elements. Generally starting with hydrogen, the fusion reaction will occur favorably up until atomic number 56, or the element iron. The energy released when this binding occurs is substantial; it is the same type of energy released during a hydrogen bomb blast.

Conventional theories also predict that the entire energy output of the sun is presently due to the fusion reaction occurring at the center. In this reaction, four hydrogen atom nuclei (4 protons) and two electrons are combined at very high temperatures and pressures into one helium atom, i.e., two protons and two neutrons. In the process of the fusion reaction, there will be two neutrinos produced (because two hydrogen nuclei were converted into neutrons).

By the C-R theory, the proton takes on an entirely different and very profound role in the overall course of the universe.

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[1]This is not the quite the low-probability coincidence that the situation might suggest. The C-R theory predicts that every Black-Hole [C-R] will have an Active Zone [C-R] inside, and every Active Zone [C-R] will be exactly critical. If the Active Zone [C-R] expands, more matter residing in the Neutral Zone [C-R] will be liberated, and if the Active Zone [C-R] decreases in size, more formerly active matter will suffer de-activation. As matter is de-activated, the size of the Active Zone [C-R] will decrease, and the Active Zone [C-R] will maintain it's exactly critical nature.

Of course, the intelligent reader asks, Why doesn't the entire universe collapse into the center? Counter-intuitively, the answer is simple, but sounds stupid, too. The matter at the edge of the universe is already at a LOWER energy state, real-time-wise, than the matter further inward. (The gravitational curvature is more intense there.) Since the matter would have to GAIN energy to fall inward, and the energy needed is not there, the matter is trapped.

The time-surrendering nature as the basis of the gravitational attraction presents it's greatest triumph here. It allows our universe to exist without a mandatory collapse.

To generate the incredible energies which we observe coming from our sun and other similar stars, the C-R theory predicts that Black-Holes [C-R] are really the cause for most of the energy output. Without proving it first, let us imagine any old Black-Hole [C-R] at the center of any old star.

Any Black-Hole [C-R] surrounded by matter will swallow the massive protons (and neutrons) far more readily than it will be able to trap the less massive, whizzing electrons. The total gravitational collapse of spacetime will permit the Black-Hole [C-R] to store-up the protons in a time-inactivated, effectively electrically neutral state. The protons will still possess their positive charge, but they will be rendered temporarily incapable of undergoing any electrical interaction.

Eventually, an unstable condition may occur which will permit the release of the inactivated contents stored inside the Black-Hole [C-R], from the Neutral Zone [C-R]. At this time, all of the stored-up electrical charges and energy which the Black-Hole [C-R] has trapped over time will have an opportunity to escape.

Because the C-R theory predicts that the Black-Hole [C-R] can only store-up matter and energy without any being released from the Black-Hole [C-R]; the Black-Hole [C-R] will play a part in the overall scheme of things in the universe.

It is in this context: providing a recognized means for matter inside the Black-Hole [C-R] to overcome the local gravitational curvature, that the proton comes into its own. The critical link in the recycling of the matter trapped in a Black-Hole [C-R] is provided by the proton, and it's unique nature of relatively large mass, and an active positive charge.

It may indeed be ironic that nature has selected one of the smallest but most abundant sub-atomic particles to enable the pathway for the recycling of the largest known object, our universe. How suitable that one of the smallest detectable objects has special characteristics that profoundly enable the universe to recycle, and defeat entropy.

Q:

Quantum Mechanics:

Quantum mechanics could be defined as a branch of physics which covers any physical phenomena occurring in discreet packets, intervals, or quanta. The events and phenomenon in this atomic-scale quantum universe would yield a non-continuous, choppy result when compared to the description of events as predicted by classical physics, i.e., continuous smoothness.

Quantum mechanics takes into account the particle-wave "duality" of sub-atomic particles. The particles, or the resonant energy packets have an inherent indistinctness about them. By observing a particle, we must disturb at least one of its physical properties to detect it. In doing so, we forever alter some pre-event physical information about the particle. We can never know both the after-interaction state and the pre-interaction state.

Consider an electron, orbiting a hydrogen atom (proton). The quantum effect would require the electron's orbit either to remain stable or to change in discreet amounts of energy. These discreet amounts of energy change would create or absorb photons. There is a limited number of allowable frequency (or energy level) photons. These photons represent the minimum possible division of light-energy (or another frequency of

electromagnetic radiation).

This restriction of created or absorbed photons to discrete energy transitions would account for the characteristic spectrum emitted or absorbed. An example would be when a gas was heated and ionized, the spectrum is emitted in discrete frequency bands, as in a neon sign. This quantum effect also explains why, by absorbing only certain frequencies, an elemental gas could be detected and therefore, proved to be present.

Each element has it's own characteristic spectrum, for both emission and absorption. Because of the actions of the chemical bonding, chemical compounds have a different characteristic spectra when heated. Other effects of quantum mechanics come into play with interference patterns, due to the wavelike nature (duality) of individual sub-atomic particles or photons. Curiously, these interference patterns will still occur even when each photon or particle is individually released. This self-actualized interference proves the inherent “waveness” of particles, and the “particleness” of waves. Modern electronic circuits, such as transistors, diodes, integrated circuits, and the like also exploit the quantum nature of the electron.

In higher energy interactions, even the nucleus of the atom will start to behave in strange ways. The explanations of why the nucleus undergoes these changes have only been successful by using the quantum mechanics methods. Additionally, many sub-atomic particles have also been detected, and all have thus far obeyed the rules of the distinct quantum nature.

With particles of matter and events on our large (macroscopic) scale, the effects of the quantum nature of the sub-atomic world can be nearly 100% ignored. Once we decrease the scale to the sub-microscopic world, where minuscule amounts of matter and energy are dealt-with, quantum effects are the rule, rather than the exception.

An interesting spin on quantum mechanics, unique to the C-R theory, is the limitation on the photon. Once the photon is emitted, the C-R theory maintains that the photon DOES NOT change its frequency, or its emitted energy value. Rather, the energy timeframe that the photon is compared-in changes as the photon travels around the universe.

The C-R theory says that there is NO possible mechanism to allow gravity, or changes in the gravitational field, to interact-with, or affect-a-change in the value of the photon. Note: nature went to a great deal of trouble to restrict the photon’s energy level to specific values (quanta) of energy. This encompassed a specific fraction of “resonant energy” of the electron’s orbit. Indeed, the QUANTUM part of quantum mechanics acknowledges this limitation.

The C-R theory therefore limits this photon, travelling at light speed, to the emitted value, and the emitted value only. Thus, the photon carries with it a measure of the timeframe it came from. The C-R theory firmly believes that the photon thus cannot be held hostage by external changes to “gravity”. Note: spectrographic records of photons passing through regions of greater and greater “time-activity” would be C-R theory compatible. The difference is in the interpretation of the data.

As a sidenote, although not scientifically provable, I have read that there are something like a billion photons in the universe per every hadron (the family of massive particles starting with protons and neutrons). If every photon in motion could continually change its energy value, I could seriously imagine a challenge even for an all-knowing creator, to keep-track-of the value of each photon. Additionally, I personally doubt that

nature has the time, or the inclination, the ability, or the energy reserves, to continually adjust, or fine-tune, each photon on it's travels.

For the interested reader, I will challenge you: How can a photon, travelling at light-speed, possibly interact with something, at any possible angle of "encounter", locally sensing the gravitational strength, and "know" whether to add or delete energy accordingly? Even if YOU CAN conjecture some method to do so, compare that to the C-R theory version, DO NOTHING to the photon once it is emitted. Which of those two possible scenarios do YOU think nature would choose to do? Hint: Consider the principle of Occams razor. (For those of you who don't know, Occams razor says that when choosing between two choices, or two principles, nature virtually ALWAYS picks the simplest, least complicated of the two.)

Quasars:

Conventional theories are mostly mystified by the objects now known as quasars. The name quasar, was shortened from the original mouthful, quasi-stellar radio objects.

The first quasar was detected by the output of energy in the radio band. This radio energy was later found to be extremely red-shifted light. The spectral patterns from the elements measured suggested that some quasars were red shifted by at least 90%. The quasi part referred to the seemingly star-like nature of the object, even though the frequency of the energy output from the quasars was shifted way-down into the radio band.

Conventional theories ascribe to these quasars the honor of being the brightest objects in the sky. This conclusion was based on the measure of the redshift (up to 90%-95%), and the Hubble constant. The Hubble constant states that the farther some object is from us, the faster it recedes. By virtue of their 70%-90% recessional velocity, the various quasars have been proportionally assigned an age and distance rating anywhere from 1 billion to 10 billion years old, and the same distance away in light years.

If these age and distance calculations are correct, then the relatively dim appearance of these "stars" is even more spectacular, considering the enormous distances involved.

Astronomers and cosmologists startlingly concluded that these little objects, less than one light year in diameter[1], outshine all the billions of stars in any nearby galaxy. This conclusion provides the quasar with the reputation of a most inexplicable energy output. Conventional theories turned to several alternatives.

One alternative explanation is that the quasar represents a white hole; the other end, if you will, of a conventional black hole. What matter and energy goes into a black hole - somewhere; comes out at the quasar, somewhere else.

Another possibility mentioned is that the quasar represents a recurrence of some of the starting conditions left over from the big bang. Present theories lack the proper understanding to account for these objects. The snag seems to be that the

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[1]Some quasars have been observed to vary their output in a matter of days, if not hours. If this is so, then these objects must measure not too much larger than X number of light-days or Y number of light-hours. This is because there is no known coupling mechanism which would allow these quasars to change brightness across their surface at a rate faster than the speed of light.

initially predicted smoothness of the big bang leaves matter too energetic, and too smooth to collect and concentrate in such obvious lumps as quasars in the short amount of time after the big bang.

Some theories suggest that the quasars represent something like a miniature version of the big bang. While not exactly accepting the same reasons that conventional theories would use, the C-R theory suggests that this scenario is probably the closest to reality.

Using the C-R theory to explain what quasars are:

One of the nicest benefits accruing from the C-R theory is that: from the nova, to the supernova, to the Seyfert galaxy, the quasar, to the gamma ray burst (for 2006, the C-R theory now doubts the ultimate: the big bang itself); only an increase in the size or magnitude of the event is required. We might imagine a quasar as a more-outlying phenomenon, cosmologically, than a supernova. The quasar would shine with a more intense illumination, and with a greater amount of matter and energy released. One could reasonably imagine the young quasars acting as the fountain-like source of the materials for the later stage of cosmological evolution; the building-up of galaxies and star clusters.

The quasars are NOW releasing extra quantities of matter and energy trapped by the parent Black-Hole [C-R] and appearing like a smaller version of the original concept of the big bang. These quasars could be viewed as miniature “big bangs”, occurring continually in every direction, and averaging-out to the 2.7K radiation which has been interpreted as the evidence of the original big bang.

The real-time inactivation properties of the Neutral-Zone [C-R] can be put to work in no better way than to explain the energy- and ion- rich conditions of the ejecta from the quasar, the supernova, and the nova.

By the C-R theory: matter which has been swallowed by a Black-Hole [C-R] will be time-inactivated, then held in the portion of the Black-Hole [C-R] which C-R calls the Neutral-Zone [C-R]. This “neutral” matter will consist mainly of protons and neutrons, with some trapped energy, neutrinos, and misc. cosmic "driftwood" unlucky enough to get caught. These particles and photons could be considered “turned-off” by virtue of an escape velocity greater-than or equal to the speed-of-light.

A simple disturbance might eventually suffice to trigger the re-activation of the contents of a Neutral-Zone [C-R]. Once this occurs; matter which has been, in essence, held in a paralyzed position, is once again allowed to experience real-life adventures.

The protons, sensing a bit too much overcrowding for their newly re-awakened sensibilities, mutually push and repel each other from the vicinity of the release-site with all of the freed-up electrostatic energy each proton can muster. Some of the lower dwelling denizens of the mass-pile, as well as some of the gravitationally de-energized neutrons may well be content or condemned to spend a considerably longer time squished together. A blob of densely compacted neutrons may well serve as the full core

of the Active Zone C-R nucleus of the same Black-Hole C-R [1].

R:

Real-time:

Real time would consist of any time which could be measured from any reference frame external to a Black-Hole C-R [2]. Real-time exists for any particle or energy if their existence could be detected, and/or their light speed could be measured. Even when the space-time fabric is bent or warped, as long as any object could detect other objects and/or events, that object would be existing in real time.

Absolute (or uncurved) real-time could be defined as the fastest, or most rapid, time-frame. This time-frame could be selected from an infinite number of candidates. The winning timeframe would measure all other non-accelerated timeframes as slower than itself. (Assuming that all timeframes were not in motion as compared to all other timeframes used.)

This least-curved spacetime reference frame should occur at a minimum of once, at the exact center of mass of this universe. In this universe, the "Great Attractor"[3] would fit that definition. A second absolute minimum timeframe could also exist external to our universe, at some point as far from any mass as possible, or at the center of mass of yet another, larger universe[4], of which our universe is one Black-Hole C-R portion of the whole.

Spectrally, this absolute real-time reference-frame would measure all of the other stationary reference timeframes as redshifted compared to itself. (This could not be said if the redshifting was due to motion away from the observer.)

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[1] Actually, if this nucleus described here was dense enough to form a Black-Hole C-R, it would still have an Active Zone C-R in the middle. This Active Zone C-R might only contain nothing else but an exactly critical dense ball of concentrated nuclear matter, or it could be considerably less dense, but sufficiently larger in diameter to have the necessary critical mass needed to create a Black-Hole C-R. Generally, the Active Zone C-R will not experience any effects from events occurring in the Neutral Zone C-R.

New for 2006, the C-R theory may re-consider both the creation-of new Black-Holes C-R and the likelihood of the extermination of existing Black-Holes C-R. The Black-Hole C-R may be as near to infinitely old as would be protons and neutrons..

[2] This would be the case even if the time occurred inside of an Active Zone C-R. The time itself could be measured outside the Black-Hole C-R, but the physics would forbid the inside of an Active Zone C-R communicating with the outside of the same Black-Hole C-R.

[3] As the "new kid on the block", the C-R theory has chosen to use the existing terminology of the Great Attractor to identify the same object or location. Ironically: the Great Attractor is not attracting anything, it is merely running "less-slowed-down" than anywhere else in the universe. This is directly attributable to it's being the exact center of the mass of this universe.

[4] If there is a center of mass to an external universe external to our universe, it's minimum curvature timeframe would be even faster or more blue-shifted, than our "Great Attractor". However, it would not be detectable from inside our universe. It might be possible, by linking observers stationed at 6 cardinal points near the outer edges of our universe, to detect extra curvature added from outside the universe, and to pin-point it's direction.

While not initially obvious, the appearance over time of the two reference frames would differ. The reference frames which were redshifted due strictly to motion-away would be required to dim in relative brightness much faster than objects which were redshifted due only to a difference in the rate of time-flow. Measurements continued over a billion years or so should suffice to resolve the differences.

In a universe where the redshift observed occurs only due to the gravitational slowdown, communications between the outermost and near-central observers would disclose something odd. The outermost observers would detect their farthest neighbors as totally unshifted in time, and they would detect the innermost, center-of-the-universe neighbors to be strangely blueshifted, if the measurements were due entirely to time-frame slow-down, and not relative (recessional) motion. Over a few billion year's time, there would be almost no perceptible change in the overall appearance. Individual items would change, but the overall, systematic appearance would be remarkably consistent.

In a receding (expanding) universe, the conditions would vary considerably from the above case. Observers stationed at our “outer edges” in the universe would detect everybody as redshifted. They might even detect themselves to be the center-of-the-universe. In all directions, they might observe others as redshifted by the same amount. The red shift would be at least 90%. Additionally, observers stationed yet farther away, would appear to be red-shifted even more substantially.

Compare that scenario above to an observer at the outer edge of the C-R theory-type “centered” universe. One there should see over 50% of everything in the universe as blue–shifted, some near the center by at-least 1000%, or a factor of 10 (up to 20) times.

Red shift:

The property of red shift is measured in the spectral output from stars, galaxies, quasars, etc. Normally expressed in %, the red shift is a measure of the difference in the spectrographic appearance of certain atomic-level transitions. These energy-jumps only occur at well-known, specific, characteristic frequencies. For instance, if we would take the light produced at a standard pressure and temperature by a neon sign, then split and measure the frequencies by a spectrograph; the identical frequencies would always appear with the same relative intensities.

A classic analogy to the red-shift of light (or electromagnetic energy) would be the Doppler shift of sound. An experiment last century used a horn player, seated on an open flatcar of a moving train. A stationary observer, by the side of the tracks, would listen to a constant note played by the moving musician. The stationary observer would measure the note as high when the train approached, and as low once the train passed.

In a similar manner, light produced from known, pure gasses would be emitted with an identifiable spectrum. The spectrum produced while the source was approaching us would measure as noticeably blue. The same spectral light would appear to be red-shifted if the source was moving away from us.

Scientists concluded that the objects in the universe producing a red-shifted spectra were rapidly receding from our present position. Most distant objects in the universe showed a substantial red-shift. The objects, which showed up as fainter and dimmer, presumably farther away, were measured to have an increasing redshift.

From this set of measurements, Hubble assumed that the universe was expanding,

and the predicted rate of expansion increased as objects were farther and farther distant from us.

The C-R theory would agree: If the universe is expanding rapidly, this could cause the redshift. However, the C-R theory has a (not so?) small monkey wrench to throw into the carefully calculated precision concerning the assumption that the redshift is caused only by the expansion of the universe.

The C-R theory states that "gravity" is produced only from the action of the curvature of spacetime. This means that the amount of the observed real-time slowdown could also be an indication of warped spacetime, independent from the amount of motion. If this, indeed is the case, then any object residing in a more intense gravitational field will also produce a time slowed-down spectral signature.

To complicate the resolution of the two alternatives mentioned above, the C-R theory suggests that both the speed of recession (or expansion) and the gravitational curvature of spacetime will contribute to the overall redshift. Unfortunately, there is no easy, immediate way to tell the difference between, or the proportional contribution from either alternative.

To assess the situation, given billions of years, we could send out observers to many faraway locations in the universe. We could instruct them to measure their “time” intervals, and broadcast, using their local reference-time, the standard time-interval report to every other observer. Each observer measure every other observer, then would relay their observations to a centralized location. Waiting around a few billion more years for the replies from the farthest-out observers to come in, then a few hours or less of computational time later; we could finally determine the proportional red-shift contributions from both the relative-time slowdown, and the recessional velocity.

In short, the C-R theory predicts that almost all, if not all of the measured red-shift from the outer regions of the universe may be due only to the curved nature of spacetime. C-R predicts that the gravitational curvature warps the normal spacetime based on one’s position within our universe. At the outer edges, this can measure-up to a total time-shutdown mode at the IB^3 Schwarzschild radius.

Note: The C-R theory is not at all dependent on the restrictive beginning conditions that start-off a strictly expanding (receding) universe.

The C-R theory conditions simplify the assumptions needed to derive a workable model of the universe based on current observations. A C-R universe would expect the observed time-slowdown should appear to be more complete among the outer portion of the mass in the universe. This region is subdued under the greatest curvature, added-up (compounded from the total mass located in the central areas).

Objects closer to the outer edge of the universe would be more completely slowed-down in time. Any objects at a 90% red-shift would naturally appear to be ageing-slower and dimmer since they would be both ageing only 1/10 of our rate of time, and dimmer, since they would output their energy at 10% of our time-referenced energy rate.

What this means is; if the observed amount of red-shift is caused by time slowdown, one cannot make any accurate or absolute determination of the age of, or the size of the universe. For example; if a quasar were slowed-down to only 1% of our reference time, but it was also approaching us at 90% of the speed of light, it could still appear to us to be 10% time shifted.

A preliminary assumption in all conventional, relativity-based theories supposes that

everywhere else, time-wise, is identical to us, here on earth.[1] All of the relative calculations have been based on the premise that the energy-output, spectral temperature profile of identical stars would be identical at vast distances. In the simplest terms, that "there" is the same as "here". The technical term is ISOTROPIC. (The same in all directions.) The C-R theory argues; since the time-base used by these two stars might vary by a factor of at least 10 [100% to 10%], the absolute brightness of stars which appear to be identical could be in severe error.

Because the comparative brightness (absolute magnitude) of distant Cepheid-variable stars was measured, calibrated, and computed against the near-by, non (time-shifted) red-shifted type of Cepheid-variable star, the calculation for recessional velocity may be in considerable error. Since this recessional velocity was used to compute: all of the distances in- and the age of- the universe, and the time from the big bang, all of these interrelated items must be considered in error.

Reference Frame (over the universe): (A new claim added in 2006)

The theory of relativity has predicted that there is no preferred reference frame within this universe, and that space is isotropic, or the same in all directions. The C-R theory disagrees strongly!! Even the most cursory glance at this universe shows that "there" is NOT LIKE "here". However, contrary to the data actually measured (in red-shifts and blueshifts), the EXPECTATION of an expanding universe led scientists and theoreticians to explain and attribute the measurements as due to Doppler shifts created either by the expansion of most of the universe away from us (as a red-shift) or by the "attraction" to a central mass (as a blueshift).

In the true nature of the original "scientific" method, the C-R theory claims an alternate explanation. Space is not isotropic, or the same in all directions!! Rather, our universe has minimum curvature and maximum energy at it's center, a.k.a., "The Great Attractor". Curvature increases somewhat as one nears the vicinity of our earth, and the gravitational curvature becomes nearly complete where we measure the "origin" or "source" of the 2.7K radiation. Some distant quasars measure 90 to 95% time-slowed-down.

New for 2006: The C-R theory now expects that, by it's very nature, the universe has a reference frame imposed upon it. Minimum curvature at the very center, and proceeding up to full curvature everywhere, in every direction, at the outer edges. Every location inside the universe will fall-in-line somewhere between minimum and full curvature, where the escape velocity finally reaches the speed-of-light, and there is no real-time measurable. Thus, a default reference frame is imposed on all matter contained within. In C-R theory terms, our universe is a giant-sized Active Zone [C-R].

Author's note: It was observation of the properties visible in this universe that led this

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[1] In an ultimate irony, when the "experiment" was performed, and far-away objects were measured (observed) by Hubble (and others) as highly red-shifted, or slowed-down, with respect to us, the ultimate "conclusion" was to believe the Theory of Relativity, and DISCARD the actual visual evidence!!!!!!! The C-R theory (actually, me, the author) wonders, what happened to scientific objectivity? I am reminded of a Chico Marx quote, from a movie I saw many years ago (and I don't remember which one it was.):"Who are YOU gonna believe, ME (the Theory of Relativity) or your own two eyes?" In spite of the VISUAL evidence, the observed data were CORRECTED, then the conclusion was the EMITTERS were in the same time-frame as here on earth.

author to EXPECT there to be an Active Zone [C-R] at the center of every Black-Hole [C-R] and also how to prevent every Black-Hole [C-R] from collapsing into a singularity.

S:
(IB^3) Schwarzschild radius: Note: (The IB^3[1] term is a new addition starting 2006)

The term Schwarzschild Radius honors the mathematician Karl Schwarzschild, who was the first to actually calculate the necessary density of matter which would be required to boost the escape velocity (from that same mass) to the speed of light. The Schwarzschild radius is defined as the radius at which either the inner or outer boundaries of the Black-Hole[C-R] would start. The Schwarzschild radius is also the distance (radius) (from the center of the Black-Hole's [C-R] mass) at which the escape velocity first and exactly equals the speed of light. The density of mass trapped inside the Black-Hole [C-R] would be exactly sufficient to raise the escape velocity to the speed of light limit at this radius. Outside this radius, the real-world conditions would prevail. From either side of this speed-of-light cutoff boundary, both the inside and the outside regions would be insulated and isolated from all knowledge and communication[2]

C-R theory predictions about the IB^3 Schwarzschild Radius

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[1]The term, IB^3, stands for insulation boundary, isolation boundary, and information boundary. It was added starting 2006 by the C-R theory to highlight (or differentiate) the additional properties that the C-R theory adds or requires. Adding the IB^3 term allows the C-R theory to highlight the unique differences and benefits achieved only by the C-R theory using the Schwarzschild radius.

[2]There is a slight theoretical possibility that deliberate, human mass distribution/manipulation modulation could be used to communicate from the inside Active Zone [C-R] to the outside of the Black-Hole[C-R]. The shape and distribution of the mass inside the Active Zone [C-R] could be manipulated over time into an unnatural, non-symmetrical shape. Shapes such as a peanut shape, or a triangle shape, either changed or rotated over a period of time, could communicate by modulating the gravitational field detected outside the Black-Hole [C-R]. Note: The larger the Neutral Zone [C-R], the less-effective the modulation will couple through.

The maximum rate of data exchanged by this method would be frustratingly slow, but it would qualify as interceptable communication. The necessity of moving multiple galaxy-sized masses to communicate either a 1 or a 0 could deter even the most obstinate, stubborn, and patient civilizations. The important point is: If this ONE exception is possible, are higher-speed technical tricks also possible?

Additionally, the inside and the outside of the Black-Holes[C-R] cannot positively establish whether there exists an inside rotational velocity (Unless there is a non-symmetrical manipulation of the inside mass.). This may make synchronization of the inside and outside signals difficult or impossible to achieve.

It seems unlikely that the size of the mass under manipulation could be notably reduced, to prevent any inherent background modulation from mimicking or covering-over the intended data. The random background gravitational "noise" could be bothersome, with numerous, pesky supernovas and galactic collisions occurring hither and yon.

Given the past record of humanity faced with seemingly hopeless dreams or tasks, technology may yet allow a breakthrough. Previous societies have also had their "barriers", which were supposed to be insurmountable. As civilization has progressed, people have proved incredibly resourceful at such "impossible" tasks as travel to the moon, travel to the bottom of the ocean, talking clear around the world (and being clearly heard) without even shouting, seeing objects too small and too faint to be seen with our eyes, and...

The C-R theory predicts that, in addition to the readily accepted, and conventionally acknowledged (outer $IB^{3)}$ Schwarzschild radius, there will be another inside boundary, a second, inner IB^3 Schwarzschild radius. Between these two Schwarzschild boundaries, the inner and outer radii, there will be a filled shell, or a dense volume, or a zone, which the C-R theory has termed the Neutral-Zone $^{C\text{-}R}$.

Once we move-in closer to the center of the mass, located even further inside of this shell (the Neutral Zone $^{C\text{-}R}$), we will cross the inside IB^3 Schwarzschild radius and there will be what the C-R theory has termed an Active-Zone $^{C\text{-}R}$. On the inside of this Active-Zone $^{C\text{-}R}$, all matter will again be in a time active state.

About this Neutral Zone $^{C\text{-}R}$:

Between the inner and outer Schwarzschild radii, the C-R theory proposes the existence of a Neutral Zone $^{C\text{-}R}$. This zone is so named since any real-time activity is forbidden, turned-off, or non-existent within this zone.

This Neutral Zone $^{C\text{-}R}$ is really the "active heart" of the Black-Hole $^{C\text{-}R}$. The Neutral Zone $^{C\text{-}R}$ is what gives the Black-Hole $^{C\text{-}R}$ its fearsome reputation. The Black-Hole $^{C\text{-}R}$ would not be very important if the Neutral-Zone $^{C\text{-}R}$ did not exist. Only in the Neutral Zone $^{C\text{-}R}$ does the density of matter EXCEED the necessary density required to create the speed-of-light escape velocity.

Because of the overabundant (excessive, more than is needed, overwhelming, ... get the picture?) curvature, real time electro-magnetic interactions become totally forbidden, shut-down, and turned-off. The threshold of re-activation, compared to the speed “c” and the interaction energy available would vastly exceed anything that the matter and energy could muster.

Imagine matter confined, tied so tightly in knots (or loops of knots) that any energy for- or probability of- the matter interacting would be impossible. This is why the C-R theory states that EVERYTHING, while it is trapped inside the Neutral Zone $^{C\text{-}R}$, behaves as if it were neutral to all interactions. Any interaction which occurs because of any light-speed moderated or interacting force is forbidden.

Note that this prohibition of interaction only occurs while the curvature remains equal-to or greater-than the speed of light. If external events allow, and the curvature un-warps or decreases until the escape velocity becomes less than “c”, then, all interactions are again permitted. Once the “explosion” starts, the density decrease could un-warp the entire Neutral Zone $^{C\text{-}R}$.

The C-R theory speculates that the symmetry of positive and negative electrical mutual repulsions permits the long-term reversibility of the co-isolation and co-insulation of the ions[1]. The dual "attraction of opposites" and "repulsion of likes" properties of

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[1] In simpler language, electrical separations are permitted and reversible. If we separated the protons from their electrons, time-froze and isolated all the protons, then un-froze and re-exposed the protons, the collective charges would be allowed to reunite and to de-ionize themselves, and conservation of energy would be preserved. The source for the energy of separation comes from the gravitational potential energy possessed by the protons, themselves. This energy is also conserved from beginning to end, although initial appearances may suggest otherwise.

Importantly, this is not the case with the gravitational attractions. If gravity outside the Black-Hole $^{C\text{-}R}$

(continued...)

electrical fields allows this period of separation to occur "temporarily", while the Black-Hole C-R exists, without necessarily violating Conservation of Energy. (See thought Experiment #??, in the appendix.)

Due to the geometric-folding, trap-like nature of spacetime in the Neutral-Zone C-R, tunnelling from- and any interparticle interactions in- the Neutral Zone C-R must be forbidden as well. Since all particles and all energy within are each confined in their own, legal (and binding) whole-loop[1], the real time energy available to allow any probability of quantum-tunnelling is zero. All Neutral Zone C-R phenomenon associated with quantum interactions must be considered as "put-on-hold". Geometrically, the particles or energy trapped here could be referred to as a "packet in a pocket". If the particle-energy "packet" even considered interacting, the only proper mathematical response would be,"Let me reflect upon that, perfectly."

Especially Important: Please notice, external to both the Neutral Zone C-R, and the Black-Hole C-R, the GEOMETRIC nature of gravity. Gravity (i.e., spacetime curvature) is still allowed to emanate from the Black-Hole C-R. The level of gravitational "force" felt by an object outside of the Schwarzschild radius will not be required- or even permitted- to diminish or change by the most minuscule or feeble amount.

From the C-R theory, this maintenance of the gravitational "field" CAN occur WITHOUT violating conservation of energy, or the nothing faster than the speed-of-light interaction ban from the Theory of Relativity. The same CANNOT be said for any coupling-through of electromagnetic, (and presumably) the strong and weak nuclear forces. This 100% pure continuity of gravity exists only due to the unique geometric nature of gravity, as predicted by Einstein, and recognized in it's practical significance by the C-R theory.

Seyfert Galaxies:

Seyfert galaxies would represent a transitional stage in the evolution of the universe. Seyfert galaxies would be younger than quasars, appearing in time after a full fledged quasar and yet, earlier than the formation of galaxies. Gradually, between the ancient quasars and our modern day galaxies, the Seyfert galaxies take on an intermediate role.

In our part of the universe, the formation of most galaxies was long ago completed. These far away Seyfert galaxies would showcase events and times after the pioneering quasars, but previous to the completed establishment of the structure of galaxies in our part of the universe.

By the C-R theory, a quasar evolves into, and becomes a Seyfert galaxy, then later, a fully established galaxy. The Seyfert galaxy essentially is to cosmological structure of

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[1](...continued)
becomes time frozen, the havoc wreaked on conservation of energy becomes unimaginably complex.

[1]In this manner, the legal whole-loops are the exact opposite of lawyers legal loop-holes. Whereas the whole-loops keep photons, with their energy, confined indefinitely, the legal loop-holes get people unconfined indefinitely. (Pun intended)

galaxies what the teens are to humans.

The C-R theory predicts that some of the Seyfert galaxies we are seeing now may still be in existence, due to the gravitationally slowed nature of the edges of the universe. The relatively "baby" quasars which we can see may now be aging, and evolving to enter their adolescent (cosmologically speaking) stages.

The transitional forms, from the quasars at edge of the universe, to our "fully formed?" Milky Way galaxy are open for viewing by any interested observer. Just as one can tell about the history of a family by viewing their photographic albums, one who is interested in the history of our universe need only look at the Milky Way's younger sibling galaxies, Seyfert galaxies, and quasars to see the progression of "nebular evolution".

One of the hallmarks about Seyfert galaxies is that they contain multiply-ionized elements, specifically both oxygen and nitrogen, up to Fe^{+23} .

Singularity (non C-R theory only):

Conventional physics theories and astronomical theories are saddled with the possibility that the entire contents of a black hole (non- C-R) can overpower the resistance of matter with intense gravity, and collapse that matter into a singularity. Most theories speculate: the conventional gravity of a large-dense mass can overcome the nuclear pressures generated by protons and neutrons. This forces matter towards a gravitational collapse, with the infinitesimally small singularity as the predicted result.

The gravitational singularity is predicted to be a unique catastrophe. Most present theories about black holes predict the singularity will be the ultimate destination, and fate of any matter-energy unlucky enough to be trapped within, or sucked into a black hole (non C-R type).

This predicted singularity would be infinitely dense[1], and also, immeasurably small. Because the internal conditions would soar totally over the well-understood range of the speed-of-light escape velocity and electromagnetic light-speed interaction limit, all of the present, relativity based theories and laws which we have would be rendered useless.

There is a generous overabundance of speculation as to the ultimate fate, and the

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[1]Current gravitationally based theories give little reason to hope that the collapse into a singularity could be avoided. As to the final size of the singularity, no current theory (other than C-R) has a sound theoretical basis on which to suggest a minimum size.

In one accepted view, the collapse will proceed down to the Planck level. This Planck level would be the smallest discernable distance, and the minimum possible division of time. Nothing smaller or quicker than this would exist, leaving no way to measure any lesser intervals. The Planck time would be about 10^{-42} seconds, representing the time for the speed of light to cross the smallest distance, about 10^{-35} meters.

Because the density of matter in this singularity should create an escape velocity vastly greater then the speed of light, the present theories fall down. These theories have no guidance what to do when the curvature vastly exceeds that with which relativity can relate. (i.e., c and below.)

An even worse dilemma is this: theorists and practicing physicists must invent a way for matter and energy to escape this trap. So far, only the flimsiest of speculations, or the whimsiest of guesses give any idea what to do. {Matter and energy are all scrunched-up with nowhere to go.}

permitted behavior of a singularity[1].

Conventional Theories and Singularities:
or
A One of an (un)Kind Phenomenon.

Singularity: Case #1

One of the currently proposed ideas suggests that with the not quite infinitely-dense curvature of the matter-energy trapped in the singularity, the "sheet" of spacetime which composes the fabric of the universe could be literally torn or folded away. This tearing or folding would occur something-like soap-bubble style. When the soap bubble is stretched too much, and curves in upon itself, a separate bubble is sometimes created. This bubble carries-off some of the original soap film.

Singularity: Case #2

In a similar fashion, imagine the properties of the universe, so severely twisted, bent, or curved that the material literally curves itself totally out of the universe. This unconnected, loose blob of mass and energy floats until it can reconnect or be merged into: someplace else, sometime else, or even into a co- existent, parallel universe.

Singularity: Case #3

By this space-time fabric pinch-off/ reconnecting idea; other theories suggest that the path created by the ex-black hole singularity could produce a "Wormhole" effect, i.e., a tunnel or a shortcut from one region in space-time to another region in spacetime.

Singularity: Case #4

Some other theories speculate that the singularity will collapse into the smallest possible dimension, at the Planck limit, or 10^{-35} meters. At this minuscule limit, they speculate, the barrier against all interactions forbidden by conventional theories may no longer apply.

Esoterically, if for no other reason, there is something intellectually uncomfortable in the assumption[2] that the entire contents, including the mass-energy contingent of the known universe, originated in such a small, seemingly insignificant, volume of space.

The C-R theory alternative

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[1]Hint: If you find some areas of the C-R theory somewhat unbelievable, please peruse the listing of the assumptions and results from the conventional competition.

[2]Does it not seem ridiculous that a group of scientists could see a universe believed to be ten to twenty billion years old, spreading out to a sprawling wilderness, ten to twenty billion light years in diameter, and say, without a rational academic challenger to contest the matter, "Aha, I bet this thing fit into a space 1/10000000000000000000000 (give or take a few zeroes) of the diameter of a proton." Comparatively, a trillion camels, side by side, should more easily fit through the eye of a needle.

The C-R theory is saddled with no such dilemmas. The C-R theory predicts[1] that no singularity can ever occur. This is due exclusively to the nature of gravity. We speculate that gravity can only collapse and attract matter by decreasing the local time.

This time decrease, or partial gravitational collapse could be geometrically envisioned as somewhat similar to the shape of the skin of an orange while the whole orange was being juiced. As the amount of active, real-time which the particle experiences is decreased, the kinetic energy (speed or acceleration) released appears as an effect caused by gravity.

Once the total amount of active, real-time which the particle can experience is decreased to zero, gravity can no longer exert any affect over matter. This simple conclusion totally prevents the occurrence of a collapse into a singularity.

A Singularity Alternative:

As an alternative to the center of the black hole singularity, the C-R theory instead predicts that around the center of every Black-Hole $^{C-R}$ (C-R type), there will be a time active zone. C-R has termed this central region the (inside) Active Zone $^{C-R}$. This active zone is located on the inside of the Black-Hole $^{C-R}$.

To create, and then maintain the Black-Hole $^{C-R}$, this Active Zone $^{C-R}$ must have exactly enough mass at exactly the right density to produce the necessary spacetime curvature. Proceeding inside from the Neutral Zone $^{C-R}$, passing the speed-of-light escape velocity at the IB^3 Schwarzschild radius, this defines the Active Zone's $^{C-R}$ outer periphery.

That the Active-Zone $^{C-R}$ is exactly critical in it's density is not quite as coincidental as it would at first seem. If the Active Zone $^{C-R}$ had more mass or a higher density, the resulting Active Zone $^{C-R}$ would be smaller, and the amount of matter trapped in the Neutral Zone $^{C-R}$ would be increased. If the density of the matter in an Active Zone $^{C-R}$ were to decrease, some of the matter which had been totally deactivated at the inner edge in the Neutral Zone $^{C-R}$ could be released.

Consider the case where there would be no remaining inactivated matter left in the Neutral Zone $^{C-R}$. Therefore, a minimal disturbance in the amount of matter or the density in the Active Zone $^{C-R}$ could become insufficient to maintain the IB^3 Schwarzschild radius curvature at the speed-of-light limit. At this very instant, the Black-Hole $^{C-R}$ as we knew it,

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[1]To evaluate this prediction, we used a parallel situation to the classical physics dilemma of the electron orbiting the proton. Classical physics demanded that any moving charged particle radiate energy. For large scale systems, this prediction behaved nicely, and explained almost everything. Considering the proton and electron in a singular atom, the theory predicted (wrongly, I hope) that the entire universe should have collapsed within 1/5 of a second.

The quantum electron, by virtue of it's wavelike nature, was found to resonate comfortably at a minimum energy position. (The "s" orbital for hydrogen). By restricting sub-atomic matter to discrete energy levels, and discrete transitions, the quantum theory explained why matter did not collapse.

The very nature of matter itself conveniently arranged (or conspired) to prevent the total collapse of electrons into the nucleus. Thereby, the entire universe was saved from a fate equal to death; the ultraviolet catastrophe.

This simple, discreet energy change limit assumption of quantum physics knocked classical physics irredeemably off it's throne. Could it be that history (and nature) repeats itself? Read on.

would cease to exist. At this time, the matter and energy, which had been trapped inside this Black-Hole [C-R] in the Active Zone [C-R], would be able to be re-united with it's long-lost matter and energy family relatives residing outside of the Black-Hole [C-R] [1].

Space-time:

From the theory of relativity, space and time were found to be interwoven and inseparable. Space cannot be defined without a consideration of time. The measured rate of the passage of time will be slowed-down by the warping of space-time.

Gravity could be defined as the effect from the curvature of spacetime. Spacetime could be defined as the difference between a perfectly Euclidian (i.e., straight line, right angle, checkerboard grid) type of universe, and a curved or slightly bent reference frame. (Hint: Try drawing only perfect, 90° squares to completely cover the surface of an orange, or of a basketball. The geometric results suggests how curved spacetime differs from linear, or straight space.)

A useful analogy would be: imagine the shortest path between two dots painted on the surface of a ball. Unless the dots were on any perfect diameter, located at the exact opposite sides of the ball, there would be many different-lengthed paths between those two points. There will be at least one path on the surface of the ball which is the shortest. Many curved paths could exist which would eventually connect the two dots. To a dot or a period travelling along any given path, the shortest path may not be very obvious.

If we would enlarge the size of the ball, and shrink the distance between the two points, the ratio of path-length curvature to straight line-through the ball path-length would decrease. The surface curvature would exist until the two points merged or until the surface of the sphere flattened out totally. In a similar way, the shortest path which we can chose in our local "almost-flat" space-time would still possess some space-time curvature if a gravitational field existed anywhere in the universe.

Just for comparison purposes, consider the ratio of curving or of warping of a diagram drawn on the surface of a ball compared to the same diagram drawn flat on an uncurved 2 dimensional sheet of paper. View the drawing on the ball from an external 3D (3 axes) reference frame then view the 2 dimensional flat diagram. Imagine a straight line "short cut" through the body of the ball, directly between the two ends of the diagram. This path, in this real-life situation would symbolize the difference in our imagination between the path of a real-time light beam passing through curved vs. uncurved spacetime.

Although the short-cut, in this situation, would be obvious to a person situated in our 3 dimensional existence, to any period confined on the surface of the ball, the barrier to fully understanding the nature of the curvature would be almost insurmountable. In addition, the curvature of the "two-dimensional" surface of the ball would be unsuspected and almost undetectable if the sphere size encompassing the curvature was greatly increased.

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[1] Of course, the actual end of a Black-Hole [C-R] may not seem nearly so casual as the C-R theory describes it. There could well be an exit of highly energetic protons, and stored-up energy which would go out with a pretty good bang. (Although, within this universe not big enough to produce a universe-sized big bang.)

See the Extended Definitions sections, or the chapters covering the nova, supernova, Seyfert Galaxies, and quasars for possible end-of-a-Black-Hole [C-R] related phenomenon.

In our universe, the slowdown in time could be attributed to the warping or the bending of space-time. The increased (or out- of-dimension) path length a ray of light would need to traverse in "bent" space-time would be analogous to our example above using two and three dimensions. To a four dimensional (or more) being, the path could be checked, and gravitationally curved (or time- warped) lightbeam pathlength would be found to be slightly longer than a similar distance in a section of space-time with no gravitational curvature[1].

The hypothetical, multi-dimensional dwelling beings could view our situation in our gravitationally-spacetime-curved "3-dimensional" universe as an increase in the effective volume of spacetime occupied by a fixed amount of our matter-energy. If we keep the total energy content constant, and spread-out the energy contents into the larger, 4 (or more) dimensional volume, our only alternative is to effectively decrease the apparent "3-dimensional" energy in our volume of space(time). Since we cannot detect this increased (hyper)volume, we would conclude (and rightly-so, from our vantage point) that the 3-dimensional energy in the volume of spacetime which we can detect, had decreased.

The three dimensional viewpoint in the above situation cannot be short-changed, thanks for the most part, due to the law of conservation of energy. From our limited 3 dimensional viewpoint, we will detect the kinetic energy of the matter increasing by the same amount of energy it "apparently" loses due to 4-dimensional dilution.

Steady State:

In the early 1960's, the previous co-contender for the title of "The most successful explanation of everything" by a theory of the universe would have been the Steady State theory. This theory, proposed by Fred Hoyle, declared that the universe was constantly expanding. To compensate, it was continually adding the necessary hydrogen through spontaneous creation. Using this steady-state method, the relative size and appearance of the universe would have remained constant. The steady state theory assumed that the universe always looked the same as it does today, and it would always continue to look the same in the future.

The steady state theory did successfully explain the observed expansion of the universe. From the standpoint of the law of conservation of energy, it was not esoterically pleasing to think that matter had to be created from nothing, continuously, to expand and fill the vacuum or void created by the expansion. The steady state theory required that only a very small amount of extra matter would be needed each year, something on the order of one hydrogen atom per cubic light year, to maintain the current appearance of

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[1]The best, and most amusing account of multi-dimensional beings trying their best to comprehend other lesser- and greater-dimensional beings would be the mathematical novella "Flatland", by Edwin Abbott Abbott. The story was written well before the Theory of Relativity, and before many people had ever heard of anything over three dimensions.

the universe.[1]

In the early to mid '60's, the steady state theory was considered to be in contention for the "Best theory", competing with the big bang. One of the most attractive of the proposed benefits was that the universe would not have need for a theoretically complicated ending or a beginning. The portion of the big bang theory that made some scientists cringe was the requirement that everything we see now, somehow came instantly into being, without any prior existence.

The Steady State theory met it's doom, however, when the very smooth, and extremely redshifted remnant of what was thought to be the big bang radiation was detected. This "black body" type of radiation was detected by Arno and Penzias, two employees of Bell Telephone.

Arno and Penzias were investigating microwave transmission and reception. When a very large, and very sensitive antenna was aimed anywhere in the sky, they were surprised to learn that there was a uniform source of microwave noise coming from every direction. After resoldering and recalibrating all of their equipment, and with no improvement in the amount of noise they encountered, Arno & Penzias at last accepted that this noise was extraterrestrial in origin.

When a team of astronomers searched for just this type of radiation, they were surprised that it had been detected several years prior to their search by someone who wasn't looking for it. This radiation, which occurs with it's peak at about 2.7 K was later suspected of being the time-weakened, long-sought, theoretically-predicted remnant of the big bang explosion.

Once this radiation from the sky was verified by other teams of astronomers; scientists and theorists also took note of it. This one observation of the red-shifted, incredibly smooth background energy effectively knocked out the Steady State theory from cosmological contention.

The universe was not so kind or considerate to allow an explanation of the universe to be so simple. On the other hand, now we do not have to contend with the universe sneaking hydrogen atoms into existence throughout all of eternity. This would have proved frightfully demeaning and demoralizing to the rule of Conservation of Energy.

Supernova:

The explanation for the class of occurrences comprising the supernova would be very similar to, and of the same type as the C-R theory predictions made for the Nova.

Conventional theories would ascribe the properties of the supernova mostly due to the expiring of the ongoing fusion reaction at the center of a star, denser and heavier than our

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[1]Among the theories of the universe which require matter or energy to be created from absolutely nothing, the Steady State theory was less unreasonable. The Steady state theory only needed a small, almost imperceptible amount of matter to be created at any one time. Compare this to the big bang theory which seems to need everything in the universe to be created very suddenly, possibly from the same source of nothing.

After all, if you were pumping water from an empty well (full of nothing), would it not be more reasonable to pump a drop of water a day to fill a bucket every thousand years for forever, than to pump an entire Pacific Ocean in an eyeblink? (Even better yet, could some enterprising individuals come up with an even less demanding, more reasonable scenario?)

sun. Those theories claim the resulting supernova would be the final show at the end of the energy-output life of a star. As the star exhausted it's last nuclear hydrogen available for fusion into helium, the only remaining nuclear fuel would be helium and heavier elements, up to iron.

As the nuclear fuel runs out, the star finally fuses heavier elements into either iron or lead. Eventually, the energy output from the fusion reaction dwindles, and the outward push on the star's gas-plasma cloud from the heat-energy of fusion drops off. The extended ball of gas-plasma cools, it shrinks, retracting inward.

The infall of this heavier, condensed matter collapsing on the outermost layer of the star creates a shock wave. At this layer, the temperature and pressure skyrocket and one last burst of the fusion reaction creates its last great flash of energy. The compression from the collapse would combine the remaining, heavier, less reactive elements to produce a very brief, but extraordinarily brilliant spectacle, the supernova.

In a fraction of a second, the supernova would expend more energy than an entire galaxy of stars. The entire outer portion of the parent star's mass would be expelled at a tremendous velocity.

The shock wave would also force the remaining elements to collapse inwardly. As the pressure and the gravity would intensify, the core's elements would be less able to retain any further loose-packing. Afterwards, the only expected object remaining where the star had been would be a super dense, rapidly spinning, neutron star.

What the C-R theory says about supernova's (and their cause):

By the C-R theory, the events leading up to the nova would also take place in the supernova. The primary difference would be in the size and the scale of the events. (See Nova:)

In the aftermath of the supernova, the C-R theory would predict the release of a very sharp burst of extremely energetic, positively charged particles. We would also expect a momentary increase in trapped neutrinos being freed. This neutrino burst would be released to coincide with the moment that the gravitational trap around the outer portion of the Neutral Zone$^{C\text{-}R}$ collapsed.

Unfortunately, the initial observed differences predictable between the C-R theory and conventional theories would not be too obvious. A possibility exists that the initial surge of positive charges freed by the re-activation of the Neutral Zone $^{C\text{-}R}$ should continue accelerating by their mutual repulsion. This will occur until a sufficient number of the positive charges meet up with enough of their long lost electron companions to allow friction, or attraction, rather than repulsion to predominate.

The C-R theory provides a very simple causative mechanism for the many, high energy cosmic rays coming from all directions in space. Due to the exclusive use of combined mutual positive repulsion, the C-R theory might predict that the energies achieved by the cosmic rays (i.e., accelerated protons) from a Black-Hole $^{C\text{-}R}$ powered supernova source would exceed those energy levels available to accelerate protons due strictly to a fusion reaction.

One additional easy prediction from the C-R theory would entail finding multiply-ionized ions in the ejected remnants. I have read of Fe^{+23} ions discovered by their spectra. Observers would also notice nitrogen, oxygen, and other ions with multiple

levels of ionization.

Notice: The C-R theory does not forbid that any fusion occurs, or require that fusion plays no part in the nova or the supernova reactions. What the C-R theory expects is that any fusion reaction in a supernova occurs as a side product, not as the root cause of the nova-supernova phenomenon. The final mix, or proportion of elements measured in the output, is not nearly as sensitive for the C-R theory as for the fusion-caused supernova. If there was a large amount of positive ions encountered this should justify the C-R theory, but would be an unexpected inconvenience for the fusion-caused supernova to explain.

Supersymmetry:

The concept of Supersymmetry hopes to relate all of the known forces, as well as all matter and energy into a unified, understandable system.

The basic assumption is that all four forces[1], and all matter and energy emerged together from a common origin, at one time. The properties of the universe at this origin were so energetic, compact and dense that this would allow the four forces to be equivalent and equal in strength at that time. As the universe cooled and expanded, the symmetry between the four forces froze out, or became hidden in seemingly everyday realities.

Supersymmetry seeks to re-establish or at least detect (guess) the relationships which existed between the four forces.

Supersymmetry also seems to predict that there will be entire families of exotic and very massive particles, corresponding to a more energetic and massive generation in the particle families.

Another prediction from the supersymmetry theory is that the proton should decay. The basic lifetime of this particle, which had been assumed to be stable, would have to be over 10^{31} years. Experiments which have been running recently have disproved this hypothesis. The half-life of the proton must be significantly greater than the first attempts of Supersymmetry seem to allow.

See symmetry also.

Symmetry:

The property of symmetry is that, in one or more directions, any action or interaction will occur equally, whether to the right or to the left (or up and down, backwards and forwards, in and out.) A reflection of that image will appear to behave the same as the original object would in the same situation.

The property of symmetry need not be valid in all directions, only in certain preferred directions. For instance, with a typed "O", the O would have the same properties and shape if it were reflected or rotated 180 degrees on it's X axis, its Y axis or its Z axis, as

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[1]The four forces are gravity, electromagnetism, the strong force and the weak force. Gravity is infinite in range, and attracts matter throughout the entire universe. Electromagnetism is also infinite in range, but usually affects charged matter nearby. The strong force is what binds the protons and neutrons to the nucleus. The weak force affects the breakdown of the nucleus, and other low-probability events. Both the strong and weak forces are very limited in their effective ranges. With shorter distances, the strong and weak forces become very powerful.

measured from it's exact center.

If we offset the "O" at some distance from the center, such as standing on top of the X axis, the object shape remains the same after a complete rotation, but the position of the "O" would be affected. From the sense of shape, we would say symmetry was upheld, but from the same criterion, we would say that position would not be symmetrical with a 180 degree change. For an object resting on the X axis, a 360 degree rotation would bring both the object and the position back into it's original position and location.

If we were to place an equilateral pentagon centered on a point, we could rotate the pentagon clockwise or counterclockwise in increments of 72 degrees, and it would be restored to its equivalent original shape and position. Rotating the pentagon on some axis other than a clockwise-counterclockwise direction, would not restore it to it's original position and location.

We could say that the symmetry of the original was lost, or disguised when the shape or position of the original object was found to be changed at it's final resting position.

In a somewhat similar way, everyday events which don't appear to be symmetrical, such as pushing a car to the right or to the left, and also uphill and downhill, will not produce apparently symmetrical results. If the car, and the hill were located on a merry-go-round, so that with a 360 degree rotation of the merry- go-round or of the car in a circle, then the "hidden symmetry" of this situation could be observed. In this way, from the initial description of the event, the underlying symmetry could be disguised, and hidden in a temporary situation which looked like symmetry had no bearing on this particular event.

In the same way, scientists have speculated that symmetry may play a greater role than we humans have heretofore expected or even imagined. Some have speculated that the four basic forces were joined, at some great and distant time in the past, and that the inherent simplicity and symmetry of the universe was obvious for all to see. As the universe expanded and cooled, the situation became more complex, and the symmetries between the four forces disappeared, hidden in the apparent complexity of our current, low density, low energy, vastly expanded universe.

By contemplating matter and energy in densities and energies presently, if not forever, outside our grasp, scientists hope to find clues which will reveal some of the suspected underlying symmetry. See the description for Supersymmetry, too.

T:

Time: (Some important new content added 2006)

The C-R theory has something different from other theories to say about time. Einstein figured out that time slows down in a gravitational field. The C-R theory takes this one notion further, and states that it is this difference in the rate of time, and the difference in the “quantity” or value of energy which “keeps the books” -so to speak- on the energy contained within a mass in a gravitational field. This is a newly realized, or embraced concept for 2006.

The C-R theory predicts an overall reference frame, superimposed over matter in this universe. Contrary to the theory of relativity, which needs space to be isotropic, or identical in all directions, the C-R theory now claims that this universe IS the inside of a giant-sized Active Zone [C-R], inside a universe-sized Black-Hole [C-R].

The center, defined as the least slowed-down place in this universe, will be the most blue-shifted with respect to earth (and everywhere else, too). The area is known as "The Great Attractor", but ironically, is not attracting anything!! Rather, this center of our universe represents the minimum gravitational curvature, the minimum slowdown, and also the highest energy (most active) place in the universe.

We on earth are further out from the center, somewhat more slowed-down, but less slowed down than everywhere else further from the center. Those areas can be identified by their increasing red-shift.

Eventually, further out, we on earth see objects red-shifted by 90-95%. Ultimately, we measure the 2.7K residual temperature, virtually identical from all directions.

Conventional theory maintains that we see all these far-out, red-shifted items, nearly identical from all directions, because the universe is expanding rapidly and evenly, everywhere. The C-R theory claims that, instead, the red-shift is caused by a gravitational time-slowdown, with, possibly, no contribution from recessional speeds.

It is possible, our universe might be much closer to the mid '60's version of the steady state universe (but without any required expansion), with all the red-shift caused by the highly-curved, lower energy nature of matter residing nearer the inner Schwarzschild radius, at the outer edges of our universe.

A new idea, unique to the C-R theory (to the best of my knowledge), is the realization that, at the outer edges of our universe, matter is already at LOWER energy values there. This means that, this matter CANNOT collapse inward WITHOUT gaining energy. This concept is so foreign to our thinking, and so contrary to what we've always been taught, that I (the author) do not expect you, (the reader), to believe it upon first hearing or reading about it.

Another new realization for 2006, if we could transport 1 kg of lead (or any other mass) from earth to either the "Great Attractor" or to the vicinity of the most red-shifted quasar, the equivalent energy value would no longer be identical. Rather, the 1 kg of lead at the "Great Attractor" would have more energy as $E=mc^2$ by exactly the same amount of gravitational potential energy we would have expended to transport (lift) the mass to there.

At the most red-shifted quasar, we would find that the energy value of $E=mc^2$ would be decreased by exactly the value of the gravitational potential energy which would have been freed "dropping" the mass to there.

Notice: Either the value of c^2 could be regarded as different at each location, in direct proportion to the gravitational energy value (i.e., the reference frame), or C-R could postulate the technical value of m changes with the amount of active time. If one "chose" to keep "c" fixed as the same value, by definition, then the mass would have to change (if energy did indeed differ. On the other hand, if one allows the value of "c" to vary with the energy value of the reference frame, it provides a very neat and convenient way of accounting for the potential energy difference for a mass in any gravitational value.

Conventional theories must somehow rely on gravity itself to provide the energy difference for matter in a varying gravitational field, if they regard space as isotropic. (The same everywhere.) Since there is no preferred reference frame, how can one account for a gravitational difference in potential energy?

The C-R theory claims that real time would "exist more" at "The Great Attractor" than here on earth, but would exist more here than at a 90-95% red-shifted quasar. We, on

earth, would see red-shifted objects as younger, dimmer, slower than on earth because they actually were younger, dimmer, and slower than on earth. Conventional theories would maintain that the objects there were identical to objects here, but we were seeing them as they were, billions of years ago, also Doppler shifted because of their rapidly receding velocities.

In the current interpretation of the Cepheid-variable vs. distance data, astronomers believe that not only are distant objects receding away from us, but that the objects are receding at an accelerating pace. The C-R theory would claim that, instead, the greater gravitational curvature, there, causes the full amount of the observed time slow-down. Indeed, because the time there IS NOT IDENTICAL to the time here, but is decreased by the exact value we see, that (mis)assumption is the source of the error. I would predict that the notion of the expanding expansion will disappear completely if the difference in real time is accounted for.

Some other ideas about time

Of all of the curiosities in the Universe, time is the most baffling. Einstein used time as something like a fourth dimension when considered in a diagram with the other three dimensions. In theory, the rate, or flow of time is different for almost all observers. Practically speaking, in most instances near earth, the differences are infinitesimal.

The reference frames of time can flow at different rates for different observers, depending on their speed, and on their location in a gravitationally curved field. The notion of time is familiar to us all, but describing how time works, or how we perceive the passage of time, is yet another task.

Physicists right now don't know what causes time, when or if time began, or if it always existed somewhere. Other than relating time to some phenomenon occurring at the speed-of-light, for the best accuracy, very little is absolutely known. Physicists don't know whether there is a minimum interval of time, below which time would be undefined.

Recent developments in superstrings and the T.O.E., or theory of everything may suggest that more dimensions exist than are readily apparent to the eye. If these dimensions, rather than being macroscopic, or big enough to see, were sub-microscopic, and curled up, could represent the reason certain cosmic constants recur regularly. Any hidden dimensions may even hold a clue to the nature of time itself.

If multiple dimensions are curled up, somewhat like an incandescent lightbulb filament of tungsten thread is curled up, then curled up in loops, then curled up in larger loops, the mystery of certain preferred constants may be explained.

The sub-atomic reoccurrence of Planck's constant, the speed of light, c, and the values of atomic spin, electric charge, and the reason for identical properties in sub-atomic particles may all be explained as "resonances" or "oscillations" or "vibrations" of combinations of these loops. Our notions of time itself might even change if time becomes grainy, or choppy.

The presumption is that, at 10^{-35} meters or so, which is defined as the Planck distance, time, distance, and continuity may all lose their smoothness. There may be a minimum definable distance or a minimum measurable time. There simply would be nothing we could ever use to define or measure anything smaller if these "building blocks" behaved as blocks, or chunks. Since no interactions could be quicker, or distances shorter, and no smaller intervals could be measured, the absolute limits of knowability would be

reached.

There has been a proposal that if time really comes in measurable packets, these be referred to as chronons. This would represent the minimum measurable amount of time. The chronon of time would roughly be equivalent to the photon as the minimum possible measurable amount of energy (ight).

At this scale, a 1 or a 0 would be all we could tell, full or empty, yes or no. With nothing smaller to measure with than another similar object, comparisons would be limited. Comparatively, we could use an analogy as an on-off switch half-on, or less than fully on. The increase in precision over a pure yes/no, on/off choice would yield no understandable information.

Tunnelling:

In quantum mechanics, tunnelling is the standard mechanism that a particle uses to escape (travel) from one energy level, through an area (or forbidden barrier) of higher energy back into a lower energy area. This will occur even if some zone located in the pathway has yet higher energy, representing a barrier to the particle. (In classical mechanics the barrier would have been impossible to surmount with the low energy a particle possessed, this lack of available energy should have made the particle forbidden to cross the barrier.)

The basis for tunnelling is this: The Schroedinger equation predicts the probability that a particle (electron) can be found in a certain location, or that the particle will have a certain energy level. Over a given period of time, that probability is high enough that the particle can tunnel out of a trap, even though the particle had insufficient energy by the classical mechanics physics theory to overcome that trap.

In another, equivalent way of describing and understanding the tunnelling phenomenon, the wave/matter duality of a particle comes into play. The particle could be thought-of, instead, as an energy-wave packet, at resonance. The particle would be described something like a cloud of mist, but composed of energy. The energy would be continually resonating in some preferred directions {orbitals}, re-enforcing the zone-like or shell-like (lobes) presence of the energy.

The energy-mist cloud could be said to occupy a preferred orbital, either circular or mostly in one direction. Like a cloud of mist, this energy would have no definite shape or solidity, but could be pulled, pushed, or tugged by nearby neighbors.

The probability that the particle (electron-cloud) must exist is always 100%. Physically, the particle-cloud is spread out over time. We could say at some moments, the matter-energy-cloud could reside far enough away from it's supposed location that it could tunnel away, through a barrier.

Effectively the particle behaves like the present location where it is supposed to exist is next-to or connected to a lower energy location. The particle tunnels right through whatever barrier existed as if the barrier was not present. (Always at less than 100% efficiency.)

Note that the barrier in this case was also composed of real matter-energy. This barrier also has a nature so that at very small wavelengths, it too behaves like it is fuzzy or indefinite at times.

In electronic circuits, tunnel diodes do exist, and that they are useful in circuits where the tunnelling effect is exploited. In addition, modern transistor and I.C. chips use these

same quantum barrier tunnelling effects to accomplish their modern electronic tricks.

The C-R theory has no problem accepting or using the above mentioned type of atomic-scale tunnelling. C-R does, however find that some modern cosmologies distort the use of tunnelling in such a way as to elicit the proverbial question "Are you sure that the Emperor has on his new clothes?"

By the C-R theory, tunnelling cannot provide an adequate explanation for most of the expected black hole (non C-R) effects found in the universe. The barriers are millions, billions, trillions,... of times thicker than the “real world” barriers of a few atomic widths.

See chapter 13, page __ for the best description of why the C-R theory feels that this tunnelling hypothesis will create more problems than it will solve. Briefly, C-R believes on a macroscopic[1] level, any reduction in strength (or quantity) by tunnelling of gravitons or other particles from the singularity will violate conservation of energy.

U:

Ultraviolet Catastrophe:

The ultraviolet catastrophe was the theoretically predicted result, in the early 1900's of the collapse of all the electrons in matter into the proton, something close to a singularity. Maxwell’s equations predicted that a single electrical charge which was moving should radiate away energy continuously. On that basis, the electron orbiting the hydrogen atom at the “s” orbital, at absolute zero, should have collapsed into the proton within 1/5 of a second. (Larger atoms should have followed shortly behind.)

This should have caused everything (all matter) in the universe to collapse.

Quantum mechanics “rescued” everything in the universe, theoretically speaking, by recognizing a “new nature”. By requiring energy to be emitted only in packets, or quanta, this quantum nature allowed the hydrogen atom (and all other matter in the universe) to remain stable.

As the author of the C-R theory, I freely admit that I used the example (recycling the answer, in a way) as the basis and blueprint, or role model, for how the matter inside the Black-Hole $^{C\text{-}R}$ avoids collapsing into a singularity.

V:

W:

W.I.R.D.A.R.D. Principle:

The W.I.R.D.A.R.D. principle stands for, When In Rome, Do As (the) Romans Do. The principle refers to the seemingly casual ease with which light re-adapts it's speed to whatever media it happens to be travelling through.

When light travels through water, it travels at the speed of light in water; conveniently adapted for the local temperature, salinity, and density. When light travels through air, light conveniently adapts to whatever mix of gasses and whatever temperature and

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[1] For arguments sake, the C-R theory will define macroscopic as anything over 100 atomic widths. Certainly macroscopic would qualify for black holes (non C-R) with the outside Schwarzschild radius over 1 km. in diameter. To suggest atomic scale tunnelling could be valid over these distances stretches credulity.

pressure light would normally travel in that instance.

Since light is so easily adaptable, the C-R theory speculates that light will easily adapt to any new medium, regardless of past speed memory (if any existed.) In the famous Michaelson-Morely experiment, which was reputed to have been the experimental verification or vindication of the theory of relativity, lightspeed was carefully measured by an interferometer.

This interferometer was positioned so that it could be rotated in a full circle. The device was rotated as a candle flame was observed. The experimenters expected the candle flame's appearance to change as the device was rotated. This appearance change was expected because the experimenters assumed there was an ether, or a medium to carry the light.

Because the earth travels around the sun, Michaelson and Morely expected that this speed difference would show-up in the ether, and produce a measurable confirmation of it's existence. Unfortunately, for their part, the ether refused to cooperate and exist. The failure of the experiment to detect any difference in lightspeed in any direction, at any time of the year, night or day caused complete consternation in the world of physics.

The arms of the interferometer were at right angles to each other, and should have picked up the slightest light-speed difference, if any had existed. Experimentally, Michaelson and Morely had shown there was no difference in lightspeeds.

From this, light was interpreted to travel at only one speed in a vacuum, regardless of local motion of the observer. One interesting thing to notice: The candle itself was not moving with respect to any portion of the interferometer. Only the motion of the earth through the supposed ether would have shown-up.

The C-R theory theorizes that the lightspeed of light emitted from distant objects may well be slowed down to whatever fraction of lightspeed the object indicates. For instance, if we have an object redshifted to only 10% of it's original time-speed (or 90% redshifted), then the object's light may only reach us travelling at 10% of lightspeed velocity.

Before the rubber jackets are brought out, and before you (our reader) remind me that, O.K., silly, everybody knows that light can only travel at lightspeed, allow a simple explanation. Legitimately, the skeptical reader will ask: if this, indeed is the case, why hasn't anyone ever measured light at any speed but lightspeed. Simple: use the C-R theory answer, the W.I.R.D.A.R.D. principle.

The W.I.R.D.A.R.D. hypothesis:

In every experiment (so far) ever performed upon light, light easily (and instantly?) adapts it's speed to whatever media it happens to be travelling through. When light travels through the glass of an aquarium, it adapts amicably to a characteristic speed for light through that type of glass. Upon entering the water, light again loses it's previous identity, and adapts to lightspeed for water, with compensations for temperature, salinity, depth, and pressure.

Upon entering any solid and transparent object (such as glass), we would expect light to re-acquire it's characteristic speed for that material. Upon exiting the glass, and returning to either air or a vacuum, this light (having a terrible memory) forgets that it ever went slow! We would expect this light to re-acquire it's characteristic speed for air, never remembering any lesser speed in a vacuum.

Assume this instant adaptability (suggestibility) of light is the correct explanation. Note well: the observed facts fit the adaptability assumption like a glove. In most instances, relativity and the C-R theory would yield the same observational experimental data when measuring lightspeeds, with entirely different causes behind each. We should notice that, as long as light passes either through glass, or is reflected off of some non-moving material with respect to us (the observer), we always would expect to measure the speed of light as EXACTLY ="c".

This re-normalization of lightspeed to exactly "c" happens entirely due to the co-incidence of light passing through some fixed, non-moving object with respect to us (as observers). C-R would expect that this re-normalization to "c" should take place even if the "c" entering the solid, fixed object was slowed-down to 10% of real lightspeed. Those "dumb" old photons, even after travelling halfway across the universe at a speed of 10% of lightspeed, would forget how fast (slow?) they really travelled, and resume "our lightspeed" as if they had travelled that speed since they were created.

The C-R vs. Relativity Challenge: Which will win?

This renormalization (to "c") of light-speed hypothesis from the C-R theory "W.I.R.D.A.R.D." suggests a simple (proverbially speaking) experiment.

We would need access to the near-perfect vacuum of outer space. We could chop-up light using a toothed or slotted disk, to create packets of light. We would use light from a very distant, substantially red-shifted source. By performing the experiment in a nearly total vacuum, before the light was renormalized, we might be able to successfully measure a lesser speed for light.

For control purposes, we would rotate a half disc of plexiglass or glass in between the source and the chopping disk. If the C-R hypothesis is correct, when the plexiglass would serve as the control. Only during this glass-pass, re-normalized half of the time, would we expect to measure light at exactly "c".

Mandatory conclusion of this experiment:

If any velocity for light other than strictly "c" was measured (in a vacuum), we would have to set aside the theory of relativity as partially incorrect in at least one area.

Notice: The C-R theory outlook overall does not hinge on this outcome or this assumption, but a finding in the affirmative would be regarded as a definite plus.

X:

Y:

Z:

Zero time (gravity-wise)

When Albert Einstein came-up with his theory of relativity, he discovered that gravitational curvature can slow-down time in a more-curved field. That he never fully grasped that significance by applying it to the entire universe might just show how

ingrained Newtonian-type-thinking is, and how hard it is to overcome ones training.

The C-R theory maintains that the action of gravitational curvature upon matter creates gravity by "squeezing-out" energy from matter. Therefore, the greater the curvature, the more energy is released from matter. Matter will "seek-out" the lowest energy configuration possible. In a Black-Hole [C-R], matter will be consumed, and at the IB[3] Schwarzschild radius, the ultimate collapse HAS occurred. ALL the extractable energy from matter has been freed, and the mass (now inside) is now at it's lowest possible energy configuration.

The C-R theory predicts that there is a Neutral Zone [C-R] for nearly every Black-Hole [C-R].[1] This Black-Hole [C-R] is not permitted to collapse matter any further inward because the matter has already surrendered all of it's available energy, and the Black-Hole's [C-R] gravity cannot have any further effect on the matter. Additionally, the Black-Hole [C-R] already has a fully critical Active Zone [C-R] at it's center. This also prevents further collapse inward.

[1]The only exception will be for a brand new Black-Hole [C-R] which has not yet developed it's Neutral Zone [C-R]